



January 31, 2021  
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Town of Fairfax  
Planning and Building Services Department  
142 Bolinas Avenue  
Fairfax, California 94930

Attn: Ms. Linda Neal, Principal Planner

Re: First Planning-Level Geologic, Geotechnical, and Civil Engineering Review  
New Single-Family Residence  
88 Toyon Drive (APN 003-081-39)  
Fairfax, California

#### Introduction

In response to your request and in accordance with our agreement dated March 20, 2018, we have performed a planning-level review of project plans and supporting documentation for the proposed addition to the existing residence and ancillary site improvements at 88 Toyon Drive in Fairfax, California. The purpose of our services is to review the submitted documents, comment on the completeness and adequacy of the submittal in consideration of Town requirements, and to provide a recommendation to Town Planning and Building staff regarding project approval.

Note that we have previously performed a total of 3 prior planning-level reviews for proposed projects at this site, between 2018 and 2020. We understand that the current submittal has been prepared for a new Owner/Applicant, and that the proposed scope of work has changed significantly. As such, and following discussion with Planning staff, we have treated this as a First review of a new project application.

The scope of our services includes:

- A site reconnaissance to observe existing conditions and review proposed development features;
- Review of provided project documents for conformance to the Town of Fairfax Hill Area Residential Development Ordinance, specifically Town Code Sections 17.072.080(B), (C), (E), and (F), and Section 17.072.110 (C).
- Development of opinions regarding project compliance with applicable Town Code requirements; and
- Development of recommendations to Town staff as to whether the project may be safely constructed in consideration of any geologic, hydrologic, or geotechnical hazards.

It should be noted that the scope of our review is limited solely to geologic, geotechnical, and civil portions of the project, and does not include review of structural, architectural, mechanical, or other items beyond the scope of our qualifications. We recommend that non-geotechnical aspects of the plans be reviewed by suitably qualified professionals.

Project Description

The current project generally consists of remodeling an existing, approximate 1,500 square-foot, 2-story residence and adding a total of about 800 square feet of new interior space. New interior space will be accommodated by a new, 3-bedroom addition to the east side of the existing "daylight" lower story, which will expand the building footprint by about 580 square feet. Two smaller additions will effectively enclose existing upper-floor deck space. The existing swimming pool south of the structure will remain, and the surrounding concrete flatwork will be supported with a new site retaining wall. The existing circular asphalt-paved driveway will be widened to accommodate a new parking stall. Fire apparatus accommodations will include a new gravel-surfaced shoulder along Toyon Drive.

Project Review

We performed a site reconnaissance on May 22, 2018 to observe existing conditions at the site. We also reviewed the following documents that were provided to us by Town staff:

- CSW/Stuber-Stroeh Engineering Group (2018), "Record of Survey, Lands of Russell" (2 Sheets), dated February 7, 2018.
- CSW/ Stuber-Stroeh Engineering Group (2018), "Topographic Map, 88 Toyon Drive, APN 003-081-39", Sheet V1, Project No. 5.1507.00, revised April 3, 2018.
- Dave Olnes, PE (2017), "Geotechnical Reconnaissance Report, Proposed Residential Improvements, 88 Toyon Drive, Fairfax", dated December 20, 2017.
- Dave Olnes, PE (2021), "RE: Elimination of Pool Replacement from Scope, Proposed Residential Improvements, 88 Toyon Drive, Fairfax", dated January 12, 2021
- Holder/Parlette Associates (2018), "Foster Residence Remodel, 88 Toyon Drive, Fairfax, CA" (Preliminary Architectural Plans), Sheets A1.0 through A4.0, DRB Revision set dated November 23, 2020
- LTD Engineering (2020), "88 Toyon Drive, Fairfax, California" (Preliminary Civil Plans), Sheets C-1 through C-7, Project No, 596.001, second revision set dated November 23, 2020.

Conclusions

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

**Hill Area Residential Development Ordinance**

- Section 17.072.080(C)
  - 1) No fee title report was provided for review. A fee title report should be provided for review.
  - 2) Project Civil plans (Sheet C1) indicate a new sewer lateral extending onto the neighboring parcel (APN 003-081-40); however, no evidence of such an easement has been provided

January 31, 2021

with this application. We note that such evidence was submitted as part of a previous application at this site, but should be reproduced for inclusion in the application file.

- 3) Project plans indicate asphalt paving and a new gravel shoulder will be installed in the Toyon Drive right-of-way to accommodate required fire access. An encroachment permit should be required for all work in the right-of-way.
  - Section 17.072.080(D)
- 4) Project plans indicate 23 trees will be removed to accommodate the planned construction; therefore, a Fairfax Tree Committee report and permit must be obtained. We also note that the arborist map indicates "the entire property should be a defensible space zone". In light of the anticipation that "defensible space" likely requires removal of significant existing vegetation, the arborist should define the required tree/vegetation removal process, and any needed stability/erosion-control measures should be provided on the plans.
  - Section 17.072.080(E)
- 5) The project Geotechnical Engineer should review the plans to confirm his recommendations have been suitably incorporated, and provide a Plan Review Letter prior to building permit issuance.

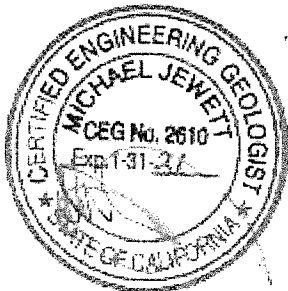
Recommendations

Based on our review, geotechnical and civil documents submitted to date are acceptable for project processing at the planning level. We judge that remaining comments noted above, including review of supplemental documentation and encroachment permit conditions, may be reasonably handled at the building submittal level with minimal anticipated impact.

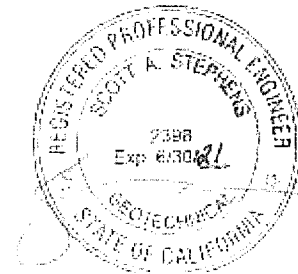
We trust that this letter contains the information you require at this time. If you have any questions, please call. We will directly discuss our comments with the applicant's consultants if they wish to do so.

Yours very truly,  
MILLER PACIFIC ENGINEERING GROUP

REVIEWED BY:



Mike Jewett  
Town of Fairfax Contract Geologist  
Engineering Geologist No. 2610  
(Expires 1/31/21)



Scott Stephens  
Town of Fairfax Contract Engineer  
Geotechnical Engineer No. 2398  
(Expires 6/30/21)

88 Toyon: POOL DEMO / SEPTIC TANK  
ABANDONEMENT

DAVE  
**OLNES** P.E.  
INC.  
CIVIL & SOIL ENGINEER  
7915 CREST AVENUE, OAKLAND, CALIFORNIA 94605  
PHONE & FAX: (510) 568-2622 daveolnes@sbcglobal.net

**GEOTECHNICAL MEMORANDUM:**

**To:** David Russell

**RE:** Geotechnical Review of Revised Civil Plans  
Proposed Residential Improvements  
88 Toyon Drive, Fairfax

MAR 9 4 2020

**Date:** February 10, 2020

Dear Mr. Russell:

As Geotechnical Engineers of Record we have reviewed the revised Civil plans for the proposed improvements to your residential property, located at 88 Toyon Drive in Fairfax. Specifically we have reviewed Civil Plans prepared by Glenn Dearth, bearing a revision date of August 2, 2019. This review is relative to our Geotechnical Reconnaissance report for the project, dated December 20, 2017. We have also responded to some questions raised by the Town in the planning review process.

The scope of planned improvements for the property has changed since our report and review memo were issued. The current scope will involve a remodel of the existing structure, with little or no additions beyond the present footprint. The driveway will be widened to add more parking, and the pool will be abandoned to create additional landscape area.

The Civil plans call for the installation of a gravel subdrain with a perforated around the western (upslope) and side perimeters of the house, and for connecting the roof downspouts and area drains into solid 4-inch PVC piping. The drain lines are to be dispersed over a 20-foot long rubble field below the house on the eastern slope, away from the vulnerable swale below the south side of the lot. Based on our review, the Civil plans appear to conform to the recommendations of our report.

The City has asked for clarification regarding abandonment of the pool. Our Reconnaissance Report included recommendations for this. As the site of the existing pool is not expected to support significant structures, the pool shell may be abandoned in place. The bottom of the pool shell should be perforated by breaking minimum 24-inch square holes through to the subgrade, at intervals of 10 feet along the center line of the pool. The bottom of the shell should then be covered with a minimum 6-inch thick layer of clean 3/8-inch to 3/4-inch drain rock. The pool copings are typically broken down about 24 inches

ATTACHMENT **D**

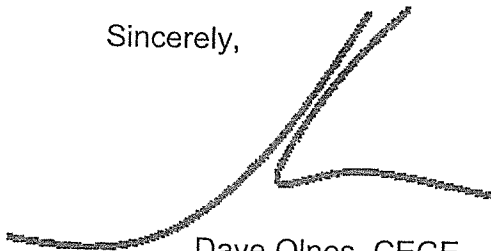
Second Geotechnical Plan Review  
88 Toyon Road, Fairfax  
February 10, 2020  
Page 2

below grade. The bulk of the pool cavity should then be filled with drain rock mixed with rubble from the coping and decking. The rubble should be broken down to no more than 12 inches in diameter, and should be carefully mixed into the gravel without creating any voids. Filter cloth should be placed over the top of the drain rock and covered with a minimum 18-inch cap of clay soil. The soil cap should be placed in 6-inch level lifts, thoroughly compacted with a mechanical compactor. The fill should consist of clayey material, free of organics and rocks or rubble over 6 inches in diameter. The undersigned Geotechnical Engineer should periodically observe the placement of the drain rock and/or fill. However, formal compaction testing should not be necessary, provided that the depth of the clay soil cap does not exceed 3 feet.

An old septic tank has apparently been discovered beside one of the existing deck piers, and the Town has asked for clarification regarding how this cavity should be filled. The tank is made of redwood and measures roughly 5' by 6' by 5' deep. The tank should be cleaned out and some of the redwood should be cut out from the side adjacent to the deck pier (as a minimum). Then the cavity can be filled with lean concrete, capped off with 18 inches of compacted soil. If the cavity is to be covered to pavement that is sensitive to settlement, then all of the existing redwood should be removed.

If there are any questions regarding this matter, please contact our office.

Sincerely,

A handwritten signature in black ink, consisting of a long horizontal stroke followed by a large, stylized 'K' shape.

Dave Olnes, CEGE



DAVE OLNES P.E.  
CIVIL & SOIL ENGINEER  
7915 CREST AVENUE, OAKLAND, CALIFORNIA 94605  
PHONE & FAX: (510) 568-2162 davedolnes@sbcglobal.net

**GEOTECHNICAL MEMORANDUM:**

**To:** David Russell  
**RE:** Geotechnical Review of Civil Plans  
Proposed Residential Improvements  
88 Toyon Drive, Fairfax

MAR 9 4 2018

**Date:** May 9, 2018

Dear Mr. Russell:

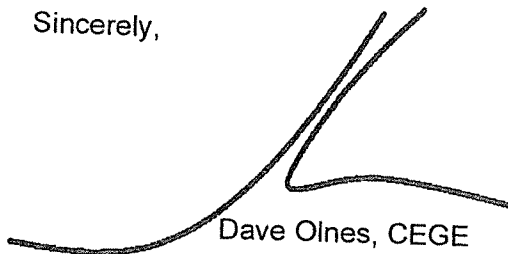
As Geotechnical Engineers of Record we have reviewed the Civil plans for the proposed improvements to your residential property, located at 88 Toyon Drive in Fairfax. Specifically we have reviewed Civil Plans prepared by CSW/ST2, dated April 16, 2018. This review is relative to our Geotechnical Reconnaissance report for the project, dated December 20, 2017.

The Town Engineer has asked us specifically comment on the placement of the storm drain dissipaters. The proposed storm drains are to run to two bio-retention basins, to be located below the garage and the pool, with the overflow to be dispersed over rubble fields located on the eastern slope. Several months ago, in a previous informal review, we had asked the Civil Engineer to re-locate the dissipaters to the eastern slope, due to our concerns regarding the stability of the southern swale, which appears to be directed to a residence below. Although there is perhaps never an "ideal" location to disperse storm water on a hillside lot, it is our opinion that the dispersal locations shown on the current plan are most appropriate for the site conditions, and pose the lowest risk of negative impact on the slope and properties below.

Our office will weigh in, as needed, on the abandonment of the old septic system, once its location has been verified in the field. Otherwise, the abandonment plan indicated on the Civil plans appears to be appropriate.

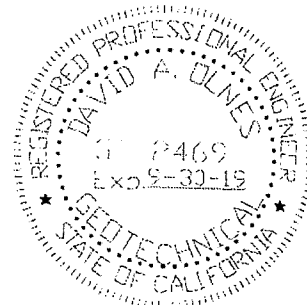
Based on our review, the Civil plans appear to conform to the recommendations of our report. If there are any questions regarding this matter, please contact my office.

Sincerely,



Dave Olnes, CE, GE

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TOWN OF FAIRFAX

FEB 13 2018

RECEIVED

DAVE DINES  
DINES ENGINEERING, INC.  
CIVIL & SOIL ENGINEER  
7915 CREST AVENUE, OAKLAND, CALIFORNIA 94605  
PHONE & FAX: (510) 568-2622 davedines@sbcglobal.net

December 20, 2017

David Russell  
488 Las Colindas Road  
San Rafael, CA 94903

RE: Geotechnical Reconnaissance Report  
Proposed residential improvements  
88 Toyon Drive, Fairfax

Dear Mr. Russell:

In accordance with your request we have performed a Geotechnical reconnaissance of your residential property, located at 88 Toyon Drive in Fairfax. The purpose of this reconnaissance was to provide foundation design parameters for improvements to your residence.

The scope of this reconnaissance was limited to visual examination of the property, review of geological maps, a floor level survey on the main house, and excavation of five hand-auger probes in the vicinity of the proposed work. As no deep borings have been performed, it is essential that we be allowed to inspect the pier drilling in progress, to confirm the assumptions made herein.

**BACKGROUND, OBSERVATIONS AND PROPOSED CONSTRUCTION:** The subject property consists of an existing 2 story house situated on a steeply down-sloping lot at the top of Toyon Drive. The property drapes around a topographical spur, which descends off a promontory known as Blue Ridge, to the west. The axis of the spur ridge cuts diagonally across the property from the northwestern corner to the southeastern corner, in line with the current swimming pool location. The existing house structure is sited just north of this ridge line. A natural drainage swale passes through the southwestern corner of the property, descending to the south.

The existing compact, two-story structure was constructed in the 1950's. There are basement rooms beneath the back of the house, which have slab on grade floors. A series of wood retaining walls create additional stepped floors and storage platforms up-slope of

the slab.

It is our understanding that you plan to undertake a major remodel of the house. The upper floor will be reconfigured, and the lower level will be excavated to provide full height living space throughout. There will be a modest two story addition at the left rear (northeast) corner, and the rear perimeters of both floors will be pushed out roughly 4 feet. The existing deck off the back of the house will be replaced and reconfigured. A new carport will be constructed over the steep slope at the southwestern corner of the lot. You also plan to fill in the existing pool at the south side of the lot, and construct a new pool and deck below the house. The new pool will be suspended over the northeastern slope.

**EVALUATION OF EXISTING IMPROVEMENTS:** The front of the house is supported by a 5 foot tall concrete foundation wall, which appears to be in good condition, where visible. The remaining foundations consist of shallow trapezoidal footings, which exhibit several cracks ranging from 1/4" to 3/4" in width. Moderate rotation is occurs along the rear and right (east and south) perimeters, as evident by bulging in the stucco at the sill line and gaps between the edge of the slab and footing. There is a large crack running laterally across the floor slab.

Despite the foundation distortions, the floors of the structure show little sign of significant movement. A level survey performed during our site visit found that the floors are within 1.7 inches of relative level, which is good for a hillside home of this age.

There are currently no provisions for drainage at the property. The front yard slopes toward the house, and the downspouts are not tied to discharge piping. There is evidence of seasonal seepage intrusion into the crawlspace along the front of the house.

The existing in-ground swimming pool is located along the axis of the ridge line, and therefore is likely cut into bedrock. Although the pool has been drained, the old water marks against the coping tiles suggest that the pool has not settled. No obvious cracking was observed in the pool shell. However, the concrete pool decking has shifted, particularly along the outboard edge, which is retained by a low wood site wall.

**GEOLOGY AND HAND AUGER BORINGS:** Review of a geology map for the area by Smith, Rice and Strand indicates that the site is underlain by Franciscan Melange bedrock. Franciscan Melange (FM) is common throughout much of Marin County, and consists of jumbled rock masses, highly altered by ancient tectonic activity. The bedrock units in the vicinity of the site are composed largely of sheared Sandstone and Shale. Weathered Sandstone is exposed in a cut bank across the street. The exposed rock appears fairly hard in the cut bank to the southwest of the site, and highly decomposed to the north of the site.



As stated, the lot is sited along a ridge line. A well-formed topographic swale situated immediately south of the property trails off to the southeast, feeding directly toward a residence located off Woodland Court below. A less defined draw to the north of the subject residence descends to the east. The Smith-Rice map indicates that both of these slopes are susceptible to shallow landsliding, whereas the promontory where the house is sited is outside the limits of the mapped slide area. The stability study associated with the Smith-Rice map has assigned the immediate vicinity of the ridge line a stability number of 3, indicating a moderate potential for instability. However, the slopes to either flank have been assigned a stability number of 4, indicating a high potential for instability. No evidence of active sliding was observed in our reconnaissance of the property.

A 6-inch diameter PVC pipe emerges at the roadside ditch opposite the subject property. Initially we thought that this was a culvert running under the road to discharge at the drainage swale on the south side of the property (which is the way we inaccurately described it in our preliminary summary of November 15th). However after closer examination, it became clear that the pipe is actually a discharge line from the residence to the south, which outlets into the ditch. There appear to be no drain pipes currently discharging into the defined swale at the south side of the subject property.

During our preliminary and subsequent site visits, we performed five shallow exploratory probes using a hand auger. The first probe (P1) was performed at the edge of the existing driveway, at the front of the proposed carport. P2 was performed on the northeastern slope, at the center of the proposed house addition. P3 and P4 were performed below the new pool and carport locations, respectively. P5 was performed within the crawlspace between the two existing wood terrace walls.

P1, near the forward edge of the proposed carport, encountered approximately 2 feet of loose silty fill topsoil, underlain by one foot of residual soil consisting of mottled grey brown clayey Silt was unearthed. Yellow tan weathered sandstone bedrock was encountered at 3 feet, grading to hard grey sandstone at 4 feet where the probe met refusal. Probe P4, located within the defined swale at the rear of the proposed carport, unearthed 4.5 feet of fill or colluvial soils, consisting of mottled grey-brown silty Clay with sandstone fragments similar to P2. Hard grey sandstone bedrock was encountered at 4.5 feet.

The probe immediately below the house, P2, encountered 5 feet of loose grey brown Silt with rock fragments, which was judged to be fill and topsoil. This material was underlain by natural residual soil consisting of light grey brown Silt, which graded to weathered Shale bedrock at 6 feet. The probe was terminated at 7 feet. P3, located further down the slope

beside the proposed new pool site, encountered two feet of brown clayey fine sandy Silt topsoil followed by tan residual soil which graded to grey brown weathered Shale at 3 feet. Finally, probe P5, performed within the crawlspace under the house, encountered 2 feet of brown Silt with rock fragments which appeared to be topsoil, underlain by grey tan weathered Sandstone/Shale bedrock.

**SEISMICITY:** It should be considered common knowledge that this site and the Bay Area in general are subject to strong ground shaking due to the regular occurrence of large earthquakes. The site is located approximately 6 miles east of the San Andreas Fault (type A), which has a Maximum Credible Earthquake (MCE) of 8.1 moment magnitude. Other surrounding active faults with equal or lesser expected magnitudes and probabilities include the Hayward Fault (type A), located approximately 15 miles to the east, and the Concord/Calaveras Fault (type B), located approximately 25 miles to the east.

As no alluvial soils were observed in the area, there is no potential for liquefaction at the site. Since the site is located outside of the Alquist-Priolo Special Studies Zone, the risk of ground rupture is also considered to be very low. Given the shallow depth to competent bedrock, there is little risk of seismically induced landsliding.

Design of the new improvements in accordance with the 2016 CBC should utilize the following factors:

<b>Mapped Short Period Spectral Acceleration, S<sub>s</sub>:</b>	1.500
<b>Mapped 1-Second Spectral Acceleration, S<sub>1</sub>:</b>	0.669
<b>Site Class:</b>	B
<b>Short Period Site Coefficient, F<sub>a</sub>:</b>	1.0
<b>1-Second Site Coefficient, F<sub>v</sub>:</b>	1.0
<b>Modified Short Period Acceleration, S<sub>ms</sub>:</b>	1.500
<b>Modified Short Period Acceleration, S<sub>ms</sub>:</b>	0.669
<b>Design Short Period Acceleration, S<sub>ds</sub>:</b>	1.000
<b>Design Short Period Acceleration, S<sub>ds</sub>:</b>	0.446
<b>Design Category:</b>	D

**COMMENTARY AND RECOMMENDATIONS:** As previously mentioned, the existing foundations are somewhat cracked and rotated, particularly along the rear and right perimeters. Expansion of the proposed lower level will undermine most of the forward

foundations including the existing front foundation. Therefore, complete replacement of the existing foundations is anticipated. New foundations situated beneath the front half of the house will be cut into the slope, where bedrock will likely be exposed. Thus new foundations beneath the front of the house may bear on conventional spread footings. However, the rear perimeter of the existing structure and the proposed rear additions will require pier and grade beam foundations.

As currently located, the carport and pool will be constructed over relatively steep slopes containing a variable amount of top soil and fill. Thus these structures should also be entirely supported by pier and grade beam foundations.

Gravel drains should be installed around the up-slope perimeters of the house, to protect the lower level rooms from seasonal moisture intrusion. Drain lines should run to rubble dissipaters located on the lower slope, but should not discharge directly into the defined swale at the south side of the property which feeds down toward the residence below.

If no significant structures are planned in the vicinity of existing pool, it may be abandoned in place by breaking holes in the bottom, and breaking down the coping walls 2 to 3 feet below grade, then filling the shell with a combination of drain rock and concrete spoils broken down to 6 to 12 inches in diameter. The gravel fill may be capped with 2 to 3 inches of compacted soils for planting purposes. If structures might be constructed in this area in the future, the pool shell should be completely removed, and the cavity should be filled with compacted fill. Still, any new structures sited over the filled cavity will require drilled piers to protect the structures from settlement.

Landscaping improvements sited near the edges of the descending slopes should be designed with flexibility in mind (ie low dry stacked stone walls, decomposed granite and pavers set in stand). Alternatively a pier-supported wall could be constructed along the edge of the slope, designed to resist surficial soil creep.

Based on our observations, it is our opinion that the site is suitable for the proposed construction provided that the following recommendations are adhered to.

## RECOMMENDATIONS:

1. **GRADING:** Grading work will be limited to retained cuts below the house to expand the lower floors and filling in the existing pool shell. The pool abandonment should be performed per Section 2, below. Please contact our office if the plans are changed to include cuts or fills exceeding 3 feet in depth in other locations. Soil should be hauled off site and should not be deposited on the site slopes.

Permanent cut slopes shall have a maximum inclination of 2:1. Temporary vertical cuts should be shored per OSHA standards, particularly if the excavation is to stand through the rainy season (which is not recommended).

Soil fills shall be placed in maximum 8-inch lifts, and shall be compacted to 90% in landscape areas, or to 95% in areas which will bear structures or pavement. Site soils are suitable for use as fill, provided that material is free of organic matter and rubble exceeding 6 inches in diameter. Compaction testing shall be required for soil fills in excess of 50 cubic yards. For lesser volumes, the undersigned Geotechnical Engineer may approve the fill based on visual observation of the compaction effort in progress, depending on what the fill will be supporting. Compaction testing shall not be required for drain rock backfill, which achieves approximately 95% compaction without mechanical assistance.

Utility trench backfill shall be compacted to a relative density of 95% under pavement and foundation areas, and 90% elsewhere. Trenches shall be capped with at least 18 inches of relatively impermeable material (site soils are acceptable).

The silty site soils should be considered highly erodible. If grading work is to be performed during the rainy season, appropriate site protection measures such as silt fencing or hay bales will be required. After completion of grading work all denuded areas shall be covered with jute mesh and seeded or planted with erosion resistant ground cover prior to the onset of rains.

2. **POOL ABANDONMENT:** As stated, if the site of the existing pool is not expected to support significant structures, the pool shell may be abandoned in place. The bottom of the pool shell should be perforated by breaking minimum 24-inch square holes through to the subgrade, at intervals of 10 feet along the center line of the pool. The bottom of the shell should then be covered with a minimum 6-inch thick layer of clean 3/8-inch to 3/4-inch drain rock. The pool copings are typically broken down about 24 inches below grade (unless you opt to leave them in place, as discussed above).

The bulk of the pool cavity should then be filled with drain rock mixed with rubble from the coping and decking. The rubble should be broken down to no more than 12 inches in diameter, and should be carefully placed without creating any voids. Filter cloth should be placed over the top of the drain rock and covered with a minimum 18-inch cap of clay soil. The soil cap should be placed in 6-inch level lifts, thoroughly compacted with a mechanical compactor. The fill should consist of clayey material, free of organics and rocks or rubble over 6 inches in diameter.

The undersigned Geotechnical Engineer should periodically observe the placement of the drain rock and/or fill. However, formal compaction testing should not be necessary, provided that the depth of the clay soil cap does not exceed 2 feet.

3. **FOUNDATIONS:** All improvements sited on or within 10 feet of the descending slopes should be supported by a drilled pier and grade beam foundation system, per Section 3.1. The proposed front foundation wall of the house, which is expected to be cut into bedrock, may be supported by an L footing per Section 3.2.

- 3.1 **Pier and Grade Beam Foundations:** Drilled piers shall be a minimum of 18-inches in diameter and should extend a minimum of 8 feet into bedrock, as verified by the undersigned Geotechnical Engineer (total depths of 10 to 15 feet should be anticipated). Drillers need to be prepared to core through potentially resistant Sandstone bedrock. We may approve lesser amounts of bedrock penetration where very hard rock is encountered.

A skin friction value of 750 psf may be used within the bedrock. No frictional support shall be assumed within the soil strata.

Resistance to lateral forces may be achieved by assuming a passive pressure of 450pcf beginning at the bedrock contact. These values may be assumed to act against twice the pier diameter. The friction and passive values presented above may be increased by one third when contemplating short term wind and seismic loads.

Piers should be reinforced with a *minimum* of six #5 bars contained within a #3 spiral at a 6-inch pitch. Grade beams should contain at least two #5 bars top and bottom, and should be connected to the piers with at least four #5 L-dowels.

- 3.2 Spread Footings:** The proposed front foundation wall may be supported by an L footing provided that the excavation extends into bedrock as confirmed by the undersigned Geotechnical Engineers. Footings bearing in rock may be designed for a bearing pressure of 2500psf, a sliding friction of 0.4 and a passive resistance of 450pcf.
- 4. RETAINING WALLS:** Retaining walls situated on slopes should be supported by piers and designed using the pier recommendations above. Walls should be designed for active pressures of 45pcf where backfill is level, and 55pcf for slopes 2:1 or greater (horizontal to vertical).

Walls perched on descending slopes should be keyed 1 foot into the slope at the bottom, to protect the wall from undermining due to sloughing and erosion. This extra foot should be included in the effective design height.

- 5. DRAINAGE:** Proper control of site drainage is essential in order to minimize expansive soil problems and to control moisture rise through floor slabs. All roof downspouts shall be fitted with 4-inch solid PVC discharge pipes. Surrounding yard and patio areas shall utilize V-1 or brass catch basins tied to the roof downspout lines, or shall be graded to shed runoff away from the house in an unconcentrated manner.

- 5.1 Perimeter Gravel Drain:** In addition to the surface drainage measures, a perimeter gravel subdrain should be installed around upslope sides of the residence. The subdrains shall consist of trenches excavated directly adjacent to the perimeter foundations, extending a minimum of 6 inches below the lowest interior grade, sloped at 1% toward a dispersal tee. A 4-inch diameter perforated SDR-35 PVC pipe shall be placed along the bottom of the trench, backfilled with 3/4-inch drain rock wrapped in filter cloth (or CALTRANS Class II permeable drain rock without filter cloth).

Foundation walls should include waterproofing membranes, such as Bituthane, Prepruf or Paraseal, installed per the manufacturer's recommendations, and afixed at the top edge with termination bar.

All piping shall be 4-inch SDR-35 PVC. All drain lines shall be sloped at 1% minimum to outlet to a rubble dissipater on site. Capped clean-outs shall be installed at the beginning of each subdrain line.

Drainage systems require regular maintenance to ensure proper functioning. Catch basins and downspout pipes should be flushed regularly (dependant on the rate of falling leaf litter). Discharge points should also be periodically inspected to ensure that outlet piping is not obstructed. It is recommended that an accurate as-built plan of the drainage systems be prepared, and that maintenance requirements be disclosed to all future buyers of the property.

6. **EXTERIOR FLATWORK:** Exterior flatwork, including walkways and patios may be constructed as 5-inch thick concrete slabs and should be reinforced with a minimum of #4 bars at 18-inch centers. However, some distress can be expected due to minor soil movement or concrete shrinkage. To minimize the visual effects of settlement distress, flexible pavements, such as bricks set in sand, are recommended above backfilled terrace walls and adjacent to descending slopes.
7. **PLAN REVIEW AND CONSTRUCTION OBSERVATION:** The undersigned Geotechnical Engineer should review the final building plans for conformance with the above recommendations and should inspect all footing excavations and subdrain installations in progress prior to placement of reinforcing steel, concrete or backfill. Allowances should be made for potential changes to the final design requirements in the event that actual construction conditions differ from the conditions assumed in this report.

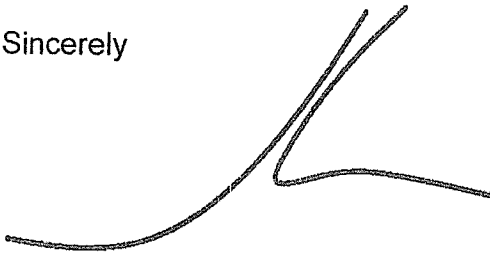
**EXCLUSIONS:** The preliminary findings and recommendations outlined above are based entirely on visual observations. The examination did not include subsurface borings or analysis of the "global" stability of the underlying strata of the area. Further engineering investigation and analysis could effect the final design recommendations and the ultimate cost of the project. At your request I can provide you with a separate contract for additional investigative services.

**LIMIT OF LIABILITY:** This report was prepared under written contractual agreement with the addressee (client) indicated above. The client has agreed to limit the liability of Dave Olnes P.E., Inc. to an amount not to exceed ten times the fee for services, for any and all matters arising from this visual examination and report. The information provided herein is for the exclusive use of the specified client. Dave Olnes P.E., Inc. shall assume no liability for other parties who use the report without its express written consent. The recommendations contained in this report are valid for a period of two years, pending further review by the undersigned Geotechnical Engineer.

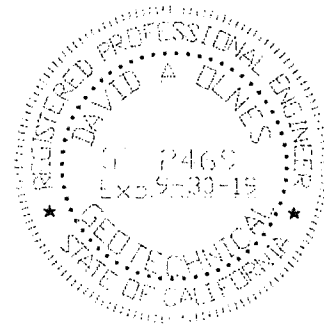
Geotechnical Reconnaissance Report  
88 Toyon Drive, Fairfax  
December 20, 2017  
Page 10

If there are any questions regarding this preliminary reconnaissance, please contact our office.

Sincerely



Dave Olnes, CEGE



Otto Olnes, EIT



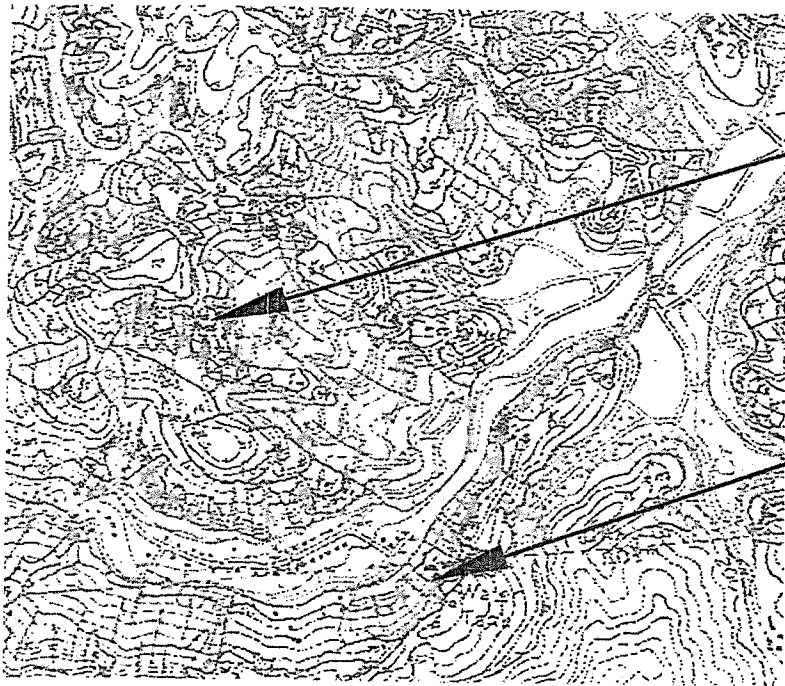
## REFERENCES

Knudsen, Keith L., Sowers, Janet M. Witter, Robert S., Wentworth, Carl M, Helley, Edward J., "Preliminary Maps of Quaternary Deposits and Liquefaction Susceptibility, Nine-County San Francisco Bay Region, California", USGS Open File Report 00-444, 2000.

Olnes, David A., "Preliminary Geotechnical Reconnaissance, 88 Toyon Drive, Fairfax", November 15, 2017.

Rice, Salem J.; Smith, Theodore C.; Strand, Rudolph G., State of California Division of Mines and Geology, Open File Report 76-2, "Geology for Planning: Central and Southwest Marin County, California", 1976.

State of California Division of Mines and Geology, "Maps of Known Active Fault Near-Source Zones in California and Adjacent portions of Nevada", 1998.



SITE, MAPPED  
AS FRANCISCAN  
MELANGE  
(Fm).

TYPICAL  
MAPPED LAND  
SLIDE FEATURE  
(ORANGE)

SOURCE:

STATE OF CALIFORNIA DEPT. OF MINING & GEOLOGY, OPEN FILE REPORT 76-2  
GEOLOGY FOR PLANNING: CENTRAL & SOUTHEAST MARIN COUNTY, CALIFORNIA,  
SALEM J. RICE, THEODORE C. SMITH & RUDOLPH G. STRAND, 1976.

**CIVIL & SOIL ENGINEER**

7915 CREST AVENUE OAKLAND CALIF. 94605  
PH & FX: (510)568-2162 daveolnes@sbcglobal.net

SCALE: 1"=1500'

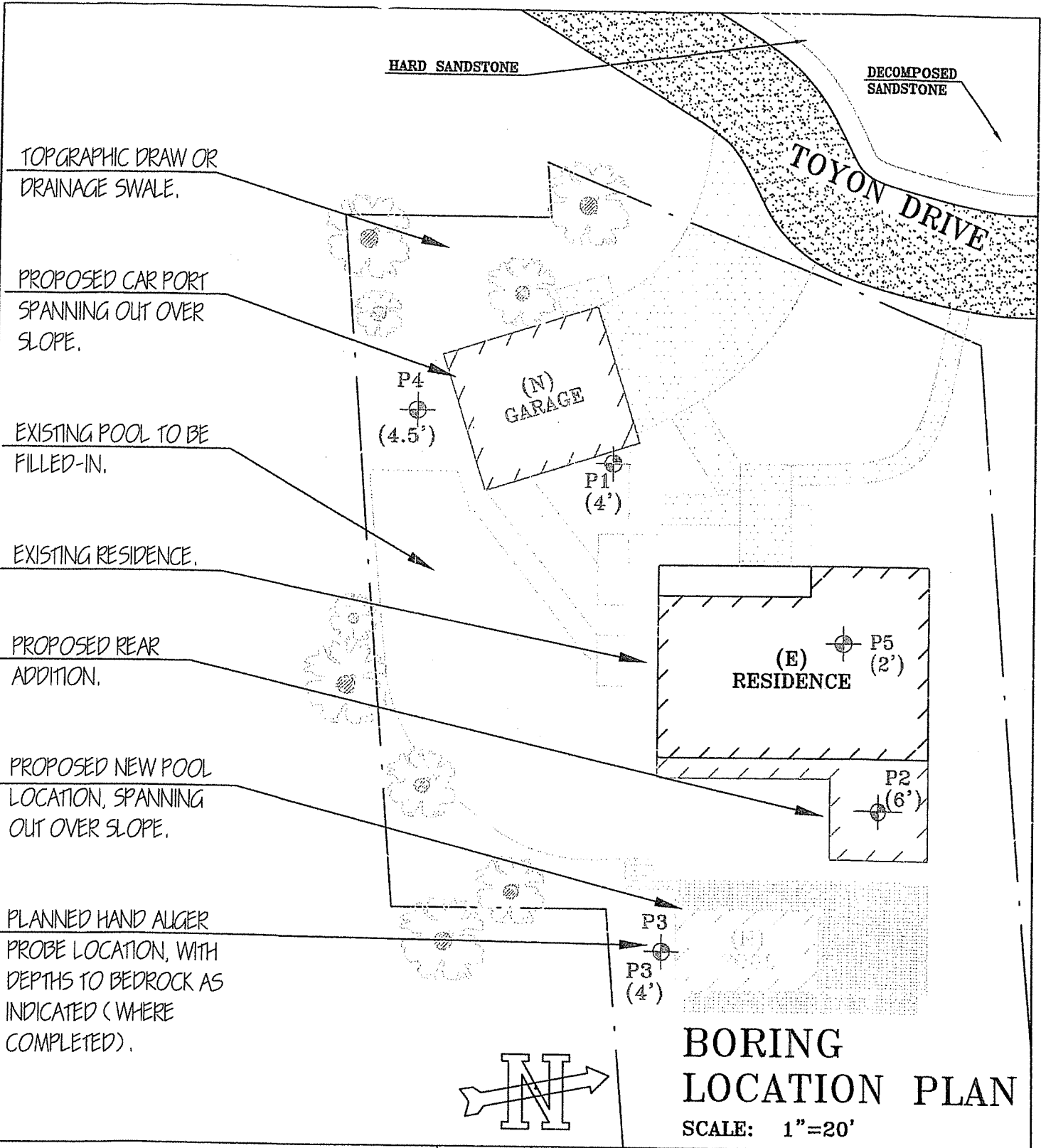
JOB #: 0-4276

DRAWN: OSO/DAO

DATE: 12-20-17

GEOTECHNICAL RECONNAISSANCE  
88 TOYON DRIVE  
FAIRFAX, CALIFORNIA

FIGURE: 1



**BORING LOCATION PLAN**  
 SCALE: 1"=20'




DAVE OLNES  
 CIVIL & SOIL ENGINEER  
 7915 CREST AVENUE OAKLAND CALIF. 94605  
 PH & FX: (510)568-2162 daveolnes@sbcglobal.net

SCALE: 1"=20'  
 JOB #: 0-4276  
 DRAWN: OSO/DAO  
 DATE: 12-20-17

GEOTECHNICAL RECONNAISSANCE  
 88 TOYON DRIVE  
 FAIRFAX, CALIFORNIA

FIGURE: 2

<b>HAND AUGER</b>			
Probe # : P1		Probe # : P2	
Location: LEFT FRONT, PROPOSED GARAGE		Depth	Location: CENTER, PROPOSED REAR ADDITION
<b>DESCRIPTION</b>			<b>DESCRIPTION</b>
grey-brown SILT with rubble and and rock fragments (ML)	Fill		mottled grey-brown SILT with rock fragments (ML)
grey-brown SILT (ML)	Topsoil		Fill and Top Soil
mottled grey-brown-yellow Silty SAND (SM)	Residual Soil		
grey Cretaceous SANDSTONE	Bedrock		
Probe Terminated @ 4'	Refusal	5	
			light grey-brown SILT with rock fragments (ML)
			light grey-brown Weathered SHALES
			Probe Terminated @ 7'
Probe # : P3			Probe # : P4
Location: BELOW NEW POOL		Depth	Location: BELOW NEW CARPORT
<b>DESCRIPTION</b>			<b>DESCRIPTION</b>
brown Clayey fine Sandy SILT SILT	Topsoil		mottled grey-brown Silty CLAY with Sandstone fragments
tan fine Sandy SILT with intermittent rock structure	Residual Soil		Fill/Colluvium
grey-brown Fractured SHALES	Bedrock		
Probe Terminated @ 4'	Refusal	5	
			grey SANDSTONE (hard)
			Probe Terminated @ 5'
			Bedrock
			Refusal

DAVE  
  
  
  
**CIVIL & SOIL ENGINEER**  
7915 CREST AVENUE OAKLAND, CA 94605  
TELEPHONE & FAX (510) 568-2162

Project: Geotechnical Reconnaissance  
88 Toyon Drive  
Fairfax, California  
Date: November 28, 2017

Figure: 3

# HAND AUGER

Probe #: P5

Location: CRAWLSPACE BELOW FRONT WALL

Depth

## DESCRIPTION

brown SILT with rock fragments  
(ML)

grey-tan weathered SANDSTONE  
SHALE

Bedrock

Probe Terminated @ 3'

5

10

15

20

DAVE  
CIVIL & SOIL ENGINEER  
7915 CREST AVENUE OAKLAND, CA 94605  
TELEPHONE & FAX (510) 568-2162

Project: Geotechnical Reconnaissance  
88 Toyon Drive  
Fairfax, California  
Date: November 28, 2017

Figure: 4

C S W S T

45 Leveque Court  
Novato, CA 94945  
[www.cswst.com](http://www.cswst.com)

415.883.9870  
Fax: 415.883.9835

Novato  
Petaluma  
Redwood City  
Sacramento

CSW/Stuber-Stroeh Engineering Group, Inc.

Engineers • Land Planners • Surveyors • Landscape Architects

TOWN OF FAIRFAX

Date: May 9, 2018  
File: 5.1507.00

MAY 16 2018

RECEIVED

Mr. David Russell  
88 Toyon Drive  
Fairfax, CA 94930

Letter and Enclosures sent via email to  
David Russell  
davejrussell@gmail.com

RE: 88 TOYON DRIVE, FAIRFAX, CA

Dear Dave:

In response to the Town of Fairfax's letter from Linda Neal to Kenneth Holder dated March 22, 2018, which includes a memorandum from Ray Wrynski, the Town Engineer dated March 14, 2018 we provide the following.

"Memo Comment" indicates a comment from the Town Engineer's memorandum to which we are providing a response.

1. (Memo Comment) "This survey must show easements both existing and proposed, as required by the Code, and a notation must be on the survey that all easements are shown."

(Response)

- a. The location of the existing easement and the requested notation are now included in Sheet V1, the Topographic Map. Additionally, the easement is shown in Sheet C1, the Grading, Drainage and Utility Plan. There are currently no new easements proposed within the property boundary of 88 Toyon Drive.
  - b. A note is provided in sheet C1 that the owner will coordinate to obtain an easement for the sanitary sewer lateral to be routed through neighboring property.
  - c. Fairfax Municipal Code Section (Code Section) 17.072.080 (B) does not require easements to be shown in the topographic survey. Code Section 17.072.080 (C) requires existing and proposed easements to be shown in the Site Plan.
2. (Memo Comment) "The survey must show existing and new sanitary sewer, water and storm drain lines with their sizes."

(Response)

- a. Existing locations and sizes of sanitary sewer, water and storm drain, where known, are provided in Sheet C1, the Grading, Drainage and Utility Plan. Proposed sanitary sewer, water and storm drain lines and their sizes are

C S W S T

Mr. David Russell

May 9, 2018

Page 2

provided in Sheet C1, the Grading, Drainage and Utility Plan. This is consistent with Code Section 17.072.080 (C).

3. (Memo Comment) "The location of the septic system must be shown."

(Response)

- a. The approximate location of the existing septic system tank is shown on the Sheet C1. It is not known where the existing leach field is located. Notes 7, 8 and 9 on Sheet C1 are provided to indicate that the removal and/or abandonment of the existing septic system components are to be handled in accordance with the requirements of the Marin County Environmental Health Services department.

4. (Memo Comment) "Elevations on the contours must be shown."

(Response)

- a. Elevations are now provided on the contours in Sheet V1, the Topographic Map.

5. (Memo Comment) "The submitted recorded Record of Survey has a disagreement on the dimension of the southerly property line when checked from sheet 1 of 2 to sheet 2 of 2. That must be corrected and the copy of the recorded correction must be provided to the Town for plan review and file record information."

(Response)

- a. A Certificate of Correction has been recorded with the County of Marin for the dimension disagreement in the Record of Survey. A copy of the Certificate of Correction is included with this response letter.

6. (Memo Comment) "After the Record of Survey is corrected, the topographic survey boundary dimensions must be made to conform with the record of survey boundary dimensions in copies provided to the Town."

(Response)

- a. Sheet V1 has been revised to include the boundary dimensions of the Record of Survey.

7. (Memo Comment) "The revised copies of that survey at the same scale as the project site plans (1"=8' and 1"=10') must be submitted so we can check existing conditions by overlaying the base topographic survey on the design site plans."

(Response)

- a. For projects of this type, the surveyor typically prepares and issues one plan showing the results of the topographic survey. Sheet C1, which shows the

Mr. David Russell  
May 9, 2018  
Page 3

outline of the proposed site elements on top of a screened background of the Topographic Map, is prepared at the same scale as the Topographic Map.

8. (Memo Comment) "The project Civil Engineer must provide drainage flow calculations for the storm drain systems so that the 100-year storm flow design discharges will be known and can be used by the Geotechnical Engineer and the Town to evaluate the effect of that storm water flow on the hillside and downslope property."

(Response)

- a. Drainage flow calculations for 100-year design storm discharge are included with this response and have been submitted to the project's Geotechnical Engineer.

9. (Memo Comment) "The Civil Engineer must provide information on the site material movement as noted above and noted to include a reasonable estimate for excavation from foundation drilled piers, excavations for new footings and retaining walls as described in the geotechnical report, imported material, granular material needed for retaining wall backdrain backfill and granular material needed for utility trench backfill" and; "The grading plan must include a reasonable estimate for the cubic yards of debris removal needed for this design."

(Response)

- a. The grading quantities have been revised in Note No. 5 on Sheet C1 to additionally reflect materials associated with:
- i. material removed associated with trenching for a new waterline;
  - ii. additional excavation of material to construct the storage enclosure under the carport;
  - iii. material removed from behind proposed retaining walls to accommodate backdrain systems;
  - iv. material removed to construct an assumed number of eleven 18"-diameter piers at 15 foot depth to support the addition on the east side of the house;
  - v. removal of the existing foundation and foundation retaining walls under the house;
  - vi. imported granular material for waterline construction;
  - vii. imported granular material for the site retaining wall and house retaining wall backdrain systems;
  - viii. imported granular material to smooth the grade under the new slab foundation for the house; and
  - ix. imported granular material under the driveway, the carport and the storage enclosure floor.

10. (Memo Comment) "Retaining walls for site work, pool construction and for house support must be indicate on the plan at least for location and height."



CSW ST

Mr. David Russell

May 9, 2018

Page 4

(Response)

- a. See Sheet C1 for location and height of retaining walls related to site work, pool construction and house support.

11. (Memo Comment) "The entire driveway surface for 88 Toyon Drive Willow [sic] must satisfy the requirements provided in the Uniform Standards All Cities and County of Marin Drawing No. 140 "Steep Driveway Design". The proposed driveway appears to be too steep. Profiles must be provided for at least each side of the driveway."

(Response)

- a. The grading of the proposed driveway has been refined and a Driveway Centerline Profile is provided on Sheet C1 to show that the proposed driveway satisfies the requirements of the Uniform Construction Standards Drawing No. 140 "Steep Driveway Design" which is also a centerline profile. Slopes along the edge of the driveway, through the steepest section, are shown on Sheet C1 to be 25% or less.

12. (Memo Comment) "The erosion control plan states the storm water runoff will be directed to the City maintained storm drain system. This note must be revised to conform with what is proposed on the plan."

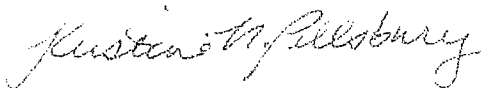
(Response)

- a. The note has been revised on the Erosion Control Plan. See Sheet C3, Pollution Control Note No. 2.

Please let us know if there are questions.

Sincerely,

CSW/STUBER-STROEH ENGINEERING GROUP, INC.



Kristine N. Pillsbury

R.C.E. #61685

Cc Kenneth Holder, Holder Architects, via email  
Andrew Lopez, Holder Architects, via email

Enclosures

KNP;knp

CSW | ST

45 Leveroni Court, Novato, CA 94949 Tel 415.883.9850 Fax 415.883.9835  
CSW/Stuber-Stroeh Engineering Group, Inc. 1310 Redwood Way, Suite 220, Petaluma, CA 94954 Tel 707.795.4764 www.cswst2.com

SHEET NO. 1/5

JOB NO. 5150702 JOB BB Toyon BY KWP DATE \_\_\_\_\_

CLIENT \_\_\_\_\_ SUBJECT \_\_\_\_\_ CHK'D \_\_\_\_\_ DATE \_\_\_\_\_

TOWN OF FAIRFAX

MAY 16 2010

RECEIVED

Hillside Dissipater

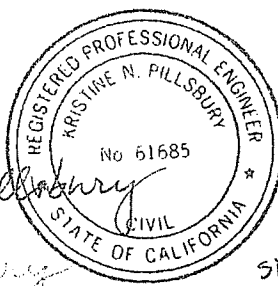
Hydrology and Hydraulic Calculations

for

BB Toyon, Fairfax, CA

Prepared by:

*Kristine N. Pillsbury*



Kristine N. Pillsbury

signed on 4/12/10

CSW|STZ  
45 Leveroni Ct  
Novato, CA 94949

Date of Preparation: April 12, 2010

SHEET NO. 2/5

JOB NO. 515D700 JOB BB TAYLOR BY KNP DATE \_\_\_\_\_  
 CLIENT \_\_\_\_\_ SUBJECT Hydraulic Calculations CHK'D \_\_\_\_\_ DATE \_\_\_\_\_  
Runoff Discharge

Find Flow depth and velocity on hillside for discharge of runoff from largest area tributary to a dissipater.

Area = 4007 SF = 0.09 Ac = largest Area tributary to a dissipater.

C = 0.90 Assumed impervious coverage

$T_c$  = 5 minutes Minimum allowable time of concentration

$V_{100}$  = 5.56 in/hr NOAA Atlas 14, Volume 6, Version 2

$Q_{100} = C_i A = 0.90 (5.56 \text{ in/hr}) (0.09 \text{ Ac})$  Rational Method

$Q_{100} = 0.45 \text{ cfs}$

Minimum Dissipater length on plans = 10 LF

See Channel Report for 10 foot wide flow path using Hydrofron Express

For  $Q_{100} = 0.45 \text{ cfs}$

and 10 foot wide path of grass-lined surface

Manning's  $n = 0.035$

Slope (from contours) = 50%

Results:

$Q_{100} = 0.45 \text{ cfs}$   
 flow depth = 0.36 inches  
 velocity = 1.5 ft/s

Flow depth and velocity for runoff on the hillside from the largest tributary area, assuming discharge through the shortest dissipater.

# Channel Report

3/5

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Thursday, Apr 12 2018

## 10foot wide overland path

Minimum length of Dissipater on Sheet C1 = 10 LF

**Rectangular**  
Bottom Width (ft)  
Total Depth (ft)

= 10.00

= 0.25 ← Arbitrary depth input to allow calculation

Invert Elev (ft)  
Slope (%)  
N-Value

= 80.00

← contour elevation below dissipater

= 50.00

← hillside slope below dissipater

= 0.035

**Calculations**  
Compute by:  
Known Q (cfs)

Known Q

= 0.45

← n-value, grassed channel  
Rational Method Calculation  
 $Q_{100}$  for largest area tributary to a dissipater.

**Highlighted**

Depth (ft)

= 0.03

← Result Flow depth on hillside = 0.03 ft = 0.36 in

Q (cfs)

= 0.450

Area (sqft)

= 0.30

Velocity (ft/s)

= 1.50

← Result Flow velocity on hillside = 1.5 ft/s

Wetted Perim (ft)

= 10.06

Crit Depth,  $Y_c$  (ft)

= 0.04

Top Width (ft)

= 10.00

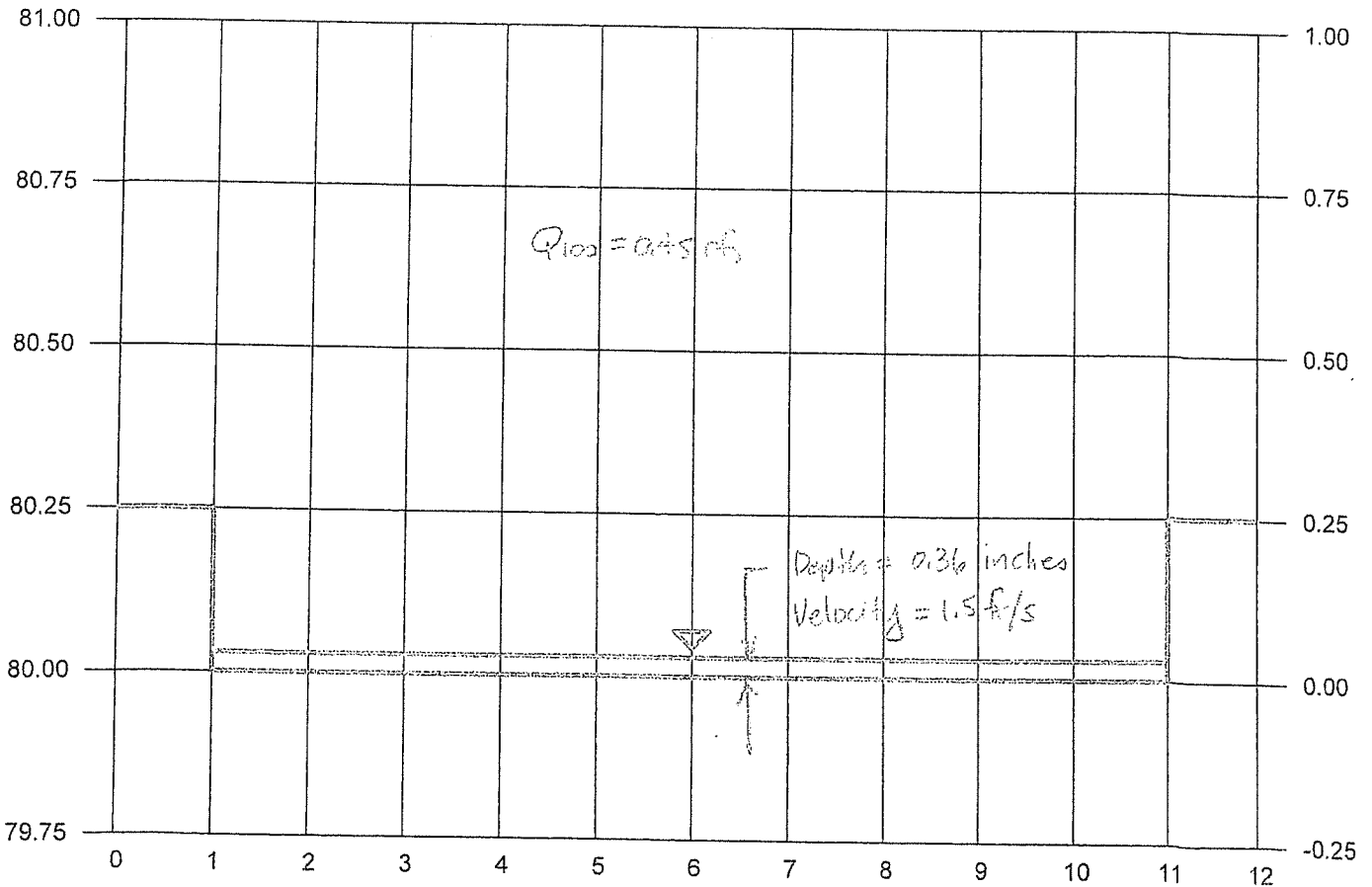
EGL (ft)

= 0.06

Elev (ft)

Section

Depth (ft)



Reach (ft)

4/5



NOAA Atlas 14, Volume 6, Version 2  
 Location name: Fairfax, California, USA\*  
 Latitude: 37.9796°, Longitude: -122.6036°  
 Elevation: 491.34 ft\*\*  
 \* source: ESRI Maps  
 \*\* source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aeriels](#)

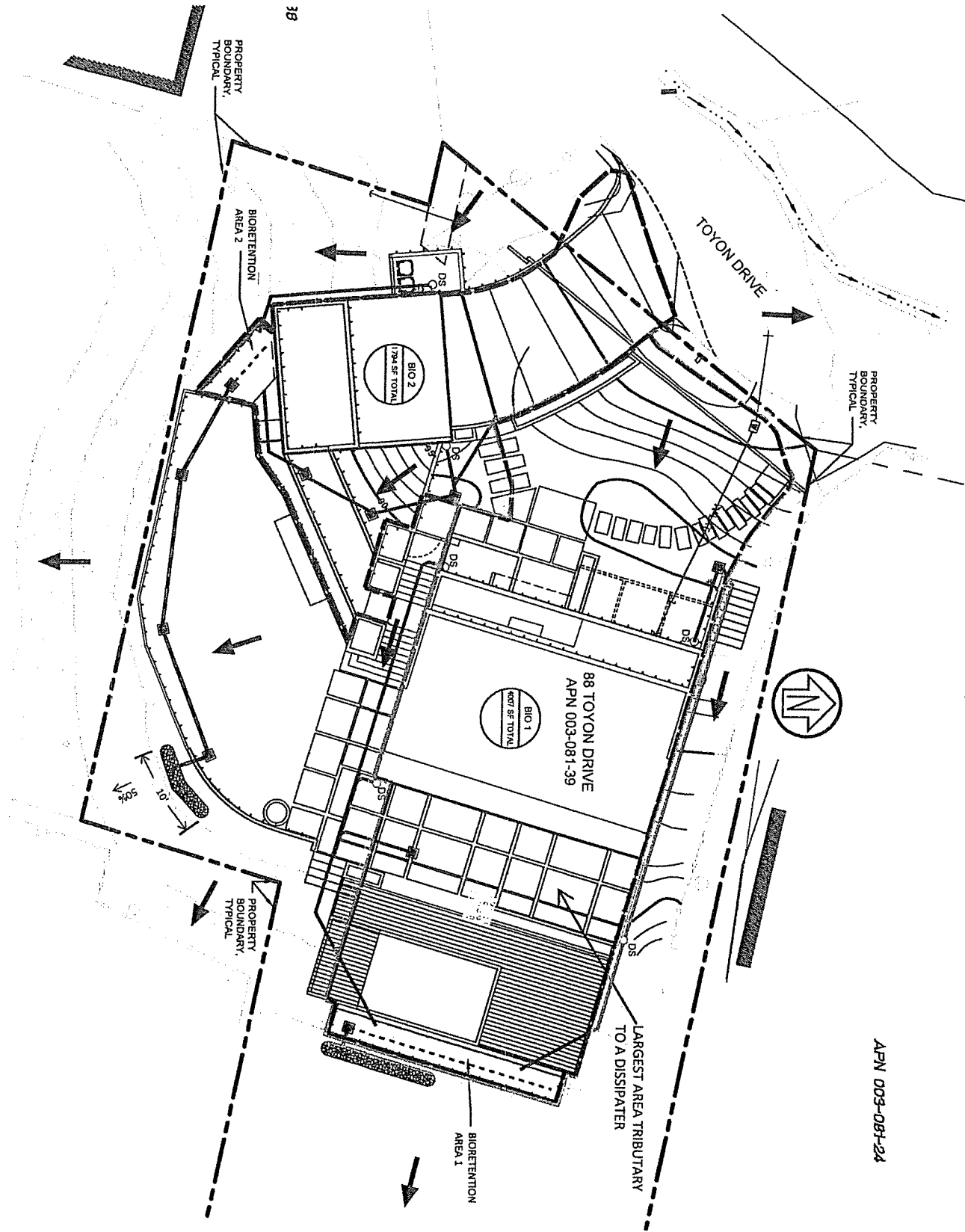
PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour) <sup>1</sup>										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	1.93 (1.72-2.18)	2.36 (2.10-2.69)	2.98 (2.64-3.38)	3.50 (3.07-4.03)	4.26 (3.59-5.11)	4.88 (4.02-6.00)	5.56 (4.43-7.03)	6.28 (4.85-8.21)	7.32 (5.38-10.1)	8.17 (5.76-11.7)
10-min	1.38 (1.23-1.57)	1.69 (1.51-1.93)	2.13 (1.89-2.43)	2.51 (2.20-2.89)	3.05 (2.57-3.66)	3.50 (2.88-4.30)	3.98 (3.17-5.03)	4.50 (3.47-5.89)	5.24 (3.85-7.21)	5.86 (4.13-8.39)
15-min	1.11 (0.992-1.26)	1.36 (1.22-1.55)	1.72 (1.52-1.96)	2.02 (1.78-2.33)	2.46 (2.08-2.95)	2.82 (2.32-3.47)	3.21 (2.56-4.06)	3.63 (2.80-4.74)	4.23 (3.11-5.81)	4.72 (3.33-6.76)
30-min	0.864 (0.770-0.980)	1.06 (0.944-1.20)	1.33 (1.18-1.52)	1.57 (1.38-1.81)	1.91 (1.61-2.29)	2.19 (1.80-2.69)	2.49 (1.99-3.15)	2.82 (2.17-3.68)	3.28 (2.41-4.51)	3.67 (2.59-5.25)
60-min	0.623 (0.555-0.706)	0.764 (0.680-0.868)	0.962 (0.853-1.10)	1.13 (0.994-1.30)	1.38 (1.16-1.65)	1.58 (1.30-1.94)	1.80 (1.43-2.27)	2.03 (1.57-2.66)	2.37 (1.74-3.25)	2.64 (1.86-3.78)
2-hr	0.465 (0.414-0.527)	0.570 (0.507-0.647)	0.714 (0.634-0.814)	0.838 (0.735-0.964)	1.01 (0.854-1.22)	1.16 (0.950-1.42)	1.31 (1.04-1.66)	1.47 (1.14-1.92)	1.70 (1.25-2.34)	1.89 (1.33-2.71)
3-hr	0.400 (0.356-0.453)	0.490 (0.435-0.556)	0.612 (0.543-0.698)	0.717 (0.629-0.825)	0.865 (0.730-1.04)	0.985 (0.810-1.21)	1.11 (0.887-1.41)	1.25 (0.962-1.63)	1.44 (1.06-1.98)	1.59 (1.12-2.28)
6-hr	0.300 (0.267-0.340)	0.368 (0.328-0.418)	0.461 (0.409-0.525)	0.538 (0.473-0.620)	0.647 (0.545-0.775)	0.733 (0.602-0.901)	0.822 (0.656-1.04)	0.917 (0.708-1.20)	1.05 (0.771-1.44)	1.16 (0.814-1.65)
12-hr	0.209 (0.186-0.237)	0.261 (0.232-0.297)	0.331 (0.293-0.377)	0.388 (0.341-0.447)	0.467 (0.394-0.560)	0.529 (0.435-0.650)	0.592 (0.473-0.750)	0.659 (0.508-0.862)	0.749 (0.550-1.03)	0.820 (0.579-1.18)
24-hr	0.148 (0.134-0.168)	0.189 (0.170-0.214)	0.242 (0.217-0.275)	0.285 (0.254-0.327)	0.345 (0.298-0.407)	0.391 (0.331-0.470)	0.437 (0.363-0.539)	0.486 (0.393-0.614)	0.552 (0.429-0.724)	0.603 (0.454-0.817)
2-day	0.097 (0.087-0.110)	0.123 (0.110-0.139)	0.156 (0.140-0.178)	0.184 (0.164-0.211)	0.222 (0.192-0.262)	0.251 (0.213-0.302)	0.280 (0.232-0.345)	0.311 (0.251-0.393)	0.352 (0.274-0.462)	0.384 (0.289-0.520)
3-day	0.075 (0.067-0.084)	0.094 (0.085-0.107)	0.120 (0.107-0.136)	0.140 (0.125-0.161)	0.169 (0.146-0.199)	0.190 (0.161-0.229)	0.212 (0.176-0.261)	0.235 (0.190-0.297)	0.265 (0.206-0.348)	0.289 (0.218-0.391)
4-day	0.062 (0.056-0.070)	0.078 (0.070-0.089)	0.099 (0.089-0.113)	0.116 (0.104-0.133)	0.139 (0.120-0.164)	0.157 (0.133-0.189)	0.174 (0.144-0.214)	0.192 (0.155-0.243)	0.216 (0.168-0.284)	0.235 (0.177-0.318)
7-day	0.043 (0.039-0.049)	0.055 (0.049-0.062)	0.069 (0.062-0.079)	0.081 (0.072-0.093)	0.096 (0.083-0.113)	0.107 (0.091-0.129)	0.119 (0.098-0.146)	0.130 (0.105-0.164)	0.145 (0.112-0.190)	0.156 (0.117-0.211)
10-day	0.035 (0.032-0.040)	0.045 (0.040-0.051)	0.057 (0.051-0.065)	0.066 (0.059-0.076)	0.079 (0.068-0.093)	0.087 (0.074-0.105)	0.096 (0.080-0.118)	0.105 (0.085-0.132)	0.116 (0.090-0.152)	0.124 (0.093-0.168)
20-day	0.023 (0.021-0.026)	0.030 (0.027-0.034)	0.038 (0.034-0.043)	0.044 (0.039-0.050)	0.052 (0.045-0.061)	0.057 (0.048-0.069)	0.062 (0.052-0.077)	0.068 (0.055-0.085)	0.074 (0.057-0.097)	0.078 (0.059-0.106)
30-day	0.019 (0.017-0.021)	0.024 (0.022-0.028)	0.031 (0.028-0.035)	0.036 (0.032-0.041)	0.042 (0.036-0.049)	0.046 (0.039-0.056)	0.050 (0.042-0.062)	0.054 (0.044-0.068)	0.059 (0.046-0.077)	0.062 (0.047-0.084)
45-day	0.015 (0.014-0.018)	0.020 (0.018-0.023)	0.025 (0.023-0.029)	0.029 (0.026-0.033)	0.034 (0.029-0.040)	0.037 (0.032-0.045)	0.040 (0.033-0.050)	0.043 (0.035-0.055)	0.047 (0.036-0.061)	0.049 (0.037-0.067)
60-day	0.014 (0.012-0.016)	0.018 (0.016-0.020)	0.022 (0.020-0.025)	0.026 (0.023-0.029)	0.030 (0.026-0.035)	0.033 (0.028-0.039)	0.035 (0.029-0.043)	0.038 (0.030-0.048)	0.041 (0.032-0.053)	0.043 (0.032-0.058)

<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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[PF graphical](#)



APN 003-081-24

11/15/1

MAR 9 4 2020



2020-0001107

Recording requested by  
and when recorded mail to:

David J. Russell  
88 Toyon Drive  
Fairfax, CA 94930

Recorded	REC FEE	38.00
Official Records		
County of	SB2 HOUSING	75.00
Marin	DA FRAUD FEE	10.00
SHELLY SCOTT		
Assessor-Recorder		
County Clerk		
02:19PM 09-Jan-2020	a	Page 1 of 9

AP Nos.: 003-081-40  
003-081-39

DOCUMENTARY TRANSFER TAX \$ 0

\_\_\_ Computed on the consideration  
or value of property conveyed; or  
\_\_\_ Computed on the consideration  
or value less liens or encumbrances  
remaining at time of sale.

Kenneth Holder  
Signature of Declarant or Agent

value less than \$100  
Space above this line for recorder's use

**EASEMENT AGREEMENT**

**Preamble and Recitals**

This Agreement is entered into on 09-11, 2018, by and between ALEXIS TATARSKY, hereafter referred to as "Grantor", and DAVID J. RUSSELL and STEPHANIE J. ARMSTRONG, hereafter collectively referred to as "Grantee".

A. Grantor is the owner of certain real property commonly described as 75 Woodland Road, Fairfax, Marin County, California (hereafter referred to as the "Servient Tenement"), and more particularly described in Exhibit A, which is attached to this Agreement and hereby incorporated by reference.

B. Grantee is the owner of certain real property commonly described as 88 Toyon Drive, Fairfax, Marin County, California (hereafter referred to as the "Dominant Tenement"), and more particularly described in Exhibit B, which is attached to this Agreement and hereby incorporated by reference.

C. Grantee desires to acquire certain rights in the Servient Tenement for a sewer easement as follows:

### **Grant of Easement**

1. Grantor grants to Grantee an easement as hereafter described, subject to the terms of this Agreement.

### **Character of Easement**

2. The easement granted in this Agreement is appurtenant to the Dominant Tenement.

### **Description of Easement**

3. The easement granted in this Agreement shall be for an easement for the installation, maintenance, repair and/or replacement of a sewer line, sewer main and/or pipe. The easement shall be approximately five (5) feet in width and approximately one hundred forty-five (145) feet in length, and is more particularly described in Exhibit C, attached hereto and incorporated herein by this reference.

### **Secondary Easements**

4. The easement granted in this Agreement includes the following incidental rights only: installation, maintenance, repair and/or replacement of said sewer line/pipe. In exercising these rights, Grantee must use reasonable care and must not unreasonably increase the burden on the Servient Tenement or make any material changes to the Servient Tenement.

### **Repair and Maintenance**

5. (a) Grantee shall be responsible for all costs associated with the installation, repair, maintenance and replacement of the sewer line or pipe. Further, Grantee shall be responsible for all costs to restore and/or repair any and all damage, including, without limitation, consequential damages such as rental costs and professional fees, to the Servient Tenement, including any personal property located thereon, that may be required as a result of the installation, repair, maintenance or replacement of the sewer line/pipe, whether such damage is caused by Grantee or anyone acting on their behalf.

(b) Grantor grants to Grantee, and any persons acting on their behalf, permission to enter onto the easement and the Servient Tenement between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday, to perform the obligations contemplated by this Paragraph 5. Grantees may initiate work necessary to maintain or repair any improvements in the easement, but only after (a) consulting with Grantor concerning the necessity for and the nature and timing of such work, and (b) obtaining Grantor's written consent, which shall not be unreasonably withheld. Notwithstanding the foregoing sentence, Grantees may unilaterally undertake emergency repairs after giving to Grantor such notice as is reasonable under the circumstances. The parties hereto covenant and agree to use their best good faith efforts to cooperate with each other in the fulfillment of the obligations contemplated by this Paragraph 5.

(c) If Grantee does not initiate necessary repair or maintenance work to the improvements in the easement, including the sewer lines and/or pipes, within fifteen (15) days from



the date written notice is sent via U.S. mail to Grantee at the addresses indicated on page 1 of this Agreement (except, however, that for emergency repairs, only such notice as is reasonable under the circumstances shall be required), then Grantor may, but is not obligated to, unilaterally undertake such work. The notice shall describe the repairs contemplated, the anticipated cost thereof and the name(s) of the appropriate professional(s) consulted about the work. If Grantor undertakes such repair or maintenance work, in addition to any other sums that must be reimbursed to Grantor, Grantee shall also pay to Grantor as liquidated damages the sum of \$2,500. The parties agree that the liquidated damages provision set forth in the preceding sentence is reasonable under the circumstances as of the time this Agreement was made.

(d) Any party entitled to reimbursement under this Agreement shall be entitled to payment within ten (10) days of presentation of a written demand therefore accompanied by copies of appropriate receipts, invoices, or other backup documentation. Any amounts not timely paid shall bear simple interest at the rate of ten percent (10%) per annum, or the highest rate permitted by law, whichever is less.

#### **Term**

6. The easement granted in this Agreement shall be in perpetuity, unless all parties agree to terminate the easement in a writing executed by all parties.

#### **Nonexclusive Easement**

7. The easement granted in this Agreement is nonexclusive. Grantor retains the right to make any use of the Servient Tenement, including the right to grant concurrent easements in the Servient Tenement to third parties that do not interfere unreasonably with Grantee's free use and enjoyment of the easement. Notwithstanding the foregoing sentence, if Grantor at any time wishes to install improvements on the Servient Tenement which requires the relocation of any or all sewer lines and/or pipes, Grantor may have the lines and/or pipes relocated, at Grantor's cost and expense, to a location on the Servient Tenement to be determined solely by Grantor, subject to the approval of all governmental agencies that have jurisdiction over such work.

#### **Assignment**

8. This Agreement, and the easement granted herein, shall be assignable to Grantee's successors, assigns and transferees and shall be fully binding upon Grantor and Grantor's successors, assigns and transferees. It is specifically understood and agreed that should Grantee sell his property, the purchaser thereof will continue to receive the benefits of this Grant of Easement.

#### **Attorneys' Fees**

9. If any legal action or proceeding arising out of or relating to this Agreement is brought by either party to this Agreement, the prevailing party shall be entitled to receive from the other party, in addition to any other relief that may be granted, the reasonable attorneys' fees, costs, and expenses incurred in the action or proceeding by the prevailing party.

**EXHIBIT C**

Commencing 2 feet easterly from the northwestern boundary of APN 003-081-40, 5 feet in width, and running in a generally southerly direction parallel to the western boundary line of APN 003-081-40, 145 feet, terminating at Woodland Court.

**EXHIBIT A**

**LOTS 73, 74 AND 82, IN BLOCK 14, AS SHOWN UPON THAT CERTAIN MAP ENTITLED, "AMENDED MAP NO. 2 OF THE CASCADES", FILED FOR RECORD OCTOBER 11, 1921 IN VOLUME 5 OF MAPS, AT PAGE 14, MARIN COUNTY RECORDS.**

**THE ABOVE LEGAL DESCRIPTION IS PURSUANT TO THAT CORRECTED NOTICE OF MERGER RECORDED ON SEPTEMBER 25, 2014 AS INSTRUMENT NO. 2014-039898, MARIN COUNTY RECORDS.**

**EXHIBIT B**

The land referred to is situated in the County of Marin, City of Fairfax, State of California, and is described as follows:

**PARCEL ONE:**

Lot 75 in Block 14 as shown on the Map entitled, "Amended Map No. 2 of the Cascades", recorded October 11, 1921 in Map Book 5 at Page 14, Marin County Records.

**PART TWO:**

The Northerly 30 feet, measured between parallel lines, of Lots 71 and 72 as shown on the Map entitled, "Amended Map No. 2 of the Cascades, Marin Co., Calif.", filed October 11, 1921 in Map Book 5 at Page 14, Marin County Records.

APN: 003-081-39

**Mediation**

10. In order to obtain the benefits of paragraph 9 hereof, the party who initiates any legal action or proceedings shall first endeavor to resolve the dispute by mediation which, unless the parties mutually agree otherwise, shall be in accordance with the Mediation Rules of the American Arbitration Association currently in effect. Request for mediation shall be in writing and served on the other party(ies) to this Agreement via U.S. mail at the address(es) indicated on page 1 of this Agreement. There shall be no obligation to mediate if the other party(ies) does not consent to mediation within fifteen (15) days from the postmark of said notice.

**Entire Agreement**

11. This Agreement constitutes the entire agreement between Grantor and Grantee relating to the above easement. Any prior agreements, promises, negotiations, or representations not expressly set forth in this Agreement are of no force and effect. Any amendment to this Agreement shall be of no force and effect unless it is in writing and signed by Grantor and Grantee.

**Binding Effect**

12. This Agreement shall be binding on and shall inure to the benefit of the heirs, executors, administrators, successors, transferees and assigns of Grantor and Grantee.

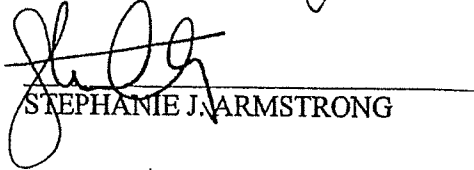
Executed on 09-11, 2018.

GRANTOR:

  
ALEXIS TATARSKY

GRANTEE:

  
DAVID J. RUSSELL

  
STEPHANIE J. ARMSTRONG

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of the document

State of California )  
 )  
County of Marin )

On Sept 11, 2018, before me, Donna Santiago Woods, Notary Public, personally appeared **DAVID J. RUSSELL and STEPHANIE J. ARMSTRONG**, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: 



A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of the document

State of California )  
 )  
County of Marin )

On Sept. 14, 2018, before me, Hiroko Suzuki, Notary Public, personally appeared **ALEXIS TATARSKY**, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/~~she~~/they executed the same in his/~~her~~/their authorized capacity(ies), and that by his/~~her~~/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: Hiroko Suzuki





# URBAN FORESTRY ASSOCIATES, INC.

8 Willow Street San Rafael, CA 94901  
(415) 454-4212 [info@urbanforestryassociates.com](mailto:info@urbanforestryassociates.com)

## TREE PRESERVATION / PROTECTION PLAN

*for*

*88 Toyon Drive Fairfax, CA 94930  
APN 003-081-39*

Prepared for:  
Mr. David Russel  
Property Owner  
[davejrussell@gmail.com](mailto:davejrussell@gmail.com)

Prepared by:  
Urban Forestry Associates  
8 Willow St.  
San Rafael, CA  
415.454.4212  
[info@urbanforestryassociates.com](mailto:info@urbanforestryassociates.com)



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**SUMMARY – Number of trees and (Tree #)**

Total trees to be removed: **25**

Trees to be removed for fire risk: **17** (6, 7, 11a, 11b, 12a, 12b, 14a, 14b, 15, 16, 17, 19b, 24b, 31, 33, 34 & 36).

Trees to be removed for poor health and/or structure threat: **7** (1, 2, 3, 5a, 9, 13 (structure and fire risk).

Trees to be removed for proposed construction: **1** (32)

Heritage trees to be removed: **3** (5a, 13, 19b)

## PURPOSE

Urban Forestry Associates (UFA) was hired to inspect the trees at 88 Toyon at the request of David Russel. The purpose was to assess the condition of the trees and provide a prognosis on tree health, vigor, structural stability and potential impacts to the trees resulting from the proposed development of the property. This report documents the health and structural condition of the tree and provides our conclusions and recommendation in accordance with the Town of Fairfax tree ordinance. The trees described below are those to be removed and those of specific concern. Given the location of this property in the WUI particular attention was to fire safety.

## OBSERVATIONS

### Treatment of Multi-Stemmed Trees

In the event of multi-stemmed trees that fork at or near grade, the DBH was taken of up to three of the largest stems and entered in order from largest to smallest. The largest single stem diameter was then summed with half the diameter of any additional stems up to a total of three.

For example:

Three stems sized:                   5", 4" & 4"

Would be calculated as:        $5 + (4 \times 0.5) + (4 \times 0.5) = 5 + 2 + 2 = \underline{9" \text{ DBH}}$ .

We have found this to be a fair method of approximating multi-stemmed trees and far superior than simply adding each diameter or each circumference, as is done in ordinances of several local cities. This practice makes heritage size trees out of shrubs with twenty, 2" stems.

**Tree Descriptions – *Heritage and Undesirable Trees are as defined in the Town Tree ordinance*  
*On this WUI site high in the hills immature California Bay Laurel is "Undesirable"***

### Tree 1 – Undesirable Tree

Species	<i>Pinus radiata</i> (Monterey Pine)
Size	20.9" DBH
Location	On berm between the Driveways of 88 and 78 Toyon (See Arborist Map)
Condition	Poor, sparse canopy, excessive deadwood, no beetles, but stressed and more failure prone.
Fire Risk	High. Monterey pine is a fire-prone species and stressed trees are exceptionally fire-prone.
Conclusions	This tree is in decline and a high fire risk.
Recom'ds	Remove,

### Tree 2 – Undesirable Tree

Species	<i>Pinus radiata</i> (Monterey Pine)
Size	18.7" DBH
Location	At the north end of the berm, adjacent to the road (See Arborist Map).
Condition	Beetles, poor form, over-extended branches, lean and asymmetry to the north over the road
Fire Risk	High. Monterey pine is a fire-prone species and stressed trees are exceptionally fire-prone.
Conclusion	Stress, beetles, and exposed roots indicate that this tree is a high failure and fire risk.
Recom'ds	Remove

### Tree 3 – Undesirable Tree

Species	<i>Pinus radiata</i> (Monterey Pine)
Size	28.7" DBH
Location	Over-extended limbs over Toyon Road and 78 driveway (See Arborist Map)
Condition	Exposed roots stressed. Over-extended limbs target the neighbor's driveway and the road.
Fire Risk	This tree is stressed and therefore more flammable.
Recom'ds	Remove

**Tree 4 – Heritage Tree**

Species	<i>Quercus agrifolia</i> (Coast Live Oak)
Size	14.8" & 19.5" DBH
Location	It 2' up the berm slope from a utility pole.
Condition	Good health and structure
Fire Risk	Not a significant contribution to a potential fire.
Conclusion	This tree should be preserved and protected during demolition and construction
Recom'ds	Protect roots during any demolition and construction. If any trucks or heavy equipment is used within 1.25 times the maximum canopy radius of the tree, the soil should be armored (See Appendix)

**Tree 5a – Heritage Tree**

Species	<i>Quercus agrifolia</i> (Coast Live Oak)
Size	8.9" & 13.2" DBH
Location	Approximately 8 feet below Tree 4 and 5.5 feet north of Tree 5b (See Arborist Map).
Condition	Sever decay in the base resulted in failure. Currently leaning into next oak, Tree 5b.
Fire Risk	This tree is water stressed due to decay and partial failure, increased flammability
Conclusion	This tree has failed and is damaging Tree 5b.
Recom'ds	Remove to abate the risk of further failure and to preserve Tree 5b, and fire safety.

**Tree 5b – Heritage Tree**

Species	<i>Quercus agrifolia</i> (Coast Live Oak)
Size	19.3" and 11" DBH
Location	Approximately 8 feet below Tree 5a (See Arborist Map).
Condition	Good health and structure but will be damaged if Tree 5a is not removed.
Fire Risk	Not significant
Conclusion	This tree will be damaged by Tree 5a if 5a is not removed in the near future.
Recom'ds	Preserve.

**Tree 6 – Undesirable Tree**

Species	<i>Pinus radiata</i> (Monterey Pine)
Size	3.9" DBH
Location	In south end of a planter bounded by the front fence and the semicircular driveway.
Condition	Poor Form and poor vigor.
Fire Risk	Significant brush layer, fire-prone fuel
Recom'ds	Remove for fire safety

**Tree 7 – Undesirable Tree**

Species	<i>Pinus radiata</i> (Monterey Pine)
Size	5.2" DBH
Location	In north end of a planter bounded by the front fence and the semicircular driveway.
Condition	Poor Form and poor vigor.
Fire Risk	Significant brush layer, fire-prone fuel
Recom'ds	Remove for fire safety

**Tree 8 – Heritage Tree**

Species	<i>Quercus agrifolia</i> (Coast Live Oak)
Size	About 13" and 24" DBH
Location	At the north end of the circular driveway close to the north fence line and near the stairway.
Condition	The canopy is sparse consisting largely of epicormics sprout growth. There is a lot of dieback.
Fire Risk	Not significant at this time but will increase if there is further decline.
Conclusions	The health of this tree is questionable and further investigation is warranted.
Recom'ds	Conduct a root crown excavation and inspection. If retained, monitor annually for root disease.

**Tree 9 - Undesirable Tree**

Species	<i>Pinus radiata</i> (Monterey Pine)
Size	30" & 36" DBH
Location	4' from north neighbor's foundation
Condition	Sparse canopy, dieback of 2017 growth, lean and balance to the south toward the #88 home.
Fire Risk	This tree is a fire-prone species and highly stressed. Stress increases the flammability.
Conclusions	This tree is a high risk for structural failure of branches and fire transmission to the home.
Recom'ds	Remove to abate the high risk

**Tree 10**

Species	<i>Sequoia sempervirens</i> (Redwood)
Size	8.3" DBH
Location	About 3 ft. east of the southeast corner of the #88 home and 10 ft. north of the #88 deck.
Condition	Very Good
Fire Risk	Not significant.
Conclusion	This is a good screen and amenity tree for the Wildland Urban Interface (WUI fire zone)
Recom'ds	Protect with trunk and soil armoring

**Note:** The wood screen and bamboo along the east side of the deck increase the likelihood of home ignition in a fire event. Decks are heat traps and the screening increases the ignition potential.

**Tree 11a – Undesirable Tree**

Species	<i>Umbellularia californica</i> (Bay)
Size	6.3" DBH
Location	Down slope (east of) from the northeast end of the deck
Condition	Poor, stunted and water stressed. It has a severe lean to the north, lowering fine "ladder fuels".
Fire Risk	Significant, California Bay Laurel has a high volatile oil content and is quite fire-prone, particularly on droughty ridges and high slopes. The lean lowers the fine fuels toward the ground fuels.
Conclusion	This tree does not provide significant habitat or other environmental or amenity services.
Recom'ds	Remove for fire safety.

**Tree 11b – Undesirable Tree**

Species	<i>Umbellularia californica</i> (Bay)
Size	5" DBH
Location	Down slope, about 16 feet east of, the northeast end of the deck
Condition	Stunted and water stressed.
Fire Risk	Significant, California Bay Laurel has a high volatile oil content and is quite fire-prone, particularly on droughty ridges and high slopes. It adds fire-prone brush layer fuels to the area below the deck.
Conclusion	This tree does not provide significant habitat, other environmental or amenity services.
Recom'ds	Remove for fire safety.

**Fire Note:** There is a small diameter bay clump below Trees 11a and 11b. The clump contains 1 oak sapling. I recommend that the bays in this clump be removed for fire safety.

**Tree 12a – Undesirable Tree**

Species	<i>Umbellularia californica</i> (Bay)
Size	4" and 7.3" DBH bay clump
Location	3 feet below (east of) Tree 13 and about 12 feet down slope of the deck.
Condition	Poor, stunted and stressed. Leaves have symptoms of <i>Phytophthora ramorum</i> (SOD) infection. Bay is the an alternate host of this disease.
Recom'ds	Remove for fire safety.

**Tree 12b– Undesirable Tree**

Species *Umbellularia californica* (Bay)  
 Size 6" DBH  
 Location 3 feet below (east of) Tree 13 and about 12 feet down slope of the deck.  
 Condition Poor, stunted and stressed  
 Fire Risk Fire-prone species  
 Recom'ds Remove for fire safety

**Tree 13 – Heritage**

Species *Quercus agrifolia* (Coast Live Oak)  
 Size 15.8" DBH  
 Location On the slope about 8 feet below the below the deck.  
 Condition Western oak Bark beetles have infested the base of the tree. The adjacent bay has leaf symptoms of SOD (*Phytophthora ramorum*). It has a severe lean up slope over the deck, almost in contact with the deck beams and against the roof overhang.  
 Fire Risk This tree is a high fire risk. Its canopy is at elevations: below the deck, just above the deck below the roof overhang and against the overhang.  
 Conclusions This tree has both stability issues, fire issues and the borer attack may indicate SOD issues.  
 Recom'ds Remove

**Tree 14a– Undesirable Tree**

Species *Umbellularia californica* (Bay)  
 Size 3" DBH  
 Location 4 feet across slope south of Tree 13  
 Condition Poor, stunted, sparse.  
 Fire Risk "ladder fuel" to Tree 13  
 Conclusions This tree has no positive value and contributes to fire risk.  
 Recom'ds Remove

**Tree 14b– Undesirable Tree**

Species *Umbellularia californica* (Bay)  
 Size 3" DBH  
 Location 8 feet southeast of Tree 14a  
 Condition Poor, stunted, sparse.  
 Fire Risk "ladder fuel" and alternate host of SOD  
 Conclusions This tree has no positive value and contributes to fire risk.  
 Recom'ds Remove

**Tree 15– Undesirable Tree**

Species *Umbellularia californica* (Bay)  
 Size 6" DBH  
 Location Just inside the property line about 12 ft. south of Tree 4b and about 5 ft. east of the PL. Corner.  
 Condition Suppressed by Tree 18  
 Fire Risk "Ladder fuel" to Tree 18 canopy  
 Conclusion Fire hazard and alternate host of SOD  
 Recom'ds Remove

**Tree 16– Undesirable Tree**

Species *Umbellularia californica* (Bay)  
 Size 4" DBH  
 Location About 12 feet east southeast of Tree 14b and east northeast of Tree 15  
 Condition Stunted, sparsely foliated  
 Fire Risk Brush layer fire prone species  
 Recom'ds Remove to provide defensible space and fire risk reduction

**Tree 17– Undesirable Tree**

Species *Umbellularia californica* (Bay)  
 Size 5.6" DBH  
 Location Outside the property line adjacent to the Tree 18 horizontal limb. 6' north of Tree 18  
 Condition Over-topping Tree 18 branches.  
 Fire Risk "Ladder fuel" to Tree 18  
 Recom'ds Remove

**Note:** There is a mature size Toyon about 6 feet west of Tree 17, possibly outside the property line.  
 Recommendation: Remove to disrupt fuel continuity.

**Tree 18 – Heritage**

Species *Quercus agrifolia* (Coast Live Oak)  
 Size 20" DBH  
 Location About 8 feet outside the property line, about one foot west of the east fence line.  
 Condition Bleeding on south side (top) of trunk at DBH and below DBH. Severe lean to north.  
 Fire Risk Trees with severe leans place the fine twigs and leaves (available fuels) close to ground fuels.  
 Conclusions This tree very likely has contracted SOD and is a high fire risk due to both form and condition.  
 Recom'ds Inform neighbor of SOD symptoms and high fire risk.

**Tree 19a - Heritage**

Species *Quercus agrifolia* (Coast Live Oak)  
 Size 4.8" & 7.7" DBH  
 Location 10 feet west of Tree 18  
 Condition Fair, somewhat suppressed by Tree 18.  
 Fire Risk Moderate  
 Recom'ds Protect, limb up and crown clean

**Tree 19b– Heritage**

Species Toyon (*Heteromeles arbutifolia*)  
 Size 5" caliper (6" a.g.)  
 Location Approximately 10 feet west of Tree 19a  
 Condition Fair, somewhat suppressed  
 Fire Risk Ladder fuels (shrub layer)  
 Conclusion Contributes to fuel continuity  
 Recom'ds Remove

**Tree 20– Undesirable Tree**

Species *Quercus agrifolia* (Coast Live Oak)  
 Size 15.6" & 13.1" & 11.9" DBH  
 Location About 14 feet west of the southeast property corner and south of the property line.  
 Condition Good  
 Fire Risk Remove ground fuels below canopy  
 Recom'ds Protect during demolition and construction.

**Tree 21 - Heritage**

Species *Quercus agrifolia* (Coast Live Oak)  
 Size 8" DBH  
 Location About 4 feet below (south of) the east end of the wood retaining wall.  
 Condition Good  
 Fire Risk Moderate, crown raising and "crown cleaning" required to reduce fire risk  
 Conclusion This tree requires protection during demolition and construction.  
 Recom'ds Provide trunk and root armoring

**Tree 22a - Heritage**

Species	<i>Quercus agrifolia</i> (Coast Live Oak)
Size	11.6" DBH
Location	Abut 9 feet below retaining wall
Condition	Staining at north base
Fire Risk	Need to clean up south slope by removing ground and 'ladder" fuels and limb up trees.
Conclusion	This slope requires fire risk reduction
Recom'ds	Limb up and monitor staining for SOD symptoms

**Tree 22b**

Species	<i>Quercus agrifolia</i> (Coast Live Oak)
Size	5.6" DBH
Location	Very close to the base of the wood retaining wall about 4 feet upslope (north) of Tree 22.
Condition	Good
Fire Risk	Moderate, crown raising and "crown cleaning" required to reduce fire risk
Conclusion	This tree requires protection during demolition and construction.
Recom'ds	Provide trunk and root armoring

**Tree 23- Heritage**

Species	<i>Quercus agrifolia</i> (Coast Live Oak)
Size	10.8" DBH
Location	At base of retaining wall and fill soil for pool deck, about 12 feet west of Tree 22
Condition	Good, but wall and fill soil on north root system.
Fire Risk	Moderate, crown raising and "crown cleaning" required to reduce fire risk
Recom'ds	Raise and clean tree canopy

**Tree 24a - Heritage**

Species	<i>Arbutus menziesii</i> (Pacific Madrone)
Size	8" DBH
Location	About 5' south of the property line, about 12 feet west of Tree 22 (See Arborist map).
Condition	Poor, the top died back and a south extending branch has assumed the role of leader.
Fire Risk	Low, fire resistant species
Conclusions	This tree will ultimately fail. It is the neighbor's tree.
Recom'ds	None

**Tree 24b- Undesirable Tree**

Species	<i>Umbellularia californica</i> (California Bay Laurel)
Size	4" DBH
Location	Against retaining wall support structure above Madrone Tree #24
Condition	good, fairly good vigor.
Fire Risk	Significant, Ladder fuel.
Recom'ds	Remove and kill stump

**Tree 25 - Heritage**

Species	<i>Quercus agrifolia</i> (Coast Live Oak)
Size	8.7" & 22" DBH
Location	On Property line, co-tenancy tree at west end of retaining wall
Condition	Good
Fire Risk	Excessive internal deadwood
Recom'ds	Crown raise (limb up) and clean crown for fire resistance.

**Tree 26 - Heritage**

Species	<i>Heteromeles arbutifolia</i> (Toyon)
Size	6" DBH



Location 3 feet south of property line, about 5 feet southwest of Tree 25  
 Condition Fair.  
 Fire Risk Moderate ladder fuel  
 Recom'ds NA

**Tree 27 – Heritage**

Species *Quercus agrifolia* (Coast Live Oak)  
 Size 10" DBH  
 Location On property line, co-tenancy tree  
 Condition Fair,  
 Fire Risk Excessive dead wood  
 Recom'ds Crown raise canopy, (Limb up) and crown clean, removing internal deadwood

**Tree 28 – Heritage**

Species *Quercus agrifolia* (Coast Live Oak)  
 Size 10.7" DBH  
 Location 5 feet northwest of Tree 27,  
 Condition Very good  
 Fire Risk Low but could raise crown and crown clean to make fuels less accessible to a potential fire.  
 Recom'ds Provide trunk and soil protection during demolition and construction. Fire safety pruning.

**Tree 29 – Heritage**

Species *Quercus agrifolia* (Coast Live Oak)  
 Size 8" DBH  
 Location Below (south of) property line on neighbor's property  
 Condition Dying bark checking and exfoliation. Possibly SOD infection.  
 Fire Risk High, senescent trees are highly fire-prone and increase ground fuel when they fail.  
 Recom'ds Inform neighbor of tree health and fire risk condition.

**Tree 30 – Heritage**

Species *Quercus agrifolia* (Coast Live Oak)  
 Size 11.7" & 12" DBH  
 Location Near southwest property corner, about 14 feet northeast of Tree 29, close to S. property line.  
 Condition Very good condition  
 Fire Risk Low  
 Recom'ds Preserve

**Tree 31– Undesirable Tree**

Species *c.f. Pinus sylvestris* (Scotch Pine)  
 Size 4" DBH  
 Location Up northwest fence line about 15 feet above Tree 25  
 Condition Stunted  
 Fire Risk A pine with low foliage is a significant fire risk  
 Recom'ds Remove

**Tree 32**

Species *Cedrus atlantica* (Atlas Cedar)  
 Size 17.5" DBH  
 Location Along the circular driveway about 12 feet south of pine Tree 33  
 Condition Good, health and structural condition  
 Fire Risk Not significant.  
 Conclusion It is within the footprint of the proposed garage.  
 Recom'ds None, It is nonnative and proposed for removal.

**Tree 33– Undesirable Tree**

Species c.f. *Pinus sylvestris* (Scotch Pine)  
Size 15.2" DBH  
Location On the planted slope above the pool west end of the pool deck.  
Condition Fair condition but very close to the house  
Fire Risk Highly significant, This fire-prone tree is too close to the house.  
Recom'ds Remove for defensible space

**Tree 34**

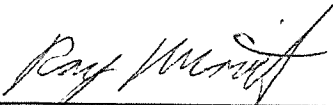
Species *Afrocarpus / Podocarpus* ( Fern Pine)  
Size 2", 4", 3" caliper  
Location In the center of the west planting ares above the west pool deck.  
Condition Poor due to improper pruning and maintenance  
Fife Risk Unknown  
Conclusion This plant is so badly damaged It is not worth keeping.  
Recom'ds Remove.

**Tree 35**

Species *Acer palmatum* (Japanese Maple)  
Size 10" Caliper  
Location In the southwest corner of the pool area.  
Condition Good  
Fire Risk Highly fire resistant.  
Recom'ds Provide tree protection during demolition and construction.

**Tree 36– Undesirable Tree**

Species c.f. *Pinus sylvestris* (Scotch Pine)  
Size 16" DBH  
Location Adjacent to stairs down to pool area south of the house.  
Condition Fair  
Fire Risk High risk of transmitting fire to the house.  
Conclusion This tree is inappropriate for the location. It is an "ember catcher" and its branches overhang the house.  
Recom'ds Remove for fire safety.



Ray Moritz, Urban Forester SAF Cert #241  
ISA Certified Tree Risk Assessor

## SCOPE OF WORK / LIMITATIONS

Information regarding property boundaries, land ownership, and tree ownership was evident from a land survey, property fencing and/or provided by the client. UFA has no personal or monetary interest in the outcome of this matter. All determinations reflected in this report are objective and to the best of our ability. All observations regarding the sites and trees were made by UFA personnel, independently, based on our education and experience. Determinations of the health and hazard potential of the subject trees are through visual inspection only and of our best professional judgment.

The health and hazard assessments in this report are limited by the visual nature of the assessment. Defects may be obscured by soil, brush, vines, aerial foliage, branches, multiple trunks or other trees. None of the subject trees were examined using invasive techniques such as increment coring or Resistograph® tests. The probability of tree failure is dependent on a number of factors including: topography, geology, soil characteristics, wind patterns, species characteristics (both visually evident and concealed), structural defects, and the characteristics of a specific storm. Structurally sound, healthy trees fail during severe storms. Consequently, a conclusion that a tree does not require corrective surgery or removal is not a guarantee of no risk, hazard, or sound health.

## TREE WORK STANDARDS AND QUALIFICATION

All tree work, removal, pruning, planting, shall be performed using industry standards as established by the International Society of Arboriculture. Contractor must have a State of California Contractors License for Tree Service (C61-D49) or Landscaping (C-27) with general liability, worker's compensation, and commercial auto/equipment insurance.

Contractor standards of workmanship shall adhere to current Best Management Practices of the International Society of Arboriculture (ISA) and the American National Standards Institute (ANSI) for tree pruning, fertilization and safety (ANSI A300 and Z133.1).

## INSPECTION SCHEDULE

**Meeting at Site:** Prior to demolition of any structures, pavement or landscape features: The arborist will meet at the site with the architect, demolition contractor, excavator, general contractor and possibly engineer. The arborist shall mark the locations of fencing and/or armoring. No demolition or soil movement shall take place until the No Intrusion Zone or recommended Tree Protection is in place.

**Meeting at site:** Prior to Equipment and Materials Move In, Site Work, Demolition and Tree Removal: The Project Arborist will meet with the General Contractor, Architect / Engineer, and Owner or their representative to review tree preservation measures, designate tree removals, delineate the location of tree protection / non-intrusion zone fencing, specify equipment access routes and materials storage areas, review the existing condition of trees and provide any necessary recommendations.

**Inspection of site:** After installation of NIZ fencing: Inspect site for the adequate installation of tree preservation measures. Review any requests by contractor for access, soil disturbance or excavation areas within root zones of protected trees. Assess any changes in the health of trees since last inspection.

**Inspection of site:** During excavation or any activities that could affect trees: Inspect site during any activity within the Non-Intrusion Zones of preserved trees and any recommendations implemented. Assess any changes in the health of trees since last inspection.

**Final Inspection of Site:** Inspection of site following completion of construction: Inspect for tree health and make any necessary recommendations.

## ARBORIST'S CHECKLIST

- An urban forester, certified or consulting arborist shall establish the Tree Protection Zone (TPZ) prior to starting the demolition work. Four foot high wire deer fencing will be erected by the contractor and inspected by the arborist to limit access to the TPZ. This will protect the trunk and root zone throughout construction.
- The Arborist shall have a pre-demolition meeting with contractor or responsible party and all other foremen or crew managers on site prior to any work to review all work procedures, access and haul routes, and tree protection. The contractor must notify the Arborist if roots are exposed or if trunk or branches are wounded.
- Any trunk and root crown that is not protected by a TPZ where heavy equipment operation is likely to wound the trunk, install a barrel stave-like trunk wrap out of 2 X 4 studs connected together with metal straps, attached to the 2 X 4's with driver screws or 1" nails. The arborist shall oversee the installation of the trunk protection.
- Storage of equipment shall be on asphalt or ground protected by mulch / plywood in an area specified by the arborist in conjunction with the contractor or responsible party prior to the initiation of any demolition or construction activity.
- Heavy equipment use should be limited around trees and the roots. No equipment may be transported or used on bare ground within the root zone. A 6" layer of mulch and plywood must be placed under the path for access and egress. The protective "bridge" shall be maintained by the contractor and regularly inspected by the arborist.
- Any damage to trees due to demolition or construction activities shall be reported to the arborist within 6 hours, so that remedial action can be taken. Any damage done to the trees in violation of the contract agreement shall be appraised as a casualty loss by the arborist and provided to the tree owner.
- All trenching within the critical root zone shall be done pneumatically or by hand.
- An arborist shall over-see all grading, trenching, tunneling or other excavation within the root zones of trees.
- No chemicals or other waste materials shall be dumped in the root zone of this tree. There shall be no material storage in the.
- Pier and at-grade beam foundation construction should be used around the tree to avoid root damage. The soils shall be probed by the Arborist prior to drilling for piers to avoid major roots. Any minor roots (<3.5") encountered should be cut cleanly with a saw after excavation.
- Patios and walks shall be constructed out of permeable materials on a well-aerated base, such as "Cornell Mix". Radiating, horizontal perforated pipes shall be placed at the pavement base/native soil interface, with vertical air outlets, if the above mix cannot be used.
- Chimneys and other heat vents shall be screened and terminated or provided a trimmed clearance at North 10 feet from branches and foliage (See local fire codes).
- Any tree pruning will be done in accordance with ISA standards. All pruning will be supervised by the arborist.
- The soil and drainage shall be rehabilitated and all debris removed after construction.

- The arborist must perform a final inspection to insure that no unmitigated damage has occurred and to specify any pest, disease or other health care. The arborist shall specify and oversee any necessary restorative actions.
- A supplementary irrigation system designed by the Arborist shall be installed where necessary.
- The arborist shall advise the homeowner on landscaping. Landscaping shall conform to arboricultural guidelines.
- Any suspected omissions or conflict between various elements of the plan shall be brought to the attention of the arborist and resolved before proceeding with the work.

**SOURCES**

- Field Inspections performed by Urban Forestry Associates
- Town of Fairfax Tree Ordinance

## APPENDIX A

### § 8.36.080 CONSTRUCTION; TREE PROTECTION PLAN.

(A) In order to protect trees during construction of a project, and to maximize chances for their subsequent survival, a Tree Protection Plan (hereafter TPP) shall be required for all applications for a tentative map, use permit, variance, design review, encroachment permit, or building permit where proposed construction would be located near any tree for which a tree alteration or removal permit would be required by the provisions of this chapter, whether on the subject property or an adjoining property.

(B) The TPP shall be prepared by a Qualified Arborist. The TPP shall include

(1) The size, species, state of health, structural condition, crown diameter, and accurate trunk location and architectural structure of all trees within, and directly adjacent to, the proposed development are, including any area where trenching is proposed, whether on the subject property or on adjoining property; and

(2) A description of all proposed measures to ensure the survival of remaining trees throughout the entire development process.

### § 8.36.010 PURPOSE.

The town derives much of its character and beauty from its large trees and natural setting. Significant portions of the town are forested with **redwood, oak, bay, madrone, Douglas fir, pine and other native tree species**. The preservation of these trees enhances the town's natural scenic beauty and enhances the quality of the community. In addition, these trees help prevent the erosion of topsoil, protect against flood and landslides, reduce carbon dioxide, counteract the pollutants in the air, create wildlife habitat, maintain the climatic balance, and decrease wind velocities. Therefore, it is necessary for the health and welfare of the citizens of the town to enact regulations controlling removal and preservation of trees within the town.

(Ord. 743, passed 7-1-2009)

### § 8.36.020 DEFINITIONS.

For the purposes of this chapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning:

**BREAST HEIGHT.** Four and one-half feet above lowest grade. All circumference measurements shall be taken at Breast Height.

**CIRCUMFERENCE BREAST HEIGHT.** The circumference of a tree at four and one-half feet above lowest grade at the base of a tree.

**COMMITTEE.** The Tree Advisory Committee.

**DIAMETER BREAST HEIGHT.** The diameter of a tree trunk at four and one-half feet above the lowest grade at the base of the tree.

**DIRECTOR.** The Director of Planning and Building Services, or, in his or her absence, another member of the Planning and Building Services Department as designated by the Town Manager.

**EMERGENCY.** An immediate threat to life or an immediate and significant threat to property.

**HERITAGE TREES.** Significant, locally native tree species that are critical to urban and wildland forest habitats.

Heritage trees include the following:

Bigleaf Maple ( <i>Acer macrophyllum</i> )	25" circumference/ approx. 8" diameter
Bishop Pine ( <i>Pinus muricata</i> )	38" circumference/ approx. 12" diameter
California Bay Laurel ( <i>Umbellularia californica</i> )	50" circumference/ approx. 16" diameter
California Buckeye ( <i>Aesculus californica</i> )	25" circumference/ approx. 8" diameter
California Nutmeg ( <i>Torreya California</i> )	12" circumference/ approx. 4" diameter
California sycamore ( <i>Platanus recemosa</i> )	25" circumference/ approx. 8" diameter
Coast Redwood ( <i>Sequoia sempervirens</i> )	38" circumference/ approx. 12" diameter
Douglas Fir ( <i>Pseudotsuga menziesii</i> )	38" circumference/ approx. 12" diameter
Giant Chinquapin ( <i>Castanopsis chrysophylla</i> )	12" circumference/ approx. 4" diameter
Madrone ( <i>Arbutus menziesii</i> )	25" circumference/ approx. 8" diameter
Oak ( <i>Quercus</i> -all native species)	25" circumference/ approx. 8" diameter
Oregon Ash ( <i>Fraxinus latifolia</i> )	25" circumference/ approx. 8" diameter
Red Alder ( <i>Alnus oregona</i> )	25" circumference/ approx. 8" diameter
Sargent cypress ( <i>Cupressus sargentii</i> )	25" circumference/ approx. 8" diameter
Tanbark Oak ( <i>Lithocarpus densiflora</i> )	25" circumference/ approx. 8" diameter
Toyon ( <i>Heteromeles arbutifolia</i> )	12" circumference/ approx. 4" diameter
White Alder ( <i>Alnus rhombifolia</i> )	25" circumference/ approx. 8" diameter

**QUALIFIED ARBORIST.** A Certified Arborist, a Certified Urban Forester, a Registered Consulting Arborist, or a Registered Professional Forester (RPF). Arborists must be certified by the International Society of Arborists (ISA). A Qualified Arborist must have a Fairfax Business License and be insured.

**SPECIMEN TREE.** Trees that, while not heritage trees, nonetheless make a significant aesthetic or environmental contribution to their immediate surroundings. **SPECIMEN TREES** can be undesirable tree species.

**TOWN.** The Town of Fairfax.



**TREE.** Any woody perennial plant characterized by having one or more trunks, any one of which has a diameter of four inches (circumference of 12 inches) or more, measured at four and one-half feet above existing lowest grade at the base of the tree.

**TREE ALTERATION.** Actions taken by cutting or pruning any tree (branches, trunks, roots), or by filling, surfacing, grading, compacting or changing the drainage pattern of the soil around any tree in a manner that threatens to diminish the vigor of the tree; provided that, as used in this chapter, the term **ALTERATION** does not include:

- (1) Normal seasonal trimming, shaping, thinning or pruning of a tree necessary to its health and growth, and within national pruning standards as defined in the ANSI 300A Standards and by the International Society of Arboriculture pruning standards;
- (2) Trimming, pruning or clearance of tree branches from lines of any public utility necessary to the maintenance of the lines; and
- (3) Trimming, clearing or pruning by the Director of Public Works of any tree necessary for:
  - (a) The clearance of streets for pedestrian or vehicular traffic; or
  - (b) Compliance with fire, building and wildland urban interface codes as adopted by the town.
- (4) Trimming, clearing or pruning required by the fire department to meet fire or wildland urban interface code requirements as adopted by the town.

**TREE REMOVAL.** Complete removal of a tree or any action resulting in the death of a tree or permanent damage to its health, or removal of more than one-fourth of the tree's foliage in any 12-month period.

**UNDESIRABLE TREE SPECIES.** Tree species that cannot be classified as heritage trees regardless of size due to their rapid growth (three feet per year) or their invasive, structurally hazardous, or flammable nature.

**UNDESIRABLE TREES SPECIES.** Include, but are not limited to, the following:

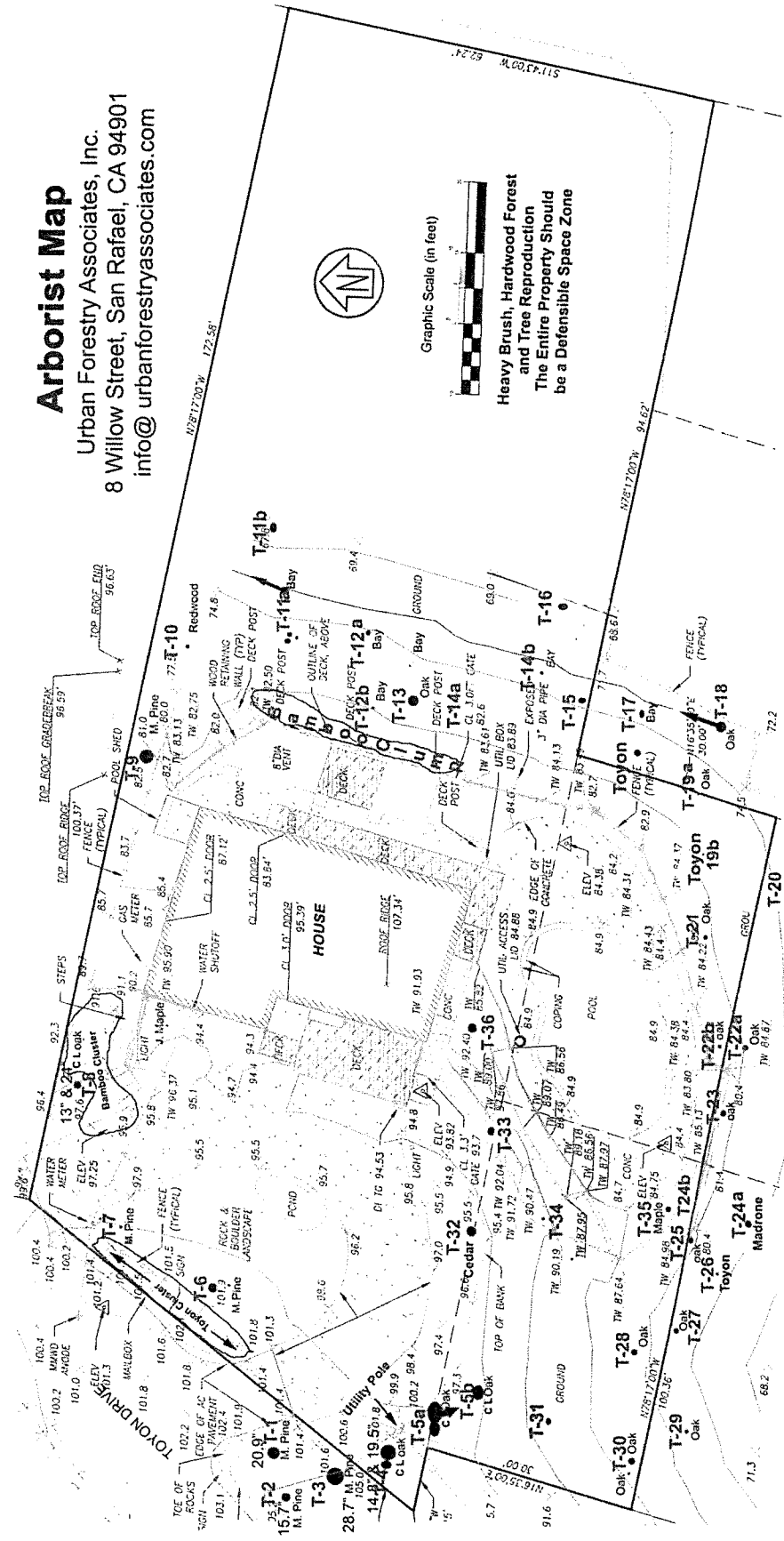
Acacia Trees (Acacia spp.)  
Black Cottonwood (Populus trichocarpa)  
Blue Gum Eucalyptus (Eucalyptus globulus)  
Fremont's Cottonwood (Populus fremontii)  
Liquidambar (Liquidambar styraciflua)  
Lombardy Poplar (Populus nigra 'italica')  
Monterey Pine (Pinus radiata)  
Monterey Cypress (Cupressus macrocarpa)  
Pines (Pinus spp.)  
Princess Tree (Paulownia tomentosa )  
Privet (Ligustrum japonica)

(Ord. 743, passed 7-1-2009)

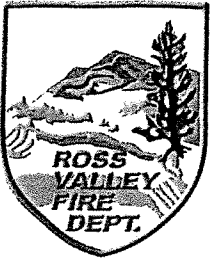
APPENDIX B – Arborist Map

**Arborist Map**

Urban Forestry Associates, Inc.  
8 Willow Street, San Rafael, CA 94901  
info@urbanforestryassociates.com



# Ross Valley Fire Dept



Agency Permit ID 20-0061

ER Permit Number 336227

Permit Type **VEGETATION  
MANAGEMENT PLAN**

Created By Aus, Geoff

Authorized Date

Permit Date 3/4/2020 12:00:00 AM

Effective Date 3/4/2020 11:41:00 AM

Expiration Date 3/4/2021 11:41:00 AM

Authorized By

Site Information	Billing Information
88 TOYON - RESIDENCE 88 TOYON DR FAIRFAX, CA 94930	Gregg Foster 1010 SFD Kentfield, CA
Point of Contact Gregg Foster 661-201-4592	MAR 04 2020
<b>Permit Notes:</b>	



# Ross Valley Fire Department

777 San Anselmo Avenue, San Anselmo, CA 94960

Mark Mills  
FIRE CHIEF

March 4, 2020

Address: 88 Toyon, Fairfax  
Applicant: Gregg Foster  
Application #: 20-0061

The Vegetation Management Plan submitted for review by the Ross Valley Fire Department is approved with the following conditions:

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

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

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

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

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

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

If you have any questions about any of the items listed above please call me. I am available to meet with you on site to help you develop a plan. Please contact me to schedule (415) 453-1289 Ext 21 if you desire my assistance.

Sincerely,

Geoffrey Aus  
Fire Inspector

**ATTACHMENT H**

Committed to the protection of life, property, and environment.

**SAN ANSELMO • FAIRFAX • ROSS • SLEEPY HOLLOW**