SAN ANSELMO TOWN COUNCIL
RESOLUTION NO. 2060

A RESOLUTION SUSTAINING A PORTION OF AN APPEAL OF A PLANNING COMMISSION ACTION AND CONDITIONALLY APPROVING A TENTATIVE MAP FOR THE OLD QUARRY SUBDIVISION (TWELVE LOTS) ON A.P.#'s 177-250-41 AND 42, AND 177-220-50.

WHEREAS, on November 30, 1985 Messrs. Albert Barsocchini and Lawrence S. Stack on behalf of themselves and other residents of San Anselmo filed a Notice of Appeal requesting that the Town Council overturn the San Anselmo Planning Commission approval of a Tentative Map for the Old Quarry Subdivision (Exhibit C); and

WHEREAS, on December 18, 1985 and January 14, 1986 the San Anselmo Town Council held a duly noticed and continued public hearing to receive public testimony on the merits of the Notice of Appeal; and

WHEREAS, the Town Council requested and received an updated traffic study and report on the effects of the Old Quarry Subdivision on the local street system prior to the January 14, 1986 continued public hearing (See Exhibit D).

NOW THEREFORE BE IT RESOLVED AS FOLLOWS:

A. The San Anselmo Town Council hereby sustains a portion of the Notice of Appeal, specifically items number 3 and 9, and denies all other portions of the appeal specifically items number 1, 2, 4, 5, 6, 7, 8, 10 and 11 based on the following findings.

1. That the Tentative Map approved by the Planning Commission does not to the fullest extent feasible protect the open space character of the most northern ridge line, and does not result in the smallest feasible cluster of single family detached dwelling units as intended in the Town's General Plan and R-1-H Zoning District.

2. That based on public testimony at the public hearing and information contained in the updated traffic study (Appendix D), and the updated geologic reports (Appendix E) the previous certified EIR for the Indian Hills Subdivision adequately assesses the environmental effects of the Tentative Map for the Old Quarry Subdivision, and no new or updated EIR is required per Section 15164 of the State's Guidelines for Implementing CEQA.

3. That based on the public record there was adequate notice of the Planning Commission meetings on the Tentative Map for the Old Quarry Subdivision.
BE IT FURTHER RESOLVED THAT:

B. The San Anselmo Town Council hereby conditionally approves a revised Tentative Map for a twelve lot residential subdivision, as depicted in Exhibit A, and as Conditioned in Exhibit B, for AP #s 177-250-41 and 42, and 177-250-50; to be known hereafter as the Old Quarry Subdivision.

BE IT FURTHER RESOLVED THAT:

C. In conditionally approving the Tentative Map for the Old Quarry Subdivision the San Anselmo Town Council makes the following findings:

1. That the twelve residential lot subdivision depicted in Exhibit A prepared by Schwartz-Waag and Associates, dated January 7, 1986; and as conditioned in Exhibit B is in general conformance with goals, policies, and objectives of the Town's adopted General Plan, and meets the requirements of the R1-H Zoning District.

2. That the Final Environmental Impact Report certified by the Town Council in May 1981 for the Indian Hills subdivision is applicable to the Tentative Map for the Old Quarry Subdivision because both the circumstance of the current Tentative Map and the environmental effects of the previous plans for the property are essentially the same.

3. That State law provides that any public agency which approves a project for which an EIR has been completed, and said EIR finds that the project will result in one or more significant environmental effects on the environment, must state, in writing how the significant environmental effects have been mitigated, or provide a statement of overriding consideration.

As required by law the San Anselmo Town Council makes the following findings based on the significant impacts identified in the Final EIR for the Indian Hill Subdivision.

a) That the geotechnical solutions to the sites identified geological hazards contained in Exhibit B and detailed in Exhibit E will insure that the post project conditions will be a significant improvement over the pre project geological conditions.

b) That the storm water drainage system set forth in the proposed Tentative Map, as modified by the conditioning of approval (Exhibit B), will improve drainage conditions both on and off-site, and will provide a much greater degree of protection from storm water runoff to existing developed properties downslope from the site. As a result the subdivision will not result in any significant hydrological impacts.
c) That the reduction in lots from the 25 proposed in 1981 to the 12 proposed in the Old Quarry Subdivision, and the restrictions placed on the location of home sites will result in a significant reduction in the visual impact of the project on the visible ridgeline. The higher ridge will remain as visual open space and the lower disturbed ridge will be developed and visible.

d) That roadway improvements and the provision of a new water tank, water lines and fire hydrants will adequately mitigate the potential adverse impact on fire protection associated with the project.

e) That while development of the slopes below the existing borrowed ridgeline would tend to reduce the visual impact of the project on the ridge such placement of homes would result in greater geologic and hydrologic problems than those associated with development on the borrowed ridge. Based on these factors there is more direct benefit to San Anselmo residents if the slopes were left undisturbed and the borrowed ridge improved.

f) That although the project does not have any direct significant adverse traffic impacts as stated in the EIR and restated in the updated traffic report (Appendix D). The project will contribute cumulatively to a significant adverse regional traffic impact. However the reduction in lots from 25 to 12 will incrementally reduce the contribution of this project to cumulative traffic as stated in the EIR. In addition the direct benefits to San Anselmo from the project in terms of improved geotechnical conditions at the site, and the storm water channelization improvements, combined with the attainment of approximately one half the site as permanent open space with no liability to San Anselmo; outweigh the small increase in traffic this project will contribute to the regional traffic situation. Furthermore, San Anselmo is working with other communities to improve the regional traffic situation.

4. That the 12 lot subdivision will meet certain of the projected housing needs of the Town of San Anselmo. And that the provision of housing at this site as conditioned will not over burden the public services and facilities infrastructure, or require the outlay of public funds for the needed urban infrastructure.

5. That the location of the lots on the higher elevations of the site, combined with the proposed landscaping concept will allow for the future provision of passive or natural heating or cooling opportunities in the subdivision.
The foregoing resolution was adopted and passed at a continued special meeting of the Town Council of San Anselmo held on January 14, 1986, by the following vote:

AYES: Councilmembers Wooliever, Cordingley, Ollinger
NOES: Councilmembers Capurro, Toal
ABSENT: None

MAYOR

ATTEST
EXHIBIT B

The Tentative Map for the Old Quarry Subdivision (AP#s 177-250-40 and 41, and 177-220-50) is approved subject to all of the following conditions. All of these conditions must be complied with by the property owner, or successors in interest, and no modification can be made without the approval of the Planning Commission and Town Council of the Town of San Anselmo.

A. USES, SCALE AND INTENSITY

1. That all future construction including buildings, swimming pools, decks, accessory building and etc., on any of the twelve lots in the subdivision be restricted to the land within the lot envelopes which are depicted with a dashed line on the Tentative Map prepared by Schwartz-Waag Associates, Inc. (Exhibit A).

2. That all future construction within the lot envelopes be designed to minimize the use, height and visibility of retaining walls. Homes located on slopes should be designed to the existing contours and either stepped up or down.

3. Any home or structure to be built on any of the twelve lots must first receive design review approval from the San Anselmo Planning Commission before building permits will be issued. Design review will be handled as per the requirements of the RI-H Zoning District.

4. Home construction shall have a low visual profile and height limits set elsewhere in the Town shall not govern construction on this site.

B. SLOPE REPAIR, GRADING AND DRAINAGE

1. The final map and the improvement plans for the Old Quarry Subdivision shall incorporate all the recommendations of the geotechnical reports prepared for this site or other geotechnical solutions which are recommended by a geotechnical consultant and are acceptable to the Town Engineer. (Exhibit E)

2. A detailed grading plan shall be submitted with the improvement plans for the subdivision and the grading plan shall be approved by the Town Engineer before any permits are issued for grading or construction.

3. A drainage control program designed to accommodate a 100 year storm must be submitted with the improvement plan for the subdivision.
4. The developer of the subdivision must submit an erosion control plan with the grading plan that addresses repair of existing erosion areas and steps which will be taken to control erosion during subdivision improvements.

5. During construction, grading, and road improvements, all exposed surfaces including excavation stockpiling, graded areas; and earth, gravel, and sand loads shall be water sprayed to prevent the generation of dust.

6. All grading and construction related materials and equipment shall be kept on site during construction aside from equipment and materials needed for off-site construction required by the Town Engineer.

7. All grading and construction activities shall be limited to weekdays from 8:00 am to 5:00 pm. Exceptions may be authorized by the Town Administrator or Town Engineer.

8. At the time of design review for the homes on each of the twelve lots a more detailed soils report will be required. The scope of the report will be at the discretion of the Town Engineer.

9. A concrete interceptor ditch shall be added to the drainage system located on Lot #12.

C. ACCESS DEDICATIONS AND OPEN SPACE EASEMENTS

1. Prior to approval of the Final Subdivision Map the applicant shall submit and the Town Attorney shall approve the wording which established an open space easement over the lands identifies as private open space on the Tentative Map (Exhibit A). It is the intent of the Town Council that the land stay in its existing natural state and that this easement establish the area as public visual open space. Furthermore, the owner of the property will not be allowed any construction or landscaping within the open space area. The only exception would be landscaping or structures which are necessary to stabilize existing unstable slopes or other features which are necessary to protect the public safety or a minimum of unobtrusive fencing and watering troughs subject to design review.

2. The Town in approving on the Tentative Map is making no commitment to the potential development of the lands of Michetti. The easement is only provided so that the property owner of the lands of Michetti will have access to the property from a public street. Before any development will be allowed on the lands of Michetti, the property owner or successors in interest must provide proof to the Town that they have a legal building site. The foregoing shall be set forth on the Tentative and Final Maps.
3. The parcel proposed for dedication to the MMWD, if not accepted by the District, shall be incorporated into adjacent private lots and shall be designated as private open space on the Final Map.

D. PUBLIC IMPROVEMENTS

1. The Final Subdivision Map and Improvement Plan for the Old Quarry Subdivision shall be submitted to the Town Engineer for review, and the applicant will comply with all the requirements stipulated by the Town Engineer.

2. The Improvement Plan for the subdivision shall be accompanied by calculations of storm water runoff, and all pipes should be adequately sized to handle the projected runoff.

3. All utilities associated with the subdivision are required to be underground as per the San Anselmo Municipal Code.

4. Street lights will be required in the subdivision, however, standards will be established as part of the Improvement Plan review.

5. The subdivider will have to bond all public improvements associated with the approved Subdivision Map and the Improvement Plan.

6. The developer of the Old Quarry Subdivision will be required to fund in full all public improvements associated with the Subdivision Map and the Improvement Plan.

7. The developer will be required to provide a mechanism to compensate the Town for any damage done to the Town's streets leading to the construction site during the site improvement and construction phases of the project. The mechanism will be determined prior to design review approval.

8. All public improvements shall be completed prior to the issuance of an occupancy permit for any of the twelve lots in the subdivision.

9. The sanitary sewer shown on the Tentative Map shall meet the requirements of the Ross Valley Sanitary District.

10. The undergrounded water pump shall not exceed an SGT of five (5) at any abutting property line.
1. The Tentative Map, Final Subdivision Map and Improvement Plan shall be amended to incorporate all the requirements of the Ross Valley Fire Department as set forth in Exhibit F. The only modification is that the driveway which serves parcels 1 and 2 can be privately owned and must have a minimum of 14 feet of pavement. Any other modification would require the approval of the Town Engineer and the Fire Chief.

2. The private driveway serving parcels 1 and 2 shall not be obstructed in any manner including parking of vehicles. This restriction on obstructions must be recorded with the Final Map so future owners are aware of the conditions.

3. Parking will only be allowed on one side of the proposed extension of Tomahawk Drive. "No Parking" signs and/or other appropriate notices prohibiting obstructions may be required and shall be maintained.

4. The private roadway serving parcels 1 & 2 shall be maintained to Fire Department standards to insure the safe and unobstructed passage of fire apparatus and equipment. This condition shall be recorded with the Final Subdivision Map.

5. Prior to submittal of the Final Map or Improvement Plan for the Old Quarry Subdivision a detailed landscape plan for the subdivision shall be submitted and approved by the Town Planning Commission. The landscape plan shall include landscaping for the water tank and pump station to be located on-site.

6. The subdivider will be required to post a bond for the installation of all required landscaping, and maintenance provisions for the first year after complete installation of all landscaping.

7. The water tank required for the subdivision shall require design review approval and the tank shall conform to recommendation in Exhibit E.

8. Entrance points to public pedestrian and equestrian access easements shall be signed to invite the public. Location of signs and wording shall be part of the Landscape Plan, and approved with the Landscape Plan.

9. The developer of the Old Quarry Subdivision will be required to provide pedestrian improvements or facilities through the project site. The nature of the improvements will be decided during the design review phase of the process.
F. PHASING

1. All public improvements required of the subdivision including slope repair, and the recordation of easements shall be completed prior to the occupancy of any home.

2. All landscaping set forth in the approved landscaping plan for the subdivision shall be installed prior to the issuance of an occupancy permit for any one of the twelve residential lots.

G. OPEN SPACE ALTERNATIVE

1. The developer has stated in public hearing a willingness to work with local residents to explore the possibility of purchasing the entire subdivision site as open space. Accordingly as a condition of approval the developer is required to provide a forum for two public meetings to discuss the possibility of purchasing this land for open space prior to submitting the Design Review Application.
NOTICE OF APPEAL
TO THE SAN ANSELMO TOWN COUNCIL

Hearing date: January 14, 1986

RE: APPROVAL OF THE 12 LOT OLD QUARRY (Indian Hills) SUBDIVISION

On behalf of the citizens of San Anselmo, the town of San Anselmo, the 25 property owners that I represent, and myself we hereby appeal the decision of the planning commission to approve the Old Quarry (Indian Hills) Subdivision for 12 lots on the following grounds:

1. INADEQUATE ENVIRONMENTAL IMPACT REPORT
   A. THE EIR IS OUTDATED (1980)
   B. INADEQUATE TRAFFIC STUDY (Study does not reflect current traffic and road conditions)
   C. INADEQUATE GEOTECHNICAL STUDY
   D. FAILURE TO ADEQUATELY ADDRESS ISSUE OF VISUAL NUISANCE

2. FAILURE TO MITIGATE ADVERSE IMPACT BY REDUCING THE NUMBER OF LOTS.

3. THE PLANNING COMMISSION FAILED TO FOLLOW GUIDLINES BY THE TOWN COUNCIL.
   A. THE TOWN COUNCIL UPON APPROVAL OF "NO MORE THAN 12 LOTS" DETERMINED THAT NO HOUSES BE BUILT ON THE NORTHERN HALF OF THE SUBDIVISION, THAT NO HOUSES BE PERMITTED ON THE RIDGE-LINE, AND THAT THE LOTS BE RESTRICTED TO THE QUARRY.

4. TWELVE LOTS IS AN UNREASONABLE AMOUNT FOR THIS ENVIRONMENTALLY SENSITIVE MAJOR RIDGELINE WHICH FORMS A NATURAL BORDER BETWEEN SAN RAFAEL AND SAN ANSELMO AND WHICH IS AN AREA OF SIGNIFICANT REGIONAL INFLUENCE.

5. THE PLANNING COMMISSION WAS UNRESPONSIVE TO THE RECOMMENDATIONS BY THE PUBLIC TO REDUCE THE NUMBER OF LOTS.

6. A DANGEROUS CONDITION WILL BE CREATED AT THE INTERSECTION OF TOMAHAWK AND INDIAN ROCK THAT EXPOSES THE TOWN TO LIABILITY FOR ANY PEDESTRIAN OR AUTO ACCIDENT THAT MAY OCCUR.

7. THE ACCESS ROADS TO TOMAHAWK OFF OF SAN FRANCISCO BLVD. ARE NOT ADEQUATE TO HANDLE THE PRESENT TRAFFIC FLOW OR THE MAJOR INCREASE IN TRAFFIC FROM THE DEVELOPMENT.

8. INADEQUATE PUBLIC NOTICE OF THE PLANNING COMMISSION MEETINGS ON THE PROPOSED SUBDIVISION.
9. FAILURE TO COMPLY WITH THE HILLSIDE DENSITY ORDINANCE REGARDING THE PROVISION TO KEEP LOTS OFF OF THE RIDGE AND TO CLUSTER WHEN POSSIBLE. (SAN ANSELMO MUNICIPAL CODE 10-3.1201)

10. FAILURE TO COMPLY WITH THE RECOMMENDATIONS OF THE ROSS VALLEY FIRE DISTRICT AND SAN ANSELMO POLICE DEPARTMENT THAT ALL STREETS IN THE PROPOSED DEVELOPMENT BE PUBLIC.

11. FAILURE TO IDENTIFY THE ACTUAL OWNERS OF THE SUBDIVISION. IT WAS NEVER CLEAR IF OWNERSHIP WAS HELD BY CALVIN GUNN OR ELLIOTT & ASSOCIATES OR CALVIN GUNN AND ELLIOTT & ASSOCIATES.

IN GENERAL THE NUMBER OF LOTS APPROVED BY THE PLANNING COMMISSION IS CONTRARY TO THE CONSERVATION GOALS OF THE GENERAL PLAN FOR THE CONSERVATION OF RIDGETOPS. HUNDREDS OF CONCERNED CITIZENS HAVE SPOKEN IN OPPOSITION TO THE SIZE OF THE DEVELOPMENT WITHOUT ANY RESULTS. IT IS NOW TIME FOR THE TOWN COUNCIL TO CAREFULLY SCRUTINIZE THIS PROPOSED RIDGETOP DEVELOPMENT IN ORDER TO PREVENT ADVERSE IMPACT TO THE ENVIRONMENT AND TO PRESERVE A UNIQUE LOCAL ATTRIBUTE.

THIS APPEAL IS BASED UPON THIS NOTICE OF APPEAL; ALL DOCUMENTARY EXHIBITS ATTACHED HERETO; AND ALL ORAL AND DOCUMENTARY EVIDENCE THAT WILL BE PRESENTED AT THE TIME OF THE HEARING ON THE APPEAL.

Executed on November 30, 1985 at San Anselmo, CA.

BY ALBERT ARSOCCHINI
ATTORNEY FOR:

34 Tomahawk;
58 Indian Rock;
10 Blackhawk;
41 Elkhorn;
20 Elkhorn;
50 Indian Rock;
11 Indian Rock;
22 Tomahawk;
2 Alice Way;
10 Tomahawk;
16 Blackhawk;
46 Elkhorn;
21 Elkhorn;
79 Indian Rock;
76 Indian Rock;
63 Indian Rock;
30 Tomahawk;
9 Tomahawk;
11 Elkhorn;
6 Alice Way;
10 Alice Way;
4 Blackhawk;

2
Mr. John Roberto  
JOHN ROBERTO ASSOCIATES  
Golden Gate Energy Center  
Fort Cronkhite, Bldg. 1064  
Sausalito, CA. 94965  

Re: Old Quarry Subdivision- Traffic Study  

Dear Mr. Roberto:  

The Traffic Study completed on the above referenced study included new A.M. and P.M. traffic counts at the intersections of Tomahawk/Indian Rock Road, The Alemada at Arrayo, and Pasadena/Santa Barbara. The A.M. peak hour traffic count was taken on Tuesday January 7, 1986 between the hours of 7:00 to 8:00 AM. The P.M. peak hour traffic counts were taken on Monday January 6, 1986 between the hours of 4:30 and 5:30 P.M.

Additional work included an analysis of existing traffic safety at the intersection of Indian Rock Road/Tomahawk/Blackhawk, and an analysis of future traffic from the Old Quarry Subdivision on the safety and Level of Service at this intersection. The study also included an analysis of the effects of project related traffic on the quality of life in the area, and whether or not traffic generated by the project would be noticeable to existing residents on local streets serving the project site. Mitigation for potential adverse impacts is also recommended.

Traffic Travel Patterns  

The traffic counts and observations made on the above referenced days leads me to conclude that very few cars if any turning left at Butterfield Road to Arroyo and the Alemada pass through the Indian Rock Road/Tomahawk intersection during the A.M and P.M. peak hours. The preferred route for drivers west of Broadmoor is via Broadmoor to Sir Francis Drake Boulevard. However, the observed route for drivers east of Broadmoor is via Blackhawk, Pasadena, Santa Barbara, Santa Crua, San Francisco to Sir Francis Drake during the A.M. peak. The Broadmoor to Sir Francis Drake route is heavily used by motorists in order to avoid the Butterfield/Sir Francis Drake intersection. Diversion between the Sir Francis Drake/Broadmoor and Sir Francis Drake/Butterfield intersection is significantly less in the P.M. peak hour.

Observations and counts at the Indian Rock/Tomahawk/Blackhawk intersection found about 25 cars passing eastbound through the intersection during the A.M. peak hour. Some of the cars were due to traffic diversion and some are just normal out-bound traffic. If Sir Francis Drake were not so conjected many of these trips would use the Broadmoor rather than the Blackhawk route. There were about 14 vehicles passing west through this intersection in the P.M. peak hour.

The Traffic Consultant observed that the home closest to the project entrance at Tomahawk, one vehicle went west and one east during the A.M. peak. One
vehicle arrived at the home on Tomahawk from the west and one from the east during the P.M. peak.

Traffic Safety
All the streets in the circulation system serving the site are residential. There are steep grades and sharp curves which limit visibility especially at the Tomahawk/Indian Rock intersection. Observed traffic volumes were small and speeds low. The traffic consultant did not observe any traffic safety problems on the local circulation system serving the site. However, there is potential for pedestrian-vehicle accidents at the Tomahawk/Indian Rock intersection where the eastbound upgrade approach is blind and this intersection appears to be the social center for the immediate neighbors who gathered with dogs, bikes, and children in the middle of the intersection during the evening of the count. Also the project access area is used as a hiking, jogging and dog walking area.

Perhaps some signing would be appropriate at the blind approach such as "Caution, Children at Play" or "Caution Pedestrian Activity".

Existing Traffic Volumes
Estimated daily traffic volumes based on peak hour counts are between 200-450 along Indian Rock, Blackhawk, Pasadena, Santa Cruz and Santa Barbara. These are relatively low volumes typical of local residential streets.

Project Traffic Impacts
The project would generate at the very worst about 120 trips per day and 12 during the P.M. peak hour and 10 during the A.M. peak hour. If all the trips generated at the project site used the east route; the traffic increase would be noticeable to residents living along Blackhawk, Pasadena, Santa Barbara and Santa Cruz. However, total resulting volumes would remain within acceptable limits for local residential carriers (streets). Typically the threshold where a street is considered a "traffic type" carries a volume of 1,000 or more vehicles a day, less than the 1,000 a street is considered "residential type".

Traffic infusion on the residential environment (quality of life) is quantitatively expressed by a methodology known as the TIRE index (See definition attached to this letter). Computations using this methodology show that traffic would cause an increase of 0.1 index point in the TIRE index along Blackhawk and Pasadena, Santa Barbara, and Santa Cruz. Accordingly the traffic will be noticeable to residents on these streets.

The traffic consultant does not anticipate any significant adverse safety impacts associated with the project traffic at the Tomahawk/Indian Rock intersection or on the overall circulation system. Traffic to/from the project would not impact Elkhorn Way. Rather, project traffic would use the direct Blackhawk route to/from the east.

When Sir Francis Drake is restriped to provide two reversible travel lanes in the peak direction, traffic volumes along Indian Rock, Blackhawk etc. due to driver diversion will be reduced. Likewise about half the trips generated by the project is expected to use the Broadmoor route.
No mitigation for traffic impacts is necessary. However, the "Caution" signing mentioned before if installed would in the traffic consultant's opinion offset any potential traffic hazard increase due to project traffic.

Submitted with this letter are the original worksheets and computations associated with the traffic study. Given the short amount of time to submit our findings we were unable to complete finished graphics. Should you desire finished graphics we will supply them at your request.

Sincerely,

Ben T. Choate III
Transportation Engineer

btc/jr
TIRE

TIRE is a numerical representation of a resident's perception of the affect of street traffic on activities such as walking, cycling and playing, and on daily tasks such as maneuvering an auto out of a residential driveway. An acronym for "Traffic Infusion on Residential Environment," TIRE is expressed by index values that range from zero, representing the least affect of traffic, to five, representing the severest affect:

0 1 2 3 4 5
Very Low Moderate High Very High

TIRE is based on a logarithmic association between traffic and residential environment and as such predicts three interesting relationships. According to TIRE a given change in street traffic volume will cause a greater impact on residential environment on a street with a low pre-existing traffic volume than it will on a street with a higher pre-existing volume. Yet, any traffic change that would cause an index change of 0.1 or more would be noticable to street residents. Streets with TIRE levels above the midrange index of 3 are traffic-dominated while those with indexes below 3 are better suited for residential activities.

The TIRE Index values in the table which follows were developed by D. K. Goodrich. They reflect curve shapes found in work by Appleyard of the University of California at Berkeley and consider earlier thought by Buchanan of the Ministry of Transport, England.
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SOURCE: Goodrich Traffic Group
EXHIBIT E

BALDWIN CONSULTANTS

Post Office Box 1272 • Pacifica, California 94044 • (415) 359-3415

September 13, 1985
Job 16.02.01

Mr. Calvin F. Gunn
P. O. Box 11367
Palo Alto, CA 94306

RE: PRELIMINARY GEOTECHNICAL INVESTIGATION
Slope Hazard Mitigation, Lots A,B,K and L
Old Quarry, Proposed 12-Unit Subdivision
Indian Hill
San Anselmo, California

Dear Mr. Gunn:

INTRODUCTION

Pursuant to your authorization, we hereby present the results of the above referenced geotechnical investigation. This report provides information and recommendations pertaining to geological hazard mitigation for lots A, B, K, and L as requested by the Town of San Anselmo. We also provide slope erosion mitigation considerations for the Open Space area occupying the northwestern portion of the property, as well as drainage and maintenance recommendations for proposed roadways and house sites.

Much of the geotechnical information used for this report was gained from our June 11, 1985 preliminary geotechnical investigation. Further data regarding subsurface earth material characteristics was obtained from backhoe explorations performed on the site on September 5, 1985. Our findings and recommendations can be applied to your Tentative Map (by Whaley and Associates, dated 7/85) submitted to this office on September 13, 1985.

FINDINGS AND RECOMMENDATIONS

Lots A and B

As described in our previous preliminary geotechnical investigation, Lots A and B contain evidence of past and locally active landsliding (see Plate 1, Mitigation Scheme – Lots A and B). Test Pit 1 was excavated near the property line between lots A and B to evaluate the soil thickness in the vicinity of a mapped landslide area (see Plate 1, and Plate 2, Logs of Test Pits). We found approximately 10 feet of colluvial soil overlying hard sandstone bedrock. There was no evidence of active landsliding exposed in the test pit. We observed and logged a rather uniform thickness of colluvium which appears to have been deposited in a localized depression which may represent an old landslide scar.

CONSULTING ENGINEERING GEOLOGISTS
Test Pit 2 was excavated near the headscarp of an active landslide located downslope from the proposed house location on Lot A (see Plates 1 and 2). The test pit exposed approximately 3 to 5 feet of landslide debris overlying very hard, dense sandstone. This is a shallow, active landslide mass which is moving into a drainage channel that is being undercut locally by uncontrolled runoff originating from the ridgetop upslope. There may also be localized spring activity in this vicinity.

The proposed building site on Lot B occurs upslope from a topographic depression that we previously mapped as an old landslide deposit. Further surface observations in this area, during this phase of the investigation, revealed no evidence of active landsliding, such as scarps or fissures in the surface soils. Therefore, we believe that this is an old landslide deposit that has naturally stabilized.

We recommend that you establish a minimum 50-foot setback for building sites on Lots A and B from landslide areas shown on Plate 1. We judge that this setback will provide an acceptable margin of safety for house foundation areas.

We recommend that subdrain systems be installed in the upper portion of the landslide areas to reduce any adverse groundwater conditions that might develop during the project lifetime. Additional subdrains may be required within the body of the landslide in order to reduce hydrostatic pressure due to surface water infiltration within the locally irregular topography. All subdrain installations should be observed by a certified engineering geologist to assure that their locations are appropriate. Subdrains should extend through the soil mantle/landslide deposit and a minimum of 1 foot into the underlying stable bedrock. We judge that such measures will enhance slope stability in these areas. A typical subdrain section is illustrated on Plate 3.

Open Space Area

We recommend that a minimum 4-foot high gabion impact wall be installed upslope from the property line along the southern portion of the Open Space area to protect existing house sites downslope from erosion and shallow landsliding (see Plate 1). The wall should be designed for an equivalent fluid pressure of 125 pounds per cubic foot to resist impact by an advancing slurry of mud and water. The ground surface behind the wall should be provided with positive surface drainage and maintenance access. Positive surface drainage can be established by simply developing a very slight gradient behind the wall to allow water to run off in a westerly direction to communicate with the natural drainage path for this slope. Maintenance access behind the wall should be established to allow small equipment (i.e., Bobcat) to remove debris that may accumulate. It may be possible to establish maintenance equipment access from the utility easement that extends from the cul-de-sac at Indian Rock Court to the Open Space area.

Baldwin Consultants
Consulting Engineering Geologists
Storm Drainage for the Westerly Extension of Tomahawk Drive

We recommend that all street drainage be carried to a storm drain drop inlet (catch basin) in the saddle area located in the Open Space, adjacent to Lot A (see Plate 1). The drop inlet should be connected to a pipe that extends to the base of the slope, or to the storm drain facility beneath Indian Rock Road. We recommend that the storm drainage system for this segment of Tomahawk Drive be designed for a 100-year storm. Discharge from storm drainage should not occur on the sensitive soils underlying slopes in the Open Space area. We judge that control of surface water along the ridgetop will further mitigate erosion and shallow landsliding within the Open Space area.

Lots K and L

Test Pit 3 was excavated in the erosion area mapped at the property line between Lots K and L (see Plate 4, Mitigation Scheme, Lots K and L). This is an area where we had previously observed an irregular ground surface apparently related to adverse runoff. The test pit revealed approximately 1 foot of loose soil overlying sheared rock. Therefore, we believe that the irregular ground surface in this area is related to differential erosion of the sheared rock and not to landsliding.

We judge that erosion in this area can be mitigated by establishing storm drainage in the saddle area of the ridgetop, between Lots K and L, along the extension of Tomahawk Drive. Like the aforementioned storm drainage recommended for the Open Space, this storm drain facility should be designed for a 100-year storm, and it should conduct water to Indian Rock Road within a solid pipe. It may be appropriate to integrate the storm drain outfall with the existing drainage easement that extends downward from the property to Indian Rock Road.

The eroded area between Lots K and L should be graded to the extent of establishing a smooth, uniform slope. Once graded the slope should be planted with resistant ground cover.

MAINTENANCE AND INVESTIGATION LIMITATIONS

This report presents measures which we judge should mitigate potential hazards to proposed foundation areas related to surface erosion and shallow landsliding, while reducing slope hazards to downslope properties that presently exist. Detailed geotechnical investigation should be provided for each lot, once the final plans are developed. Specifically, strict drainage control measures should be implemented for each building site. This includes channelling all roof drainage and other surface drainage for driveways, sidewalks, etc., to the appropriate storm drain facility to be located in the street. Runoff should not be allowed to flow across unprotected slopes.

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Consulting Engineering Geologists
We recommend that the final development plans be submitted to this office for review to verify that the intent of our geotechnical recommendations are followed.

Maintenance of this area, especially the hillsides, will be required during the project lifetime. A prudent step in maintaining slope stability is to make periodic checks and to provide remedial measures for any areas that become eroded or show incipient soil movement. Remedial recommendations should come from a licensed geotechnical consultant experienced in hillside development.

We suggest that landscaping considerations include use of low maintenance vegetation and comprehensive drainage for the subdivision. We do not recommend use of heavy, large trees on slopes greater than 3:1 (horizontal:vertical).

This report has been provided to aid in the planning of the referenced subdivision. Our work has been conducted in accordance with generally accepted geotechnical engineering principles and practices. This acknowledgement is in lieu of all warranties, either expressed or implied.

We trust that this report provides you with the information you require at this time. If you have any questions, please call.

Very truly yours,

Joel E. Baldwin II, EG1132
Principal Engineering Geologist

John C. Hom, P.E.
Civil Engineer, 28877

BALDWIN CONSULTANTS
CONSULTING ENGINEERING GEOLOGISTS
CONSTRUCT SUBDRAIN SYSTEM IN EXISTING LANDSLIDE AREAS. EXACT LOCATION AND DEPTHS SHOULD BE CONFIRMED IN THE FIELD BY THE GEOTECHNICAL CONSULTANT.

ESTABLISH MINIMUM 50' SETBACK FOR BUILDING FOUNDATION FROM LANDSLIDE AREAS.

CONSTRUCT GABION OR EQUIVALENT IMPACT WALL UPSLOPE FROM PROPERTY LINE. ESTABLISH POSITIVE DRAINAGE AND MAINTENANCE ACCESS BEHIND THE WALL.

CONSTRUCT STORM DRAIN DROP INLET AND CONNECT TO PIPE DESIGNED FOR 100-YEAR STORM THAT EXTENDS TO BASE OF SLOPE OR TO INDIAN ROCK RD. DISCHARGE OF STORM DRAIN SHOULD NOT OCCUR ON THE SLOPE.
Explanations:

1. Dark brown Silty SAND with Clay and occasional Gravel, dry, hard, porous, organic (COLLUVIUM).

2. Similar to 1 except grades to slight increase in Clay, color change to mottled very dark gray brown and yellow brown/brownish yellow, dry, very dense (COLLUVIUM).

3. Similar to 1 except increase in Gravel, color is more brownish yellow, moist to damp, slightly desiccated, friable (RESIDUAL SOIL).

4. Dark yellow brown SANDSTONE, hard, fresh to weathered, moist in weathered part.

5. Black CLAY, moist, very stiff, fractured and sheared, contains polished surfaces - comprises 6" thick rupture zone at base of LANDSLIDE.

6. Black SHEARED ROCK, moist, hard where fresh, stiff where sheared, contains Greenstone clasts.

Note: Test pits excavated by track-mounted backhoe with 24" wide bucket.
REPLANT WITH RESISTANT GROUND COVER

COMPACTED, NONEXPANSIVE CLAYEY SOIL

FILTER FABRIC DESIGNED FOR DRAINAGE - OVERLAP TOP OF GRAVEL PRISM

CLASS II PERMEABLE DRAINROCK OR 3/4" DRAINROCK WRAPPED IN FILTER FABRIC - EXTEND MIN. 2' BELOW SATURATED ZONE

4" DIAMETER MIN. PVC SUBDRAIN PIPE - PERFORATIONS DOWN

SUBDRAIN DETAIL

Typical
ESTABLISH STORM DRAIN DROP INLET CONNECT TO PIPE SIZED FOR 100-YEAR STORM THAT INTEGRATES WITH STORM DRAIN FACILITY BENEATH INDIAN ROCK ROAD

GRADE ERODED AREA TO ESTABLISH UNIFORM SLOPE w/ POSITIVE DRAINAGE TO BENCH DOWNSLOPE. ESTABLISH RESISTANT GROUND COVER.

Approximate Test Pit Location & Number
Calvin F. Gunn
P. O. Box 11367
Palo Alto, California 94036.

RE: PRELIMINARY GEOTECHNICAL INVESTIGATION
Old Quarry, Proposed 12-Unit Subdivision
Indian Hill
San Anselmo, California

Dear Mr. Gunn:

INTRODUCTION

Pursuant to your request, we hereby present the results of the referenced geotechnical investigation. This report provides information requested by the Town planning consultant, John Roberto Associates, in their May 29, 1985 letter. Specifically, we have updated the preliminary geologic and soils report prepared in 1980 by Donald Herzog and Associates; especially as the existing conditions pertain to slope performance over the past five years. Our map presents the updated geologic site setting, including distribution of landslides, problem soils, and bedrock exposures. This report also addresses site development feasibility as it pertains to the building envelopes and the preliminary house site plan as developed by Whaley and Associates, of San Jose, California. Generalized recommendations are offered for site development. Mitigation of geotechnical hazards observed on the site is also addressed from a preliminary standpoint.

Our work scope entailed photogeologic interpretation of 1970 and post-1982 storm aerial photography. Site reconnaissance geologic mapping was plotted on a 1 inch to 50 foot scale preliminary site plan by Whaley and Associates. We also reviewed pertinent geotechnical information for this site and a 1 inch to 100 foot site plan by Whaley and Associates.

GEOLOGICAL SETTING

Regional Setting

The site is located at the northwestern tip of San Rafael Hill in San Anselmo, California (Plate 1, Vicinity Map). This area is characterized by the Franciscan assemblage which is comprised of a complex mixture of sedimentary, igneous and metamorphic rocks. The region has been intensely folded and faulted, however no known active faults transect the site (See Plate 1). The active San Andreas fault zone passes approximately 8 miles southwest of the site. This fault zone is responsible for the great San Francisco earthquake that occurred in 1906 and is responsible for regional ground breakage and severe seismic shaking throughout the Bay Area during that event. Because of the close proximity of the site to this active fault, severe ground shaking should be anticipated during the project lifetime.
Site Setting

The site is comprised of approximately 24 acres, 12 of which have been set aside for private open space. The acreage occurs on the top and flanks of a Y-shaped ridgeline. The central portion of the site contains an abandoned borrow site which has resulted in a nearly level graded area of approximately 2 acres. An unimproved roadway extends from the northern end of Tomahawk Drive and follows the ridgeline.

The ridgeline has gentle slopes, while its flanks have slopes ranging from 3:1 to locally 1:1 (horizontal to vertical). Ephemeral drainage channels roughly form a parallel pattern on the sides of the ridge and generally comprise the steeper slopes. Locally, uncontrolled surface runoff has caused severe erosion, especially in the area of the abandoned borrow site (See Plate 2, Site Engineering Geologic Map). Erosion is also occurring locally within the ephemeral drainage channels downslope from the ridgeline where uncontrolled runoff has eroded away lateral support for the weak surficial soils.

Bedrock outcrops of sandstone and interbedded shale, with local occurrence of sheared serpentine was observed along most of the unimproved roadway leading from Tomahawk Drive and in the borrow area; bedrock also occurs at shallow depths on the ridge line and its margins. Scattered outcrops of similar rocks were observed on the hillsides below the ridgeline. These rocks are part of the Franciscan assemblage mapped by Blake and others (1974), and Smith and others (1976).

Colluvium and fill soils mantle the bedrock across the site. The ridgeline and upper portion of the slopes are overlain by a thin veneer of these overburden soils. The ephemeral drainage channels generally contain thicker accumulations of colluvium.

Local shallow slope failures were observed on the flanks of the ridgeline within the colluvial soil. Previous mapping by Donald Herzog and Associates (1980) illustrates eight rather large landslide masses occurring on the flanks of the ridgeline (See Plate 2). We checked the landslide areas previously mapped and concluded that Landslides 2, 6 and 7, as mapped by Herzog, do not represent landslide deposits but are hillside areas having local undulations that are probably related to differential weathering of the shale and sandstone and/or localized creep (See Plate 2). The area occupied by Landslide 1, at the north end of the project, represents a debris slide having dimensions smaller than that shown by the Herzog mapping. Landslide 3, located at the south side of the site, is generally consistent with what we observed during our site reconnaissance, except the limits of the landslide were relocated south of the Herzog location.

Landslide 5, located at the northwestern part of the site, is an area that appears to be undergoing surficial creep and having localized soil failures, generally less than 5 feet deep. This landslide area, mapped by Herzog, has been adjusted to represent our findings. Landslide 8, located at the southwestern portion of the site, is an area where severe erosion has occurred due to uncontrolled runoff from the unimproved roadway. Runoff from that portion of the roadway also spills onto the east flank of the ridgeline and has caused localized slope failure of the colluvium (See Plate 2).

We compared 1970 and post-1982 storm aerial photographs to evaluate the performance of the site following the 100-year event that occurred in the winter of 1982. Except for a very small and shallow failure, (less than 10 cubic yards on the south side of
Landslide 6) well downslope from the proposed improvements and within the public open space area, the slope had no apparent landslide activity that was not present in 1970. There was no apparent enlargement of the pre-existing slides. Retreat of the erosion area in the middle of the site did occur due to uncontrolled runoff from the unimproved roadway.

CONCLUSIONS

The results of our preliminary investigation indicate that the proposed building envelopes, as illustrated on Plate 2, are feasible from a geotechnical standpoint. Most of the proposed building sites are underlain by hard and apparently relatively stable Franciscan sandstone and shale at depths generally less than 5 feet. Local accumulations of colluvium may exceed this thickness in the ephemeral drainages, however these areas are outside the proposed house sites (See Plate 2, House Site A through L).

It is our opinion, that the most active hazard on this site is soil erosion related to lack of runoff control. Erosion occurring at the southern portion of the site will continue if drainage corrective measures are not implemented. From this standpoint, it is our opinion that the proposed development will enhance site stability, provided that planning and development is closely coordinated with the project geotechnical consultant.

Deep seated landsliding does not appear to be a hazard on this site. However, localized slouching of the colluvium has occurred on the steeper slopes downhill from the proposed building sites downhill from areas having poor drainage control. Because of the localized threat of soil failures, we have, in the following section, recommended minor adjustments to House Sites A and B (See Plate 2).

RECOMMENDATIONS

Street Alignment

The proposed street occurs across the apparently stable ridge underlain by bedrock that is mantled locally by uncontrolled fill and colluvium (Plate 2). Planning should include removal of these soils in order to develop appropriate grade support. Storm drainage along the street will have to be strictly controlled and should tie into existing storm drain facilities on Tomahawk Drive.

Proposed House Sites

With the exception of House Sites A and B, it is our opinion that the planned development is feasible. We believe that House Site A should be located on the opposite side of the ridge in order to develop appropriate site drainage. Further, relocation would add a margin of safety against encroachment by Landslide 1.

Because of the encroachment of the surficial landslide downslope from House Site B, we recommend that the site be moved approximately 100 feet northward to the broader outcropping of Franciscan sandstone.

Baldwin Consultants
Consulting Engineering Geologists
House Foundation Systems

The site will accommodate conventional spread footings in the level areas and drilled piers and grade beams on sloping ground, or a combination of both in areas having level and sloping ground. The design parameters for respective foundations should come from a detailed geotechnical investigation having borings and/or test pits that evaluate the subsurface conditions.

The areas where erosion has occurred will have to be repaired during site development. We recommend that erosion and runoff control measures be considered for the public open space. This can be evaluated during the subsequent, detailed geotechnical investigation.

Drainage Control

Subsequent planning for this project should include a comprehensive drainage control program designed to accommodate a 100-year storm. We recommend that the drainage facilities include closed pipes that connect to existing storm drainage in Tomahawk Drive, Indian Rock Road and/or Indian Rock Court. Drainage control will also include mitigating areas of ponding and uncontrolled runoff in the abandoned borrow site. An erosion gully there has reached base level due to the hard rock conditions, however there was evidence that widening is occurring due to sloughing of the gully banks (See Plate 2).

Until permanent site drainage measures are installed, we recommend that temporary erosion control measures be implemented as soon as possible for the site to reduce the effects of uncontrolled runoff and erosion. These can consist of developing a berm along the top of the slope to mitigate spillage of runoff onto the hillsides, and to channel runoff to a drop inlet and solid plastic pipe. The pipe should conduct storm drainage to an existing street facility downslope.

Slope Repair

We recommend that the existing slope failure areas be further evaluated for repair during the detailed geotechnical investigation phase. All slope failure areas should be repaired as they present a threat to downslope properties. Slope repair schemes may include local slope reconstruction, subdrainage improvements and/or engineered retaining walls.

SUPPLEMENTAL SERVICES

We recommend that a detailed geotechnical investigation be performed during the Tentative Map phase on the site in order to provide specific foundation recommendations, erosion control measures, drainage control, site grading and local slope repair measures.

LIMITATIONS

This preliminary geotechnical investigation report has been prepared in accordance with generally accepted geotechnical engineering principles and practices. This acknowledgement is in lieu of all warranties either expressed or implied.
REFERENCES CITED


Donald Herzog and Associates, 1980, Preliminary Geotechnical Investigation, Indian Hills Subdivision, San Anselmo, California: Geotechnical Consultant's report to Mr. Siegfried Pfendt, 4 pages and 1 Plate.

Smith, T.C., Rice, S.J. and Strand, R.G., 1976, Geology of the upper Ross Valley and the western part of the San Rafael area, Marin County, California: Calif. Div. Mines and Geology, OFR 76-2 S.F., Plate 1B.

We trust that this report provides you with the information required at this time. If you have further questions, please call.

The following plates are attached and complete this report.

<table>
<thead>
<tr>
<th>Plate 1</th>
<th>Plate 2</th>
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<tbody>
<tr>
<td>Vicinity Map</td>
<td>Engineering Geologic Map (in pocket)</td>
</tr>
</tbody>
</table>

Very truly yours,

Baldwin Consultants

Joel E. Baldwin II, EG 1132
Principal Engineering Geologist

John C. Hom
Civil Engineer, 18877

JEBA & JCH/db
Attachments

BALDWIN CONSULTANTS
CONSULTING ENGINEERING GEOLOGISTS
EXPLANATION

KJf-Franciscan Rocks
fs-Sandstone, gs-Greenstone

Mr. Calvin F. Gunn
P. O. Box 11367
Palo Alto, CA 94306

RE: TENTATIVE MAP REVIEW
Old Quarry, Proposed 12-Unit Subdivision
Indian Hill
San Anselmo, California

Dear Mr. Gunn:

Pursuant to your request we have reviewed the tentative map of the referenced project by Schwartz-Waag Associates, Inc., dated November 18, 1985. This most recent plan shows relocation of building sites (formerly Lots A and B) on Lots 1 and 2 to the west side of the bridge. Based on our Preliminary Investigation Report, dated September 15, 1985, there appears to be no geologic hazards which would preclude development in the alternative building site area. However, it should be understood that the proposed building site on Lot 1 occurs at the headward portion of the drainage basin which may contain a thicker soil mantle than would be encountered elsewhere on the site. This, in turn, may require that deep piers be used for foundation support.

You propose to eliminate the storm drain for the existing graded road along the ridge top at the northwestern portion of your property. We recommend that you install a surface drainage provision for the existing graded road and that all surface water be channelled by closed pipe to an appropriate discharge point at the base of the slope. Failure to provide surface drainage control in this area may lead to additional erosion and surficial soil instability in the open space area due to uncontrolled runoff on the slope.

CONSULTING ENGINEERING GEOLOGISTS
Additionally, we received a call from Mr. Schwartz on November 18, 1985, regarding alternatives to emplacement of the gabion diversion wall between the existing residences on Indian Rock Court and the private open space on your property. We concurred with Mr. Schwartz that there are other slope hazard mitigation schemes to protect residents from unstable soil within the private open space. We suggested to Mr. Schwartz that he, with his experience in hillside development, develop an alternative scheme for our review.

We trust that this report provides you with the information you require at this time. If you have any questions, please call.

Very truly yours,

BALDWIN CONSULTANTS

Joel E. Baldwin, II EG1132
Principal Engineering Geologist

Distribution: (1) Addressee
(2) John Roberto Associates

JEB:ct
TO: Town of San Anselmo Planning Department
FROM: Rick Mollenkopf, Assistant Chief / Fire Marshal
RE: Fire Protection Survey - Requirements for Fire Protection
Proposed 12-Unit Subdivision, A/P Nos. 177-220-50, 40, and 41, End of Tomahawk Drive

This standard is promulgated for the use of advising the Planning Department and applicant of conditions required by the Ross Valley Fire Department for project approval. Any questions arising from this review should be directed to the Ross Valley Fire Department.

CONDITIONS - WATER SUPPLY FOR FIRE PROTECTION

1. The water supply, in order to provide reliable and adequate volume, pressure, and duration, must be provided by the Marin Municipal Water District.

2. The fire flow must be capable of controlling a fire in the proposed structure(s) as determined by the Insurance Services Office "Guide for Determination of Required Fire Flow". Minimum fire flow required is 1,500 gallons per minute with the total flow to be calculated based on specifications of proposed structure(s).

3. Hydrant(s) shall be required within 350' of each structure.

4. Hydrants shall be spaced a maximum of 350' apart along streets or roads.

5. The exact hydrant location(s) shall be determined by the Fire Chief or his authorized representative.

6. The required hydrant(s) must have one 4 1/2" outlet and two 2 1/2" outlets.

CONDITIONS - ACCESS ROADWAY REQUIREMENTS

1. The proposed structure(s) must be accessible to fire department apparatus by way of access roadways with an all-weather driving surface of not less than 20' of unobstructed width
Lisa Wight,  
Planning Dept.  
Town of San Anselmo  
P.O.Box 726  
San Anselmo, CA 94960

Subject: Indian Hill Development (A.P. 177-250-30 & 177-220-50)

October 7, 1985  
File 090.3.8

I recently received a call from Mr. Lawrence Stack, a resident of San Anselmo, who expressed concern over the possible visual impact of the proposed water tank for the above referenced project. This has been a concern of MMWD as well as noted by our letter of 3/20/81.

Having reviewed the tank site in the field last Friday with Jim Mistron, of our Engineering Department, we concluded that it is feasible to excavate a bowl on the ridge and place the tank in such a manner that it would protrude no more than five feet above the ridgeline profile. The remaining height could then be screened with vegetation. The bowl could be excavated in a way that would minimize the visual impact of cut slopes. This is the preferred method of construction as a mitigation to an obvious adverse visual impact if the tank were to be placed on an excavated bench.

The District will also require the installation of an irrigation system by the project developer in order to serve the tanksite landscaping. If you have any questions or comments regarding this matter don’t hesitate to call me.

Very Truly Yours,

Eric McGuire,  
Environmental Services Coordinator.

cc: Lawrence Stack
End of Tomohawk Drive, San Anselmo

(Section 10.707, Uniform Fire Code). The entire access roadway shall be a town maintained roadway with additional width required for parking on either or both sides.

2. The required access roadway must have a minimum of 30' turning radius, a minimum of 13'6" vertical clearance, and less than a 15% grade.

3. The required access roadway shall not be obstructed in any manner, including the parking of vehicles. "No Parking" signs and/or other appropriate notices prohibiting obstructions may be required and shall be maintained. [Section 10.207(b) UFC].

4. The required access roadway must extend to within 150' of all portions of the exterior walls of the first story of all buildings on the premises. [Section 10.207(c) UFC].

5. A level or nearly level location shall be provided for the operation of fire apparatus at or near the proposed structure.

6. A turnaround for fire apparatus must be provided at the end of the access roadway. This may be a cul-de-sac, hammerhead or wye with the design and dimensions subject to prior approval.

7. Roadway construction is to be sufficient to support the gross vehicle weight of fire apparatus (minimum 35,000 pounds). [Section 10.207(a) UFC].

CONDITIONS FOR APPROVAL

1. The specifications and materials for the required changes in the tap, run, and valves shall be provided by the Marin Municipal Water District.

2. Water supply requirements must be completed within 30 days after approval of the parcel split or land division.

3. The hydrant body(ies), for extensions, upgrading or alterations shall be provided by the Ross Valley Fire Department. Cost determination and payment shall be made prior to the issuance of a building permit (for new construction).

4. The access roadway requirements must be completed prior to the start of new construction.

RM/kb