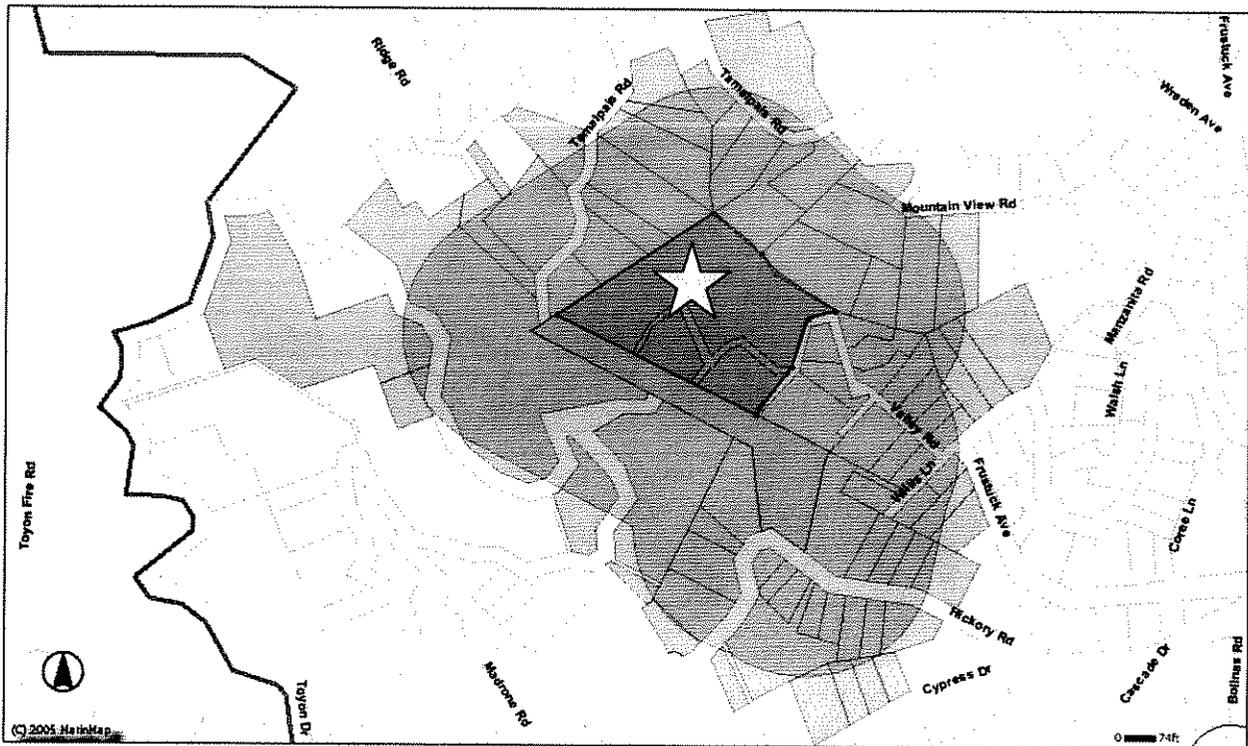


**TOWN OF FAIRFAX
STAFF REPORT
Department of Planning & Building Services**

TO: Planning Commission
DATE: January 19, 2012
FROM: Jim Moore, Director of Planning & Building Services
Linda Neal, Senior Planner
LOCATION: 62 Valley Road; Assessor's Parcel Numbers 001-063-31, 003-191-01 and 003-191-02
PROJECT: Single-family residence
ACTION: Hill Area Residential Development and Excavation Permits;
Application # 11-29
APPLICANT: Jeff Kroot, Jeff Kroot Architects
OWNER: Frances Kibbe
CEQA STATUS: Categorically exempt, § 15303(a)



62 VALLEY ROAD

BACKGROUND

On October 28, 2009 a fire tragically destroyed the Kibbe family home that had been on that site. Town records are limited regarding the original size of the home or the size of the home at the time of the fire; however an old site plan shows a residence of 774 square feet with a proposed addition of 404 square feet (date unknown); and there is also a record of two other additions over the years, a 192 square footage addition in 1962 and a 108 square foot addition in 1972 (all totaling an approximately 1,478 square foot single family home when the fire occurred that destroyed it).

County tax records indicate that the house was 1,964 square feet in size at the time of its destruction. Please note that the remnants of the damaged structure have yet to be demolished or removed from the site.

Tax assessors records indicate that the site is currently made up of three separate parcels, APN # 001-063-31 and 003-191-01 and 003-191-02 two of which were merged in 1984 by the Town (though the Assessor's Mapping Division has yet to create a new map showing these as two properties).

Early in the review of this application questions arose as to whether the driveway leaving the terminus of Valley Road and accessing the residence site was within a public roadway easement or entirely on private property; and whether the "driveway" would service just one parcel. The difference is crucial to this application because private driveway improvements are not as stringent as those for a public roadway.

The Town determined, and the applicant's attorney agreed, that the parcels making up the site were shown only on an unrecorded map and therefore, once formally merged by the Town and the Marin County Tax Assessor, could be considered one property with the access a private driveway. The merger document has been prepared and the owner is in the process of recording the document.

On March 2, 2011 the project Architect submitted a planning application with fees for a HRD permit and design review; along with a deposit for the Town's Civil Engineer's review. Subsequently, on June 20, 2011 after staff determined the amount of cut and fill, the project Architect submitted a planning application for a Grading permit.

Subsequently, the planning application and materials submitted went through a series of reviews by staff, outside agencies, and the Town's Civil Engineer for "completeness" and up to October 6, 2011 staff determined that the application had failed to provide the necessary information to satisfy code requirements to deem this application "complete". Under state law and the Town Code, an application must be complete before it is referred to the planning commission. The main issues that staff believed to have been incomplete at that time were as follows:

- (1) **Driveway:** How is the driveway supported on the downhill portions (particularly with regards to supporting 40,000 lbs. of gross vehicle weight) and how would the uphill portion of the driveway be retained or contoured to comply with the recommendation of the soils engineer to not have unsupported cuts.

- (2) **Retaining Walls:** How are retaining walls on-site constructed and to what standard.
- (3) **Water:** How will the required fire sprinklers be provided with adequate water-flow (i.e., either by providing information on the location of a new fire hydrant or specifications of an on-site tank system).
- (4) **Sewer:** What is the size of the sewer main, where will it connect to the main sewer line, and how will the joint trench with the water line be constructed.

On October 6, 2011 the applicant filed an appeal with the Town challenging staff's determination that the application was incomplete. The Town delayed scheduling the appeal before the Council during ongoing discussions about ways to resolve the appeal in the hope of resolving the completeness issues. Unfortunately, as staff was preparing for the appeal hearing that had been scheduled for December 7, 2011, it came to the Town's attention under Government Code section 65943, too much time had elapsed and the application was deemed complete by operation of law as of December 6.

Subsequently, the project architect and civil engineer met with staff and the Town's civil engineer to voluntarily provide additional information to facilitate Planning Commission review. As a result, some additional subsequent plan sheets and/or other information provided has been date stamped as to when it was received and has been kept separate in your staff report packet from those items received prior to the application being deemed complete by law on December 6, 2011.

As a result of this unusual situation where the application was deemed complete by law, some of the proposed conditions of approval and/or findings that staff prepared for your consideration would require that the owner demonstrate that design and/or engineering requirements of the Town Code that were not present in the complete application are resolved prior to issuance of a building permit.

DISCUSSION

The project site is 132,700 square feet (or approximately 3.05 acres) in size and is steeply sloped with an antiquated narrow driveway that begins at the end of Valley Drive and winds up to the more level area where the destroyed house was located – and where the new 2,696 square foot residence is being proposed.

The applicant is proposing to construct a 2,696 square foot, 2 ½ bath single family residence with the first floor of the house containing 384 square feet of "unfinished" space which labeled "unimproved" in the plans although it includes French doors leading to an outdoor patio and it is internally connected with the second floor above. Including this area on the plans in the square footage calculations makes for a new structure of 2,969 square feet replacing what our records indicate was a 1,478 square foot home before it burned down. The second floor would include three bedrooms, two full bathrooms a laundry room and a "sleeping" porch as well as a separate access and egress to the rear of the property. The third level would contain a living room, dining room, kitchen half bath, a "bonus" room, entryway and pantry.

The property is so large that setbacks are not an issue therefore staff will not include in this report our usual table of setback information [Town Code § 17.080.070]. The structure reaches the maximum height limitation of 28.5 feet on an uphill slope [Town Code section # 17.080.060(B)]. The project also conforms to the .40 floor area ratio and .35 lot coverage limitations.

The floor plan for the residence, with a full bath, laundry room and separate access on the second floor, separate from the kitchen and living area on the third floor, lends itself to conversion to a second living unit. It is recommended that the applicant be required to sign and record a deed restriction limiting use of the residence to 1 unit: and that the deed restriction be notarized and recorded prior to issuance of the building permit. This restriction can be lifted if in the future an application is submitted and approved for a second unit.

The Commission should note that the site plan, page 1 of the development plans shows the driveway narrowing to 11 feet at one point. This is in conflict with the Ross Valley Fire Department requirements and the engineering plans, pages C-2 and C-4 which show the narrowest width at 12 feet.

DISCRETIONARY PERMITS REQUIRED

Hill Area Residential Development Permit:

The project site has a slope exceeding 30%; construction will require the excavation of 600 cubic yards of excavation and fill; and the site is located in an area designated a Landslide Hazard Zone in the Fairfax General Plan (Open Space Element). Therefore, the project requires the review and approval of a Hill Area Residential Development Permit [Town Code Sections 17.072.020(A)(4), (B) and (C)].

Excavation Permit:

Projects requiring the excavation and fill of over 100 cubic yards of material require the review and approval of an excavation permit by the Planning Commission (Town Code 12.20.080).

The excavation section of the Town Code assigns responsibility to the Town Engineer to ensure that excavation does not occur in a manner that will; a) remove the lateral of subjacent support of adjacent land to an area where excavation is occurring; b) result in dangerous topographic conditions; c) cause slides; or d) otherwise in any manner endanger the health, safety or property of any other person despite all precautions the applicant might take (Town Code § 12.20.060).

Note that the Fairfax General plan designates the site as an area of extreme wildfire hazard which is mirrored by the designation of the site in the Wildland Urban Interface Zone. Adequate access to the site by emergency vehicles is paramount.

In order to approve a Hill Area Residential Development permit the Planning Commission must be able to make the following findings:

Site Disturbance

Disturbance of the site will be limited to the areas where the driveway will be widened and where the fire truck turnaround will be located. The new residence will be located in basically the same location as the previous residence on an existing level bench area.

Tree Removal

No trees will need to be removed to construct the residence or widen the driveway but 15 bays trees and 3 oak trees will need to be removed to comply with defensible space requirements of the Ross Valley Fire Department. The site is heavily wooded so the removal of these trees will not have a significant impact on the site.

Hill Area Residential Development Permit

It is the purpose of the hill area residential development overlay zone to provide review of and standards for development proposed for undeveloped land in hill areas. The intent of this chapter to accomplish the following:

1. Encourage maximum retention of natural topographic features such as drainage ways, streams, slopes, ridgelines, rock outcroppings, vistas, natural plant formation and trees;
2. Minimize grading of hillside areas;
3. Provide a safe means of ingress and egress for vehicular and pedestrian traffic to and within hillside areas;
4. Minimize water runoff and soil erosion problems during and after construction;
5. Prevent loss of life, reduce injuries and property damage and minimize economic dislocations from geologic hazards; and
6. Ensure that infill development on hillside lots is of a size and scale appropriate to the property and is consistent with other properties in the vicinity under the same zone classification.

In order to approve a hill area residential development permit the Commission must be able to make the following required legal findings:

1. The proposed development is consistent with the General Plan, other adopted codes and policies of the Town of Fairfax, and is consistent with the purpose and intent of this ordinance.
2. The site planning preserves identified natural features.
3. Based on the soils report finding, the site can be developed without geologic, hydrologic or seismic hazards.
4. Vehicular access and parking are adequate.
5. The proposed development harmonizes with the surrounding residential development, meets the design review criteria and does not result in the deterioration of significant view corridors.

The Town Engineer has reviewed the following reports, letters and plans regarding the site hydrology and geology with respect to the proposed development:

- The geotechnical report by Salem Howes Associates Inc. dated 2/4/11 (**Exhibit B**)
- The letter dated 6/16/11 from Salem Howes Associated addressing grading and drainage (**Exhibit B**).
- The project plans by Jeff Kroot, pages 1 through 5
- The vegetative Management plan by Jeff Kroot
- The topographical survey, grading and drainage plan and erosion control plan by Laurence Doyle pages C-1, C1.1, C-2 and C-3 (revised and resubmitted on 12/22/11).

After reviewing the information and performing field inspections the Town Engineer has determined that a driveway can be designed that will meet the requirements of the HRD Ordinance and protect emergency vehicle personnel the property owner and adjacent owners from geologic, hydrologic and seismic hazards: as long as the driveway is designed to meet the requirements of the Town Engineer and the Fire Chief. The review and approval of the final roadway plans is required prior to issuance of the building permit.

Please note: If this application is approved, the roadway improvements must be completed before any combustible materials are brought to the site (see project conditions below).

Excavation Permit

Both the Hill Area Residential Development Chapter 17.072 and the Excavation Chapter 12.20 of the Town Code indicates that excavation and fill shall not be more than is necessary to allow an owner a substantial use of their property [Town Code sections 12.20.080(B)(4) and 17.072.010(B)(2)]. The driveway/fire access has been designed with retaining walls that will not exceed 4 feet in height. However, in order to eliminate unretained sloped above the access drive, the project excavation has been increased to slope the hillside above the drive to 2:1 to render it stable. An alternative proposal could include taller retaining walls but the decrease in excavation would be minimal: though the actual amount has not been determined.

Ross Valley Fire

The Fire Chief has relaxed the 20 foot width requirement for fire access roads to 12 feet for the straight portions of the driveway and 14 feet at the curves. The California Fire Code gives him the authority to relax the standards if access roads cannot be installed because of topography or excessive grades and an approved alternative means of fire protection is provided (**Exhibit C**).

In this case the applicant will be improving the water supply to the site so that a fire suppression system can be installed and operated. They are also constructing a fire truck turn around that will provide improved access to the site by fire trucks.

The Fire Department is requiring that the following conditions be placed upon the project (**Exhibit D**):

1. Access improvements and water supply improvements must be constructed and approved prior to delivery of any combustibles to the site for construction.
2. The project must meet the requirements of Chapter 7A of the California Building Code and the 2006 Wildland-Urban Interface Code.
3. The minimum driveway/fire access width shall be no less than 12 feet in the straights and 14 feet through the curves.
4. The minimum turning radius for the access drive shall be 27 feet.
5. The driveway shall be constructed with an all weather surface capable of supporting 40,000 gross vehicle weights and an engineered stamped plan sheet acceptable to the Town Engineer shall be provided prior to issuance of the building permit.
6. Grades up to and including 18% may be of A/C paving. Grades greater than 18% shall be of concrete curb-cut so as to allow for water run-off and traction.
7. The driveway and turn around shall be designated and be posted as a Fire Lane and parking is not allowed within the required clearance widths or turn-around area in accordance with Ross Valley Fire Department Standard # 204.
8. Grading shall extend a minimum of 6 feet beyond the paved portion of the turnaround as shown on the plans.
9. Flammable and combustible vegetation shall be removed within 10 feet of driveways on easements and the project property only. Vegetation may be removed from neighboring properties only after obtaining permission from the property owner.
10. A fire protection system shall be installed which complies with the requirements of the National Fire Protection Association 13-D and as modified in the approved alternate materials request. A Separate deferred permit is required for this system. A modified 13-D system has been approved by the Fire Chief as an alternate to relocating or addition an additional fire hydrant however the existing hydrant body will need to be upgraded per Section 508.5.1 of the Fire Code.

(For a full text of the Fire Department's conditions see **Exhibit D**, Revised memorandum from the RVFD dated January 9, 2012).

Marin Municipal Water District (Exhibit E)

The applicant must comply with the District's Water Conservation Ordinance 414.

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

Sanitary District (Exhibit F)

A new sewer connection will be required for the new residence. The cost will be based on the number of fixtures. Occupancy will not be approved until District's permit and sewer requirements are fulfilled (Exhibit F)

Outstanding Engineering Bills (Exhibit G)

The Applicant also has outstanding engineering bills totaling \$1,945.00 which she agreed to pay in writing in her planning application (note that the administrative processing fee has been revised to 20% in accordance with the application form completed by the applicant. This processing fee has since been increased to 30%).

The Town Code gives the Town Engineer the authority to review a project in order to protect the Town and all its citizens from liability arising from a private project. The Town Engineer is a contract employee that the Town must pay for his services. Failure of the applicant to pay his or her fees results in the residents of Fairfax subsidizing a private project. If the applicant intends to contest the Town Engineer's fees - and the requirement that she pay them, she will need to do so in front of the Town Council.

RECOMMENDATION

1. Open the public hearing and take testimony.
2. Close the public hearing.
3. Move to approve application # 11-29 by adopting attached Resolution No. 12-01 and conditioning approval upon the following conditions:

RECOMMENDED CONDITIONS

Planning Conditions:

1. The driveway improvements and water supply must be completed and approved by the Ross Valley Fire Department and Town Engineer before any combustible materials are delivered to the site (Exhibit A - California Fire Code §501.4, Timing of Installation, and Ross Valley Fire Department Memorandum dated 9/8/11).
2. The driveway plans must be signed and stamped by the project Civil Engineer prior to the issuance of the building permit and must be accompanied by a signed and wet stamped letter indicating that the improvements have been designed to support 40,000 gross vehicle weights (Exhibit A – Ross Valley Fire Department memorandum dated 9/8/11).
3. The driveway plans shall be subject to approval by the Town Engineer prior to issuance of the building permit.
4. Once the driveway improvements are completed the Civil Engineer shall submit a signed a wet stamped letter indicating that the driveway was designed per the approved plans and to their specifications.

5. The improvements shall be subject to a final inspection and approval by the Town Engineer as complying with the approved plans and in accordance with Town Code sections 12.20.070, Excavations, and 17.072.090(B), Hill Area Residential Development Overlay Zone.

6. Submit guard rail details for the safety railing that will be required for areas of the road with drop offs exceeding 30 inches in height as required by the building code for inclusion in the Design Review Board information packet prior to the Design Review Board meeting.

7. Prior to issuance of the building permit the applicant shall provide the Town with a recorded copy of the merger notice merging the two parcels that make up the site into one.

8. Prior to issuance of the building permit the owner shall sign and record a deed restriction indicating that the residence shall be used as a single-family residence and shall have only one kitchen.

9. This approval is limited to the development illustrated on the plans prepared by Jeff Kroot dated February 2011, pages 1 through 4 and the Vegetative Management plan, based on the Record of survey by Lawrence Doyle dated January 2011, the engineering drawing by Lawrence Doyle, pages C-1 (dated 8/22/11), and pages C-2, C-3 and C-4 (dated 12/22/11) and discussed in the following project engineering reports and letters by Salem Howes Associates Inc., dated February 4, 2011 and June 16, 2011.

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

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

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

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

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

d. The foundation and retaining elements shall be designed by a structural engineer certified as such in the state of California. Plans and calculations of the foundation and retaining elements shall be stamped and signed by the structural engineer and submitted to the satisfaction of the Town Engineer.

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

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

g. The applicant shall secure a tree cutting permit from the Town prior to removal of any on-site trees over 24 inches in circumference measured 24 inches from the ground. To further minimize impacts on trees and significant vegetation, the applicant shall submit plans for any utility installation (including sewer, water, drainage) which incorporates the services of a licensed arborist to prune and treat trees having roots 2 inches or more in diameter that are disturbed during the construction, excavation, or trenching operations. In particular, any cross country utility extensions shall minimize impacts on existing trees. Tree root protection measures may include meandering the line, check dams, rip rap, hand trenching, soil evaluation, and diversion dams. Any trimming of trees shall be supervised by a licensed arborist.

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

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

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

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

b. Prior to the concrete form inspection by the building official, the geotechnical and structural engineers shall field check the forms of the foundations and retaining elements and provide written certification to the Town staff that the work to this point has been completed in conformance with their recommendations and the approved building plans.

c. The building official shall field check the concrete forms prior to the pour.

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

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

12. Prior to issuance of an occupancy permit the following shall be completed:
 - a. The geotechnical engineer shall field check the completed project and submit written certification to the Town Staff that the foundation, retaining, grading and drainage elements have been installed in conformance with the approved building plans and the recommendations of the soils report.
 - b. The Town Engineer shall field check the completed project to verify that the work has been installed as per approved plan.
 - c. The Planning Department shall field check the completed project to verify that all design review and planning commission conditions have been complied with including , if applicable, installation of landscaping and irrigation.
13. Excavation shall not occur between October 1st and April 15st. The Town Engineer has the authority to waive this condition depending upon the weather.
14. The roadways shall be kept clean and the site free of dust by watering down the site if necessary. The roadways shall be kept free of dust, gravel and other construction materials by sweeping the roadway, daily, if necessary.
15. During construction developer and all employees, contractor's and subcontractor's must comply with all requirements set forth in Ordinance # 637 (Chapter 8.26 of the Town Code), "Storm Water Management and Discharge Control Program."
16. Notwithstanding section # 17.38.050(A) of the Fairfax Zoning Ordinance, **any** changes, modifications, additions or alterations made to the approved set of plans will require a modification of Hill Area Residential Development Permit 11-29. **Any** construction based on job plans that have been altered without the benefit of an approved modification of Hill Area Residential Development Permit 11-29 will result in the job being immediately stopped and red tagged.
17. Any damages to Valley Road resulting from construction activities shall be the responsibility of the property owner. The owner or contractor shall videotape or otherwise document as approved by the Public Works Director the existing condition of the roads in the vicinity of the site prior to starting construction of the residence. Road closures, if necessary, shall be coordinated with the Fairfax Police Department and the Ross Valley Fire Department.
18. The applicant or owner shall defend, indemnify, and hold harmless the Town of Fairfax or its agents, officers, and employees from any claim, action, or proceeding against the Town of Fairfax or its agents, officers, or employees to attach, set aside, void, or annul an approval of the Planning Commission, Town Council, Planning Director, Design Review Board or any other department or agency of the Town concerning a development, variance, permit or land use approval which action is brought within the time period provided for in any applicable statute; provided, however, that the applicant's or owner's duty to so defend, indemnify, and hold harmless shall be subject to the Town's promptly notifying the applicant or owner of any said claim, action, or proceeding and the Town's full cooperation in the applicant's or owner's defense of said claims, actions, or proceedings.

Ross Valley Fire Department Conditions:

1. Access improvements and water supply improvements must be constructed and approved prior to delivery of any combustibles to the site for construction.
2. The project must meet the requirements of Chapter 7A of the California Building Code and the 2006 Wildland-Urban Interface Code.
3. The minimum driveway/fire access width shall be no less than 12 feet in the straights and 14 feet through the curves.
4. The minimum turning radius for the access drive shall be 27 feet.
5. The driveway shall be constructed with an all weather surface capable of supporting 40,000 gross vehicle weights and an engineered stamped plan sheet acceptable to the Town Engineer shall be provided prior to issuance of the building permit.
6. Grades up to and including 18% may be of A/C paving. Grades greater than 18% shall be of concrete curb-cut so as to allow for water run-off and traction.
7. The driveway and turn around shall be designated and be posted as a Fire Lane and parking is not allowed within the required clearance widths or turn-around area in accordance with Ross Valley Fire Department Standard # 204.
8. Grading shall extend a minimum of 6 feet beyond the paved portion of the turnaround as shown on the plans.
9. Flammable and combustible vegetation shall be removed within 10 feet of driveways on easements and the project property only. Vegetation may be removed from neighboring properties only after obtaining permission from the property owner.
10. A fire protection system shall be installed which complies with the requirements of the National Fire Protection Association 13-D and as modified in the approved alternate materials request. A Separate deferred permit is required for this system. A modified 13-D system has been approved by the Fire Chief as an alternate to relocating or addition an additional fire hydrant however the existing hydrant body will need to be upgraded per Section 508.5.1 of the Fire Code.

(For a full text of the Fire Department's conditions see Exhibit D, Revised memorandum from the RVFD dated January 9, 2012).

Marin Municipal Water District Conditions

1. The applicant must comply with the District's Water Conservation Ordinance 414.
2. Should backflow protection be requirement it shall be installed prior to the project final inspection.

Sanitary District (Exhibit F)

A new sewer connection will be required for the new residence. The cost will be based on the number of fixtures. Occupancy will not be approved until District's permit and sewer requirements are fulfilled.

Outstanding Engineering Bills

The applicant shall pay the outstanding engineering bills and administrative processing costs prior to issuance of the building permit. Engineering bills and administrative costs incurred during the building permit review and construction of the project shall be paid in full prior to issuance of the occupancy permit.

ATTACHMENTS

- Exhibit A – Report and letter by Salem Howes Associates dated 6/16/11 and 2/4/11
- Exhibit B – Chapter 5 of the 2010 California Fire Code
- Exhibit C – RVFD memorandum dated 1/9/12
- Exhibit D – MMWD memorandum dated 3/15/11
- Exhibit E – Ross Valley Sanitary memorandum dated 3/16/11
- Exhibit F – Authorization for Engineering Review signed by owner 2/28/11



950 NORTHGATE DRIVE, SUITE 107
SAN RAFAEL, CALIFORNIA 94903
WEB www.sorensenlaw.com

LAW OFFICES OF
NEIL SORENSEN

TELEPHONE 415 499-8600
FACSIMILE 415 499-0140
EMAIL neil@sorensenlaw.com

December 6, 2011

VIA E-MAIL AND U.S. MAIL

Mayor Larry Bragman and
Members of the Fairfax Town Council
142 Bolinas Road
Fairfax, CA 94930

Re: 62 Valley Road – Appeal of Staff Determination of Incomplete Application

Dear Mayor Bragman and Members of the Town Council:

This office represents Frances Kibbe, the owner of 62 Valley Road, Fairfax, California, with respect to her appeal of the staff determination that her planning application is incomplete.

This letter is to request that you confirm the application has been deemed complete pursuant to Government Code Section 65943 because there has not been a "final written determination on the appeal" within the sixty days required by law.

Ms. Kibbe filed her appeal on October 6, 2011. See receipt attached as Exhibit "A." The appeal indicates that it is being filed pursuant to Government Code Section 65943.

California Government Code Section 65943 provides that if an application is determined not to be complete, the public agency shall provide an appeal process for the applicant to appeal the decision to the governing body. The section further provides that once an appeal has been filed:

"There shall be a final written determination by the agency on the appeal not later than 60 calendar days after receipt of the applicant's written appeal. The fact that an appeal is permitted to both the planning commission and to the governing body does not extend the 60 day period. Notwithstanding a decision pursuant to subdivision (b) that the application and submitted materials are not complete, if the final written determination on the appeal is not made within that 60 day period, the application with the submitted materials shall be deemed complete for the purposes of this chapter."

EXHIBIT # A

December 6, 2011

Page 2 of 2

The appeal was filed on October 6, 2011. The sixty day period specified in Government Code Section 65943 lapsed on December 5, 2011. Accordingly, the application and accompanying materials have been deemed complete by operation of law.

Finally, it is important to stress the fact that Ms. Kibbe has steadfastly requested that this appeal be determined in a timely manner. As noted in the e-mails attached as Exhibit "B," she was under the impression that the appeal would be scheduled in November. On its own initiative and without the agreement of Ms. Kibbe, the Town delayed the appeal to December 7th. As noted in the attached e-mails, Ms. Kibbe strenuously objected to any delay.

It is requested that the Town Council confirm that the application has been deemed complete by operation of law.

Sincerely,

A handwritten signature in black ink, appearing to read 'NS', with a long horizontal flourish extending to the right.

NEIL SORENSEN

NS/mjs

Enclosures

cc: Frances Kibbe

Jeff Kroot

Jim Karpiak, Town Attorney

Exhibit A

DUPLICATE DUPLICATE DUPLICATE DUPLICATE

TOWN OF FAIRFAX
TOWN HALL
142 BOLINAS ROAD
FAIRFAX, CA 94930
(415) 453-1584

Reg# #/Rcpt#: 001-00035570 [S]
Accounting Date: Fri, Oct 7, 2011
Date/Time: Thu, Oct 6, 2011 2:23 PM

2030\PLANNING REVIEW FEES (801)
APPEAL 62 VALLEY ROAD

FEE AMOUNT: \$945.00

RECEIPT TOTAL = \$945.00

Payment Data:

Pmt# :1

Payer: FRANCES E. KIBBE
Method: CK
Ref#: 195

AMOUNT = \$945.00

RECEIPT SUMMARY

TOTAL TENDERED = \$945.00
RECEIPT TOTAL = \$945.00

CHANGE DUE = \$0.00

HAVE A NICE DAY!

DUPLICATE DUPLICATE DUPLICATE DUPLICATE

Exhibit B

Neil Sorensen

From: "Frances Kibbe" <fkibbe@yahoo.com>
To: "Linda Neal" <lneal@townoffairfax.org>
Cc: "Jim R. Karpiak" <jkarpiak@rwglaw.com>; "Jim Moore" <jmoore@townoffairfax.org>;
 <neil@sorensenlaw.com>; <jkarch2@comcast.net>; <lbragman@townoffairfax.org>;
 <mrock@townoffairfax.org>
Sent: Thursday, October 20, 2011 12:28 PM
Subject: Re: 62 Valley Road Appeal Date
 Dear Linda and others,

I am terribly disappointed, saddened and frankly shocked by the lack of empathy, help, and fairness with which I have been treated in the process of trying to get a permit to rebuild my childhood home that was destroyed in a fire. My family has owned this house that burned down and the property for 60 years. It is a shame to treat long term residents in this manner. I have been through a horrendous and extremely traumatizing fire that took my childhood house and all that I had left in it from parents, who are both dead, with it. It is all I had left of my parents and now when I want to rebuild my home I am given endless delays and excessive and continuously changing requirements. I am a single woman struggling to rebuild my life after crawling out of the window of a burning house with only my pajamas, cat and purse with a cell phone to call 911. Everything else was lost in the fire. This loss has consumed and continues to consume my life - for me it is a nightmare I live through everyday as I struggle to get my home back and rebuild my life. It is everyone's worst nightmare...and it to experience it is worse than any of you can possibly imagine. It is a catastrophe that impacts every area of my life and will affect me for the rest of my life. Yet the town of Fairfax has not helped me in any way, much less provided condolences, but instead delayed and put up impossible obstacles to me getting my life back.

Regarding the content of your letter:

All of the items listed below have been addressed by my Civil Engineer in the past. Hence the Appeal and why I see no benefit to further discussions before the Appeal.

Regarding the "impression" of a meeting with the town engineer and my engineer:

I am sorry the town had that impression and quite surprised you would hold up my Appeal from going to the Town Council based on the preferences of others and discussions in which I did not participate. I made no effort to set up this meeting, made no mention of planning it and would not have submitted the completed Appeal form and paid \$945 if I planned to have further discussions. Unless I request such a meeting, regardless of others discussions or others preferences, my Appeal or other actions should not be held up from moving forward, regardless of what others think is best, as I am the legal owner of the house and the decision maker.

This application has been being discussed, redesigned over and over and reviewed over and over, at exorbitant costs to me, for 9 months and the requirements continue to be excessive, and many cases impossible, particularly for a fire rebuild of a house that existed on the same exact location using the same driveway for 60 years. Thus, I will not pay more excessive fees to discuss yet again what has been discussed for 9 months.

Sincerely,
 Frances Kibbe

From: Linda Neal <lneal@townoffairfax.org>
To: Frances Kibbe <fkibbe@yahoo.com>
Cc: Jim R. Karpiak <jkarpiak@rwglaw.com>; Jim Moore <jmoore@townoffairfax.org>; "neil@sorensenlaw.com" <neil@sorensenlaw.com>; "jkarch2@comcast.net" <jkarch2@comcast.net>
Sent: Thursday, October 20, 2011 11:29 AM
Subject: 62 Valley Road Appeal Date

Dear Ms. Kibbe,

Your appeal of the Staff's determination that the application for the driveway improvements and new

single-family residence at 62 Valley Road has been scheduled for the December 7, 2011 Town Council meeting due to complexity of the engineering and legal issues pertaining to the project. These issues include but are not limited to the following:

The unknown ownership of the portion of Valley Road being used for some of the private driveway improvements for 62 Valley Road.

The fact that the application includes a request to narrow the driveway width even though the issue of ensuring the driveway only accesses one house in the future has not been addressed.

Design solutions have not been provided to show how all the unsupported cut banks will be retained including the one directly behind the proposed new residence.

The proposed driveway design is not adequate to assure the Planning Commission, being asked to approve discretionary permits and exceptions to code requirements, that the emergency access is adequate for emergency response vehicles that can weigh up to 40,000 gross

How fire suppression requirements will be met. Ross Valley Fire has given two options as follows: 1) show that all portions of the new structure will be within 350 feet of a hydrant (existing hydrant locations do not meet requirement); or 2) show the location for the new water service line that will be necessary to provide adequate water flow to the new fire sprinkler system.

When the Town Attorney last spoke with Neil Sorenson, they were both under the impression that you and your architect were going to meet with the Town Engineer and your engineer to see if all the remaining issues could be resolved and the project could proceed through the typical planning process before the appeal went forward. They also both agreed that was the preferred path to take. We recommend you reconsider such a meeting.

Sincerely,

Linda Neal
Senior Planner

Neil Sorensen

From: "Frances Kibbe" <fkibbe@yahoo.com>
To: "Linda Neal" <lneal@townoffairfax.org>
Cc: "Jim R. Karpiak" <jkarpiak@rwglaw.com>; "Jim Moore" <jmoore@townoffairfax.org>; <neil@sorensenlaw.com>; <jkarch2@comcast.net>; <mrock@townoffairfax.com>; <lbragman@townoffairfax.com>
Sent: Wednesday, October 19, 2011 3:55 PM
Subject: Re: Appeal for 62 Valley Road fire rebuild application
Hi Linda,

I request to be on the November Town Council meeting as this is sooner and as explained in my earlier emails the continuing delays are a yet another hardship for me on top of the extreme hardships I have already endured. I would think as a displaced homeowner, due to a fire that destroyed my home 2 years ago, I should be able to put on the November meeting, particularly as I submitted the Appeal form 4 weeks in advance of the meeting.

I did not have plans to have the two engineers meet...I do not know how Fairfax would have gotten this impression as I did not ask for this. In fact the town engineer and my engineer have talked a number of times on the phone and there are still outstanding issues that have not been resolved and which we believe are excessive for preliminary plans, as outlined in the appeal letter.

Thank you,
Frances

From: Linda Neal <lneal@townoffairfax.org>
To: Frances Kibbe <fkibbe@yahoo.com>
Cc: Jim R. Karpiak <jkarpiak@rwglaw.com>; Jim Moore <jmoore@townoffairfax.org>; "neil@sorensenlaw.com" <neil@sorensenlaw.com>; "jkarch2@comcast.net" <jkarch2@comcast.net>
Sent: Wednesday, October 19, 2011 3:37 PM
Subject: RE: Appeal for 62 Valley Road fire rebuild application

Hi Frances,

We were planning to schedule the appeal for the December 7th, 2011 Town Council meeting. We also thought that you wanted to try and schedule a meeting with the Town Engineer and the project engineer to see if the engineering wrinkles can be worked out but have not heard from you or Mr. Kroot. Please advise.

Linda Neal
Senior Planner

From: Frances Kibbe [mailto:fkibbe@yahoo.com]
Sent: Wednesday, October 19, 2011 9:17 AM
To: Linda Neal; jkarch2@comcast.net
Cc: Jim R. Karpiak; Jim Moore; neil@sorensenlaw.com; lbragman@townoffairfax.com; mrock@townoffairfax.com
Subject: Appeal for 62 Valley Road fire rebuild application

Dear Linda,

I submitted an Appeal to the Town Council, two weeks ago tomorrow (October 6), for the delays and excessive requirements of getting my fire destroyed house rebuild permit. I see the check for \$945 that went with the Appeal was deposited a few days after the submission, however I have not yet received any communication on this Appeal from Fairfax. I have been displaced from my home for 2 years this month, first requested meetings with Fairfax on the rebuild almost a year ago and have been through extreme hardships over this fire and losing my

home and so I am hoping for and requesting this Appeal be dealt with in a timely manner.

Thank you,
Frances



16 June 2011

TOWN OF FAIRFAX

JUN 20 2011

RECEIVED

Terra Spiritus Purgamus

Town of Fairfax
142 Bolinas Road
Fairfax, CA 94930

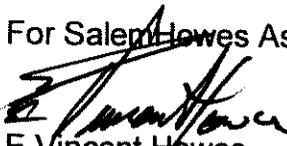
Subject: 62 Valley Road, Fairfax
Kibbe Residence AP 002-063-31, 003-191-01 & 02
Geotechnical Review of Project Grading and Drainage Plan

We have reviewed the project Grading and Drainage Plan by Lawrence Doyle CE & LS, sheet C-2, rev 16 June 2011 for its geotechnical content and find that the notes and drawings are in substantial compliance with the recommendations in our 4 February 2011 Geotechnical Report. We judge that the design of the site grading and drainage is appropriate for the geologic conditions at the site.

We have discussed the geotechnical aspect of the comments by Ray Wrynski on page 3 in his 28 April 2011 Memorandum to Linda Neal with Larry Doyle and he has revised his drawings to that effect.

- If unretained cuts in the soil section cannot be sloped back to a 2:1 they will be retained by a County Standard "Type C" retaining wall. Soil on the undisturbed slope is generally only four-feet thick.
- A detail on the drawing has been provided for the downslope edge of the driveway.
- The drainage dissipaters are spaced so as not to concentrate the runoff. On page 11 of our 2011 report it is stated "Gutters may be eliminated if roof runoff is collected by... acceptable landscape grading", "splash block" are acceptable landscape grading.

For Salem Howes Associates Inc.


E Vincent Howes

Geotechnical Engineer
GE #965 Exp. 31 Mar 12



1202 GRANT AVE. SUITE F
NOVATO, CALIFORNIA 94945
(415) 892-8528
FAX 892-8568
howesgeo@aol.com

EXHIBIT #





TOWN OF FAIRFAX

MAR 02 2011

RECEIVED

SALEM HOWES ASSOCIATES INC

GEOTECHNICAL CONSULTANTS

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

**REPORT
GEOTECHNICAL INVESTIGATION**

**KIBBE RESIDENCE
62 VALLEY ROAD
FAIRFAX, CA.**

4 FEBRUARY 2011



4 February 2011

Ms. Frances Kibbe
62 Valley Road
Fairfax, CA 94930

Job :1010054

Copy: Jeff Kroot, Architect

SUBJECT: Report
Geotechnical Investigation,
62 Valley Road, Fairfax

Contents

Page 2	Introduction
Page 2	Discussion and Summary
Page 3	Geology and Slope Stability
Page 3	Ground Water
Page 4	Earthquake Hazards and Seismic Design
Page 5	Foundation Conditions
Page 5	Design Recommendations
Page 5	Summary of Design Parameters
Page 6	Drilled Piers
Page 8	Footings
Page 8	Retaining Walls
Page 10	Geotechnical Considerations for Slab on Grade Construction
Page 10	Cuts and Fills
Page 10	Geotechnical Drainage Considerations
Page 12	Drainage Checklist
Page 12	Construction Inspections
Page 13	Key Inspection Points
Page 13	Additional Engineering Services
Page 13	Limitations on the Use of This Report
	Attachments
	References

Introduction

This report presents the results of our geotechnical investigation of the proposed residential building site located at the above address. It conforms to the requirements of section 1802 in the 2007 California Building Code. The purpose of our investigation was to evaluate the geotechnical feasibility of the proposed development, assess the suitability of the building site, and provide detailed recommendations and conclusions as they relate to our specialty field of practice, geotechnical engineering and engineering geology. The scope of services specifically excluded any investigation needed to determine the presence or absence of issues of economic concern on the site, or of hazardous or toxic materials at the site in the soil, surface water, ground water, or air.

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

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

- The geotechnical engineer shall accept the footing grade / pier holes prior to placing any reinforcing steel in accordance with the CBC Section 1702-Definitions, "Special Inspections, Periodic" Notify geotechnical engineer before the start of drilling.
 - Drainage details may be schematic, refer to the text and drawings in the geotechnical report for actual materials and installation.
 - Refer to Geotechnical Report for geotechnical observation and acceptance requirements.
- Along with the structural drawings, to complete the review, we need the pertinent calculations from the structural engineer or the geotechnical design assumptions should be included on the drawings notes per requirements of the 2007 CBC.

The fieldwork consisted of reconnaissance mapping of exposed geologic features on the site and in the immediate surrounding area and the drilling of four test borings. The borings were advanced using a portable hydraulic drill rig with 3-inch flight augers and sampled by Standard Penetration Tests* (see "notes to borings logs"). Fieldwork was conducted in January of 2011. During this period we reviewed select geotechnical references pertinent to the area and examined stereo-paired aerial photographs of the site, which were available from Pacific Aerial Surveys in Oakland.

Discussion and Summary

The building footprint is located on a cut-fill bench that was created during the original construction to build a level pad. The fill ranges to over eight feet thick and daylights at the line shown on Drawing A. To the west of that line footing foundations may be used whereas on the east side a drilled pier type foundation will be required. Rock to be encountered in the excavations and drilling is exposed in the cut bank to the rear of the existing house.

During our investigation we did not observe any local geologic hazards that would adversely affect the site. We judge that following the recommendations in this report and standard Marin County

hillside construction practices a structure can be safely constructed on this site without adversely impacting the slope stability or changing the drainage in any measurable manner. Detailed discussions and recommendations are covered in the following sections of this report.

Geology and Slope Stability

The site has been mapped by Rice and others⁽¹⁾ as Landslide deposits [Qls] over the Cretaceous Sandstone [Ks] member of the Franciscan Geologic Assemblage. The Cretaceous Sandstone is described in the literature as a sequence of sandstone and shale deposits of various thickness and orientations and is generally fractured. During our exploration of the site, we encountered a sheared shale matrix rock deposit not common to the Cretaceous Sandstone and is more typical of the Franciscan Mélange [fm] in texture and composition. The site is mapped as a landslide deposit that encompasses the southeastern flank of Pam's Blue Ridge typically contains relatively thick deposits of rock fragments and soils typically found upslope and is generally disrupted and jumbled within a reddish brown soil that has been exposed to air and can obscure the original composition and orientation. The Franciscan Mélange [fm] formation is a mass of various rocks that have been extensively sheared as to obliterate any correlation between rock types found in this formation. The bedrock consists of sheared and unsheared masses of shale [sh], sandstone [ss], chert [ch], serpentine [sp], and greenstone [gs] surrounded by a matrix of sheared shale with some pulverized material from the other engulfed rock masses. Each mass of rock is in random juxtaposition within the formation and two or more rock types can be found on the same site and are indeterminate in length, width and depth. Landsliding typically disturbs the original softer rock material and can generate a reddish soil and is rather distinguishable from the underlying bedrock and soil. The site has a few rock cuts with weathered slopes to the northwest of the existing house site. A large sandstone block surrounded by sheared shale rock material is observed within one of these cuts. Reddish soils were not encountered that are representative of older landslide deposits and the sheared shale and other rock units found within the borings and cuts do not resemble landslide debris material found elsewhere. The existing house is constructed upon a three-foot section of rocky fill that contains hard sandstone fragments that overlies sheared shale bedrock at depths of four to eight feet. Rock of this formation has been classified⁽¹⁾ as moderately stable on natural slopes and fresh sheared shale material will stand in vertical cuts when kept moist and are unstable where blocks slip along outward dipping joints or bedding planes. The rock weathers readily to a sandy or silty, non-swelling, easily erodible soil. Rock surfaces of low relief are covered with a thick layer of deeply weathered soil; however steep slopes are stripped essentially bare of soil cover. Landslides and debris flows in this formation are confined to well-developed swales and drainages where deep soil deposits have accumulated. The topographic position of this property on the knoll of a hill does not expose it to these types of natural hazards. During our investigation we did not identify any geomorphic features that would indicate that any unusual geologic hazards would affect this site.

Ground Water

Ground water was not observed in the test borings during our investigation and there were no seeps or clumps of Pampas Grass (*Cortaderia Selloana*), which are indicators of high ground water. However, ground water conditions vary with the seasons and annual fluctuations in weather. A general rise in ground water can be expected after one or more seasons of above average rainfall. Based on the limited time we have been able to collect ground water data on this site, it is not possible to accurately predict the range of ground water fluctuations in the future. Therefore, ground

water sensitive structures such as basements, wine cellars and swimming pools should be designed to anticipate a rise in the water level that could potentially affect their function and stability. During construction it should be anticipated that ground water will be encountered at the rock/soil contact.

Earthquake Hazards and Seismic Design

This site is not subject to any unusual earthquake hazards, located near an active fault, within a current Alquist-Priolo Special Studies Zone or Seismic Hazards Zone as shown on the most recently published maps from the California Geologic Society. There were no geomorphic features observed in the field or on air photos, or geologic features in the literature that would suggest the presence of an active fault trace. However, historically the entire San Francisco Bay Area has the potential for strong earthquake shaking from several fault systems, primarily the San Andreas Fault which lies approximately six miles to the southwest and the Hayward/Rodgers Creek Faults, 12 miles to the northeast. The U.S. Geologic Survey presently estimates ⁽²⁾ there is up to 21 percent chance of a major quake (Magnitude 8) from 2000 to 2030 on the San Francisco Bay region segment of the San Andreas Fault. The probability is lower north of San Francisco and increases to the south. However, in the same period, there is a 32 percent chance of a major event (Magnitude 7) on the Hayward fault and Rodgers Creek Faults. The total 30-year probability of one or more large earthquakes occurring in the entire San Francisco region is 70 percent (see Plate 1). Based on the bedrock and soils observed at the site, we do not anticipate those seismically induced hazards, specifically: liquefaction, settlement and differential compaction, landsliding, and flooding are present. Generally speaking structures founded on bedrock fare far better during an earthquake than structures on soil, fill or bay mud.

For California Building Code design purposes this site the top 100 feet of the ground has an average Soil Profile Site of Class B per table 1613.5.2. Seismic Design Site Class and ground-motion parameters, as required by CBC Sections 1613, 1614 and ASCE 7 may be obtained from the calculator on the USGS web site at <http://earthquake.usgs.gov/research/hazmaps/design>. For seismic design categories D, E or F refer to the Exception in Section 1802.2.7. In California, the standard of practice requires the use of a seismic coefficient of 0.15, and minimum computed Factor of Safety of 1.5 for static and 1.1 to 1.2 for pseudo-static analysis of natural, cut and fill slopes.

Retaining walls will support rock cuts that will stand vertical with only nominal shoring to prevent weathering. This inherently means there is no active pressure in the rock zone. Therefore, only a nominal value for active pressure is required to support the rock. For seismic analysis the dynamic loads from a slope only occur from the Rankine wedge, which in soils is typically 30 to 40-degrees (from the vertical) in a ϕ type material. However, with rock slopes the Rankine wedge is non-existent to near vertical. Consequently there is no measurable seismic force from the slope on the wall in a rock section. In a thin soil section (< 4-ft) the active pressure of 45 lbs/ft³ is sufficiently conservative to account for any additional seismic loading. In thicker soil sections a simple approach⁽⁶⁾ is to include in the design analysis an additional horizontal force P_E to account for the additional loads imposed on the retaining wall by the earthquake, as follows:

$$P_E = \frac{3}{8} (\alpha_{max}) \gamma_t H^2 \text{ (acting at a distance of } 0.6H \text{ above the base of the soil layer)}$$

Where H = height of soil section, $\alpha_{max} = 0.15$ & γ = unit weight of soil in slope. Because P_E = is a short-term loading it is common to allow a $\frac{1}{3}$ increase in bearing pressure and passive resistance for earthquake analysis. Also, for the analysis of sliding and overturning of the retaining wall it is acceptable to lower the factor of safety to 1.1 under the combined static and earthquake loads⁽⁷⁾.

As a homeowner there are a number of measures one can take to limit structural damage, protect lives and valuable objects in the event of a major earthquake. To be prepared and understand the mechanics of earthquakes we strongly recommend that you purchase a very practical book entitled "Peace of Mind in Earthquake Country" by Peter Yanev. This book is written for the homeowner and, while currently out of print, used copies are available in paperback (Chronicle Books/S.F.) from Amazon.com and other locations.

Foundation Conditions

Sandstone and shale bedrock lie between the surface and eight feet below the surface. The depth to the top of bedrock at the location of the test borings is shown on Drawing A. The overlying soil is stiff and will stand in vertical cuts up to five feet when dry. During winter construction shoring will be required. In wet weather ground water can be expected at the soil/rock contact. The rock, albeit hard, is generally highly fractured and can normally be excavated by common means; however, hard massive areas may be encountered that could require the use of an excavator mounted "hoe ram". CalOSHA regulations require shoring on rock cuts over six feet. This is normally most economically accomplished by rock doweling and covering with wire mesh in lifts as the excavation progresses downward. Rock slopes will stand vertically for short periods of time; however, as they are exposed to air and start to dry out block failures will occur; this can happen as soon the night after excavation.

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

Bedrock is exposed on the site for evaluation of engineering properties. The contractor may use these exposures to determine the difficulty of excavation and the appropriate type of equipment to use.

Structures with foundations on rock will not experience any measurable settlement and there are no conditions that require provisions to mitigate the effects of expansive soils, liquefaction, soil strength or adjacent loads. The slope setback provisions in the section 1805 of the CBC do not apply to foundations on slopes that are bottomed in bedrock.

Design Recommendations

All foundations must bear on the unweathered sandstone bedrock by pier or footing type foundations. The depth to rock can be interpolated from the data on Drawing A. Retaining walls in a full rock cut with the recommended toe confinement may use footing type foundations. For tall retaining walls the use of tiebacks for lateral restraint should be considered in lieu of deep keyways or piers. Per CalOSHA regulations shoring will be required on rock cuts over six feet.

Summary of Design Parameters

The design engineer should compare the topography, building elevations and geotechnical report to determine the appropriate active earth pressures to be used. The actual type of foundation should

be determined by the architect and design engineer based on construction and economic considerations. The use of a mixed foundation design is usually a practical solution. Design parameters in this report were determined by field observations and testing and per section 1804.2 of the CBC supersede the presumptive values in the CBC table 1804.2.

- **Seismic Design** (See Earthquake Hazards Section)
Soil Profile Site Class Type B, Ground motion parameters from USGS web site at <http://earthquake.usgs.gov/research/hazmaps/design> with site coordinates.
- **Active earth pressure:** (see lateral loading formula in Eq. and Seismic Design Section)
In a Soil Section = 45 lbs/ft³ equivalent fluid pressure
In a Rock Section = 35 lbs/ft² (pounds per square foot)
- **Allowable Bearing Capacity (P_{allow}) On Bedrock⁽¹⁾**
 $P_{allow} = 0.33 * 10.0 * (\text{footing width in feet}) = (\text{kips/ft}^2)$ (Not to exceed 10.0)
A 20-percent increase is allowed for each additional foot, beyond one-foot, of depth that the footing is excavated into the bedrock subgrade.
- **Lateral Bearing In Bedrock**
Passive equivalent fluid pressure of 750 lbs/ft³ and a friction factor of 0.45 to resist sliding. They may be combined and a one third increase is allowed for transitory loading.
- **Pier Design** (Per 2007 CBC section 1805.7.2)
Rock passive pressure: 800 lbs/ft²/ft to calculate S_1 or S_3 (1.5-ft below the top of rock on slopes)
Adhesion: (skin friction) 900 lbs/ft² (In the rock)
- **Drainage**
Include items in "Drainage Check List"

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

Drilled Piers

Drilled, cast-in place, reinforced concrete piers should be a minimum of 18 inches in diameter and should extend at least six feet into competent bearing stratum as determined by the Engineer in the field. The structural engineer may impose additional depths. The piers shall extend into the bearing stratum six feet below a 30° line projected up from the bottom of the nearest cut slope or bank. Piers should be designed to resist forces from the gravitational creep of the soil layer. The height of the piers subject to the creep forces is equal to the depth to the top of rock. For design purposes this may be, interpolated from the data on Drawing A. Creep forces should be calculated using an equivalent fluid pressure⁽³⁾ of 45 lbs/ft³ acting on two pier diameters. Because the rock and soil are discontinuous media, for geotechnical considerations, the piers should have a nominal spacing of eight feet or less on center and connected by tie and grade beams in a grid like configuration. The piers should be no closer than two-diameters, center to center. In general, Isolated interior and deck piers should be avoided. Normally end bearing should be neglected (see conditions below).

Piers should be designed by the formula in section 1805.7.2 of the 2007 CBC, with 'P' equal to the soil creep forces between the surface and top of rock (plus any lateral loads from the structure) and 800 lbs/ft²/ft used to calculate 'S₁' or 'S₃'. **Note** that in this formula 'b' is the actual diameter of the pier not a multiple and 'h' is measured from the point of fixity. These values are not appropriate for other methods of design. The structural engineer should contact us for the applicable values if another method of pier design is to be used.

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

We judge that when piers are in a full rock cut or the tops are connected by rigid moment connections, in the upslope-downslope direction, fixity occurs at the rock surface and the conditions result in a constrained top of the pier. For this case the depth may be calculated by using the CBC formula in section **1805.7.2.2 Constrained**.

Design Parameters

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

Neglect adhesion in the soil section

The values recommended for the calculation of "S" incorporate a 1.5 factor of safety. There is no requirement for the retaining wall designer to add an additional factor of safety for overturning.

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

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

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

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

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

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

Ground water may be encountered in the drilled pier holes and it may be necessary to dewater, case the holes and/or place the concrete by tremie methods. All construction water displaced from the pier holes must be contained on site and filtered before discharging into the storm water system or natural drainages. Hard drilling will be necessary to reach the required depths. The contractor

should be familiar with the local conditions in order to have the appropriate equipment on hand. The rock to be encountered in the drilling can be observed in outcrops in the area.

Footings

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

As a minimum, spread footings should conform to the requirements of Section 1805A of the CBC except that for foundations bottomed on rock the "Depth Below Undisturbed Ground Surface" in the Table shall be interpreted as to mean "The Depth Below the Top of Weathered Rock". The footings should be stepped as necessary to produce level bottoms and should be deepened as required to provide at least 10 feet of horizontal confinement between the footing base and the edge of the closest slope face. Stepped footing configuration per 1805A.1 shall be accepted by the soil engineer. In addition, the base of the footing should be below a 30 degree line projected upward from the toe of the closest cut slope or excavation. For geotechnical considerations, since rock and soil are discontinuous media, footings should be connected up and downslope in a grid like fashion by tie beams. Isolated interior and deck footings should be avoided.

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

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

A 20-percent increase is allowed for each additional foot, beyond one-foot, of depth that the footing is excavated into the subgrade. The portion of the footing extending into the undisturbed subgrade may be designed with a coefficient of passive earth pressure (K_p) equal to 6.0 with rock unit weight of 130 lbs/ft³ or a passive equivalent fluid pressure of 750 lbs/ft³ and a friction factor of 0.45 to resist sliding. Lateral bearing and lateral sliding may be combined and a one third increase is allowed for transitory loading.

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

Retaining Walls

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

Retaining walls supporting *sloping soil slopes* or the soil portion of the cut above the rock contact should be designed for a coefficient of active *soil* pressure (K_a) equal to 0.41, or an equivalent fluid pressure of 45 lbs/ft³⁽⁴⁾. For seismic loading from the soil portion of the cut, refer to the previous section on Seismic Design. Since the backfill never truly provides rigid support that prevents mobilization of the active pressure, this value is appropriate for normal or restrained walls. Based on the principles of Rock Mechanics, when protected from erosion intact bedrock does not produce an active fluid pressure with a triangular distribution; therefore, the portion of any wall *supporting a rock backslope* may be designed for a nominal pressure of 35 lbs/ft² (yes, that is square feet). See

Drawing A for the depth of the soil layer. Any wall where the backfill is subject to vehicular loads within an area defined by a 30-degree (from vertical) plane projected up from the base of the wall or *top of bedrock*, should have the design pressure increased equivalent to a 200-lbs/ft² (q') surcharge. In this case if a uniform surcharge load q' acts on the soil behind the wall it results in a pressure P_s in lbs/ft. of wall equal to:

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

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

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

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

Piers for 'garden' type walls (supporting only landscaping) founded in the stiff soil may be designed using the criteria in section 1805.7.2.1 (Equation 18-1) of the CBC, with an allowable lateral bearing pressure of 200 lbs/ft²/ft of depth to calculate S₁. Also Marin County Standard Type A, B or C may be used⁽²⁾.

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

Retaining walls which are adjacent to living areas should have additional water proofing such as three dimensional drainage panels and moisture barriers (e.g. "Miradrain™ 6000" panels and "Paraseal™") and the invert of the drainage pipe should be a minimum of four inches below the adjacent interior finished floor or crawl space elevation. Drainage panels should extend to 12 inches below the surface and be flashed to prevent the entry of soil material. The heel of the retaining wall footing should be sloped towards the hill to prevent ponding of water at the cold joint; the drainage pipe should be placed on the lowest point on the footing. The backslope of the retaining walls should be ditched to drain to avoid infiltration of surface run-off into the backdrainage system. All waterproofing materials must be installed in strict compliance with the manufacturer's specifications. A specialist in waterproofing should be consulted for the appropriate products, we are not waterproofing experts and do not design waterproofing, we only offer general guidelines that cover the geotechnical aspect of drainage. We have worked with Division 7 in Novato for waterproofing design services.

Geotechnical Considerations for Slab on Grade Construction

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

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

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

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

Cuts and Fills

- Unsupported cuts and fills are generally not recommended for this site. Fills behind retaining walls should be of material approved by the geotechnical engineer and compacted to a maximum dry density of 90 percent as determined by ASTM D-1157. Fills underlying pavements shall have the top 12 inches compacted to 95 percent maximum dry density. For fill specifications in utility trenches refer to the project civil drawings. Do not use standard PG&E trench specification, the trench will act as a drain and may result in landslides.

Geotechnical Drainage Considerations

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

The site should be graded to provide positive drainage away from the foundations at a rate of 5 percent within the first ten feet (per requirements and exceptions of the CBC section 1803.3). All roofs should be equipped with gutters and downspouts that discharge into a solid drainage line.

Gutters may be eliminated if roof runoff is collected by shallow surface ditches or other acceptable landscape grading. All driveways and flat areas should drain into controlled collection points and all foundation and retaining walls constructed with backdrainage systems. Surface drainage systems, e.g. roofs, ditches and drop inlets *must be maintained separately* from foundation and backdrainage systems. The two systems may be joined into one pipe at a drop-inlet that is a minimum of two feet in elevation below the invert of the lowest back or slab drainage system with a surface discharge drop inlet at the junction, a bentonite seal should be placed at the transition point between drainpipes and solid pipes.

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

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

All cross slope foundations should have backdrainage. In compliance with section 1807.4.2 of the CBC foundation drains should be installed around the perimeter of the foundation. Interior and downslope grade beams and foundation lines should be provided with weep holes to allow any accumulated water to pass through the foundation. The top of the drainage pipe should be minimum of four inches below the adjacent interior grade and constructed in accordance with the attached Typical Drainage Details. All drainpipes should rest on the bottom of the trench or footing with no gravel underneath. Drain pipes with holes greater than 1/8-inch should be wrapped with filter fabric, if Class 2 Permeable is used, to prevent piping of the fines into the pipe. On hillside lots it may not be possible to eliminate all moisture from the substructure area and some moisture is acceptable in a well-ventilated area. Site conditions change due to natural (e.g. rodent activity) and man related actions and during years of below average rainfall, future ground water problems may not be evident. One should expect to see changes in ground water conditions in the future that will require corrective actions.

All surface and ground water collected by drains or ditches should be discharged into the natural drainage where water will have no detrimental downslope effects. Storm water dissipated on steep soil slopes have been known to cause sloughing and landsliding. Should the reviewing agency require such a system, the have become the design engineer and assume responsibility for any resulting slope instability. The discharge point of all drainage systems should end in a 'T' and be protected by energy dissipating riprap. Typical outfall details are attached. The upslope property owner is always responsible to the adjacent lower property owner for water, collected or natural, which may have a physical effect on their property.

All laterals carrying water to a discharge point should be SDR 35, Schedule 40 or 3000 triple wall HDPE pipe, depending on the application and should be buried. 'Flex pipe' is never acceptable. Generally cleanouts should be provided at reasonable locations along pipe runs. However, this is not a geotechnical consideration and is the responsibility of the drainage contractor.

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

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

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

Construction grading will expose weak soil and rock that will be susceptible to erosion. Erosion protection measures must be implemented during and after construction. These would include jute netting, hydromulch, silt barriers and stabilized entrances established during construction. Typically fiber rolls are installed along the contour below the work area. Refer to the current ABAG⁽⁹⁾ manual for detailed specifications and applications. Erosion control products are available from Water Components in San Rafael. The ground should not be disturbed outside the immediate construction area. Prevention of erosion is emphasized over containment of silt. Post construction erosion control is the task of a landscape professional. ***It is the owner's responsibility*** that the contractor knows of and complies with the BMP's (Best Management Practices) of the Regional Water Quality Control Board, available at www.swrcb.ca.gov, ↓ water quality ↓ stormwater ↓ construction. In addition, summer construction may create considerable dust that should be controlled by the judicious application of water spray. After construction, erosion resistant vegetation must be established on all slopes to reduce sloughing and erosion this is the responsibility of a landscape professional. Periodic land maintenance should be performed to clean and maintain all drains and repair any sloughing or erosion before it becomes a major problem.

Drainage Check List

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

- Under-slab drains and outlets
- Crawl space drainage
- Cross-slope footing and grade beam weep holes
- Retaining wall backdrainage pipes with no gravel under the pipes
- Top of retaining wall heel sloped towards rear at ¼ - inch per foot
- Drain pipe located at lowest part of footing
- Invert of foundation drains located 4-inches below interior grade
- No gravel under any drainpipe
- Exterior foundation drains
- Bentonite seals at drainpipe transition to solid pipe
- Proper installation of the drainage panels
- Outfall details and location

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

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

Construction Inspections

In order to assure that the construction work is performed in accordance with the recommendations in this report, SalemHowes Associates Inc. must perform the following applicable inspections. We will provide a full time project engineer to supervise the foundation excavation, drainage, compaction

and other geotechnical concerns during construction, if required by the building official per § 1704.1.3 of the CBC. Otherwise, if directed by the Owner, these inspections will be performed on an "as requested basis" by the Owner or Owner's representative. Whether or not required by the building department in the permit, it is the owners/contractors responsibility to call us for the pertinent inspections. We will not be responsible for construction we were not called to inspect. In this case it is the responsibility of the Owner to assure that we are notified in a timely manner to observe and accept each individual phase of the project.

Key Inspection Points

- Map excavations in progress to identify and record rock/soil conditions.
- Observe drilling and observation of rock bolts/dowels placement.
- Observe and accept pier drilling and final depth and conditions of all pier holes. *We must be on site at the start of drilling the first hole.* We will perform special inspections in accordance with the CBC Section 1702-Definitions, "Special Inspections, Periodic", unless otherwise requested by the building official.
- Accept final footing grade prior to placement of reinforcing steel.
- Accept subdrainage prior to backfilling with drainage rock.
- Accept drainage discharge location.

Additional Engineering Services

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

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

Limitations on the Use of This Report

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

All conclusions and recommendations in this report are contingent upon SalemHowes Associates being retained to review the geotechnical portion of the final grading and foundation plans prior to construction. The analysis and recommendations contained in this report are preliminary and based on the data obtained from the referenced subsurface explorations. The borings indicate subsurface conditions only at the specific locations and times, and only to the depths penetrated. They do not necessarily reflect strata variations that may exist between such locations. The validity of the recommendations is based on part on assumptions about the stratigraphy made by the geotechnical engineer or geologist. Such assumptions may be confirmed only during earth work and foundation construction for deep foundations. If subsurface conditions different from those described in this

report are noted during construction, recommendations in this report must be re-evaluated. It is advised that SalemHowes Associates Inc. be retained to observe and accept earthwork construction in order to help confirm that our assumptions and preliminary recommendations are valid or to modify them accordingly. SalemHowes Associates Inc. cannot assume responsibility or liability for the adequacy of recommendations if we do not observe construction.

In preparation of this report it is assumed that the client will utilize the services of other licensed design professionals such as surveyors, architects and civil engineers, and will hire licensed contractors with the appropriate experience and license for the site grading and construction. We also require that the Owner/Architect assures that the contractor has read and understands this geotechnical report.

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

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

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

Prepared by:

SalemHowes Associates, Inc.

A California Corporation

Reviewed by:



E Vincent Howes

Geotechnical Engineer
GE #965 exp. 31 Mar 12



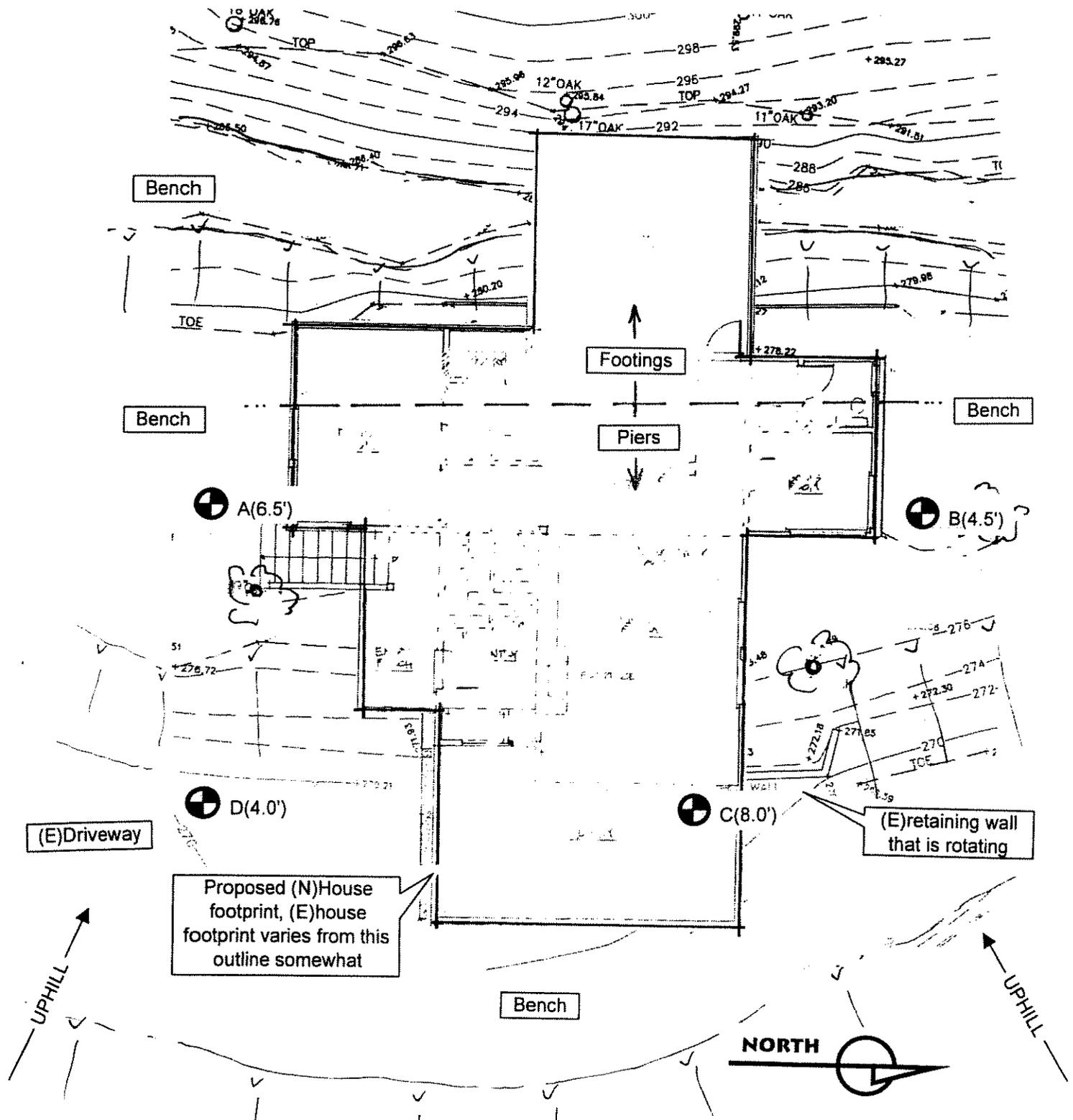
Attachments: Drawing A, Site Plan and Location of Test Borings
Typical Tieback Installation
Typical Reinforced Shotcrete Application
Typical Shoring Installation
Typical Under-slab Drains
Outfall Details
Typical Drain Detail
Typical Retaining Wall Drainage
Logs of Test Borings
Table 1, Capacity of Anchor Rods in Fractured Rock
Plate 1, San Francisco Bay Region Earthquake Probabilities

References:

General: 2007 California Building Code (CBC)

- ⁽¹⁾ Rice, Salem J; Smith, Theodore C and Strand, Rudolph G.; Geology for Planning Central and Southeastern Marin County, California, California Divisions of Mines and Geology, 1976 OFR 76-2 SF.
- ⁽²⁾ U.S. Geological Survey, Probabilities of Large Earthquakes in the San Francisco Bay Region, 2000 to 2030, Open-File Report 99-517, 1999
- ⁽³⁾ California Department of Conservation, Division of Mines and Geology, Maps of Known Active Fault Near-Source Zones in California and Adjacent Portions of Nevada, February 1988, International conference of Building Officials
- ⁽⁴⁾ Department of the Navy, Naval Facilities Engineering Command, Soil Mechanics, Design Manual 7.1, 7.2, (NAVFAC DM-7) May 1982,
- ⁽⁵⁾ Uniform Construction Standards, most recent edition, Marin County Building Department
- ⁽⁶⁾ Leps, Thomas M., Review of Shearing Strength of Rockfill, Journal of the Soil Mechanics and Foundation Division, Proc. ASCE, Vol.96 No.SM4. July 1970, pp1159
- ⁽⁷⁾ Bowles, Joseph, E., Foundation Analysis and Design, fourth edition, McGraw-Hill, 1988 pg. 614
- ⁽⁸⁾ Association of Bay Area Governments (ABAG), Manual of Standards for Erosion & Sediment Control Measures. Most recent edition.
Storm Water Quality Task Force, California Storm Water Best Management Practice Handbooks, Construction Activity, March 1993.
- ⁽⁹⁾ Seed, H.B. and Whitman, R.V. (1970) Design of Earth Structures for Dynamic Loads. Lateral Stresses in the Ground and Design of Earth Retaining Structures, ASCE, Cornell University
- ⁽¹⁰⁾ USGS web site at <http://earthquake.usgs.gov/research/hazmaps/design>
- ⁽¹¹⁾ CGS Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards in California, 1977

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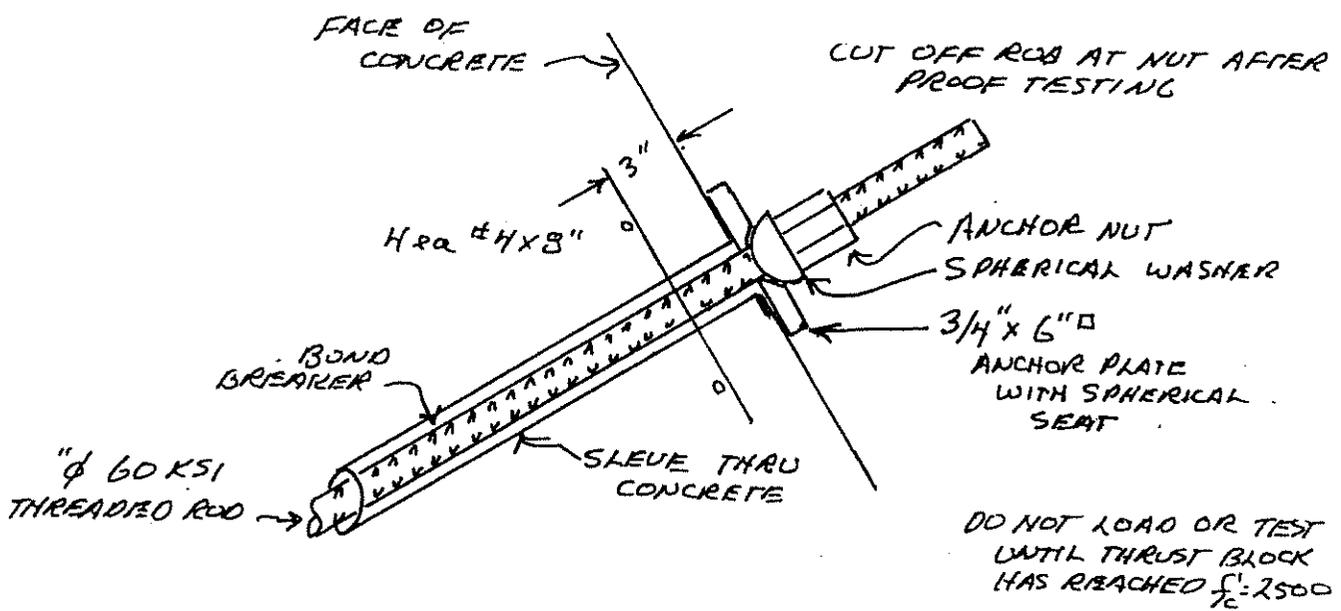
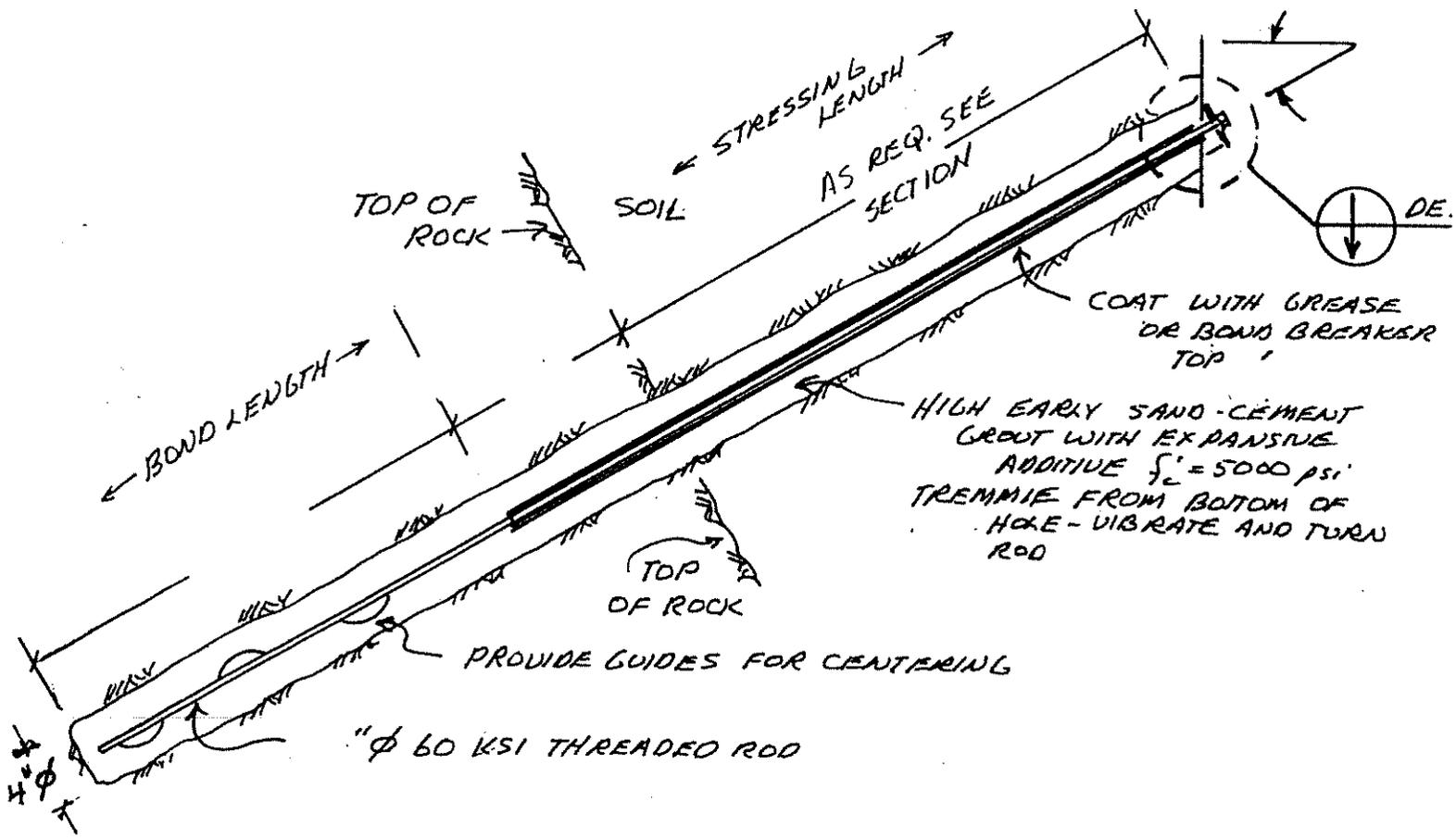


LEGEND

-  Location of Test Borings
- (n') Depth to Rock in feet

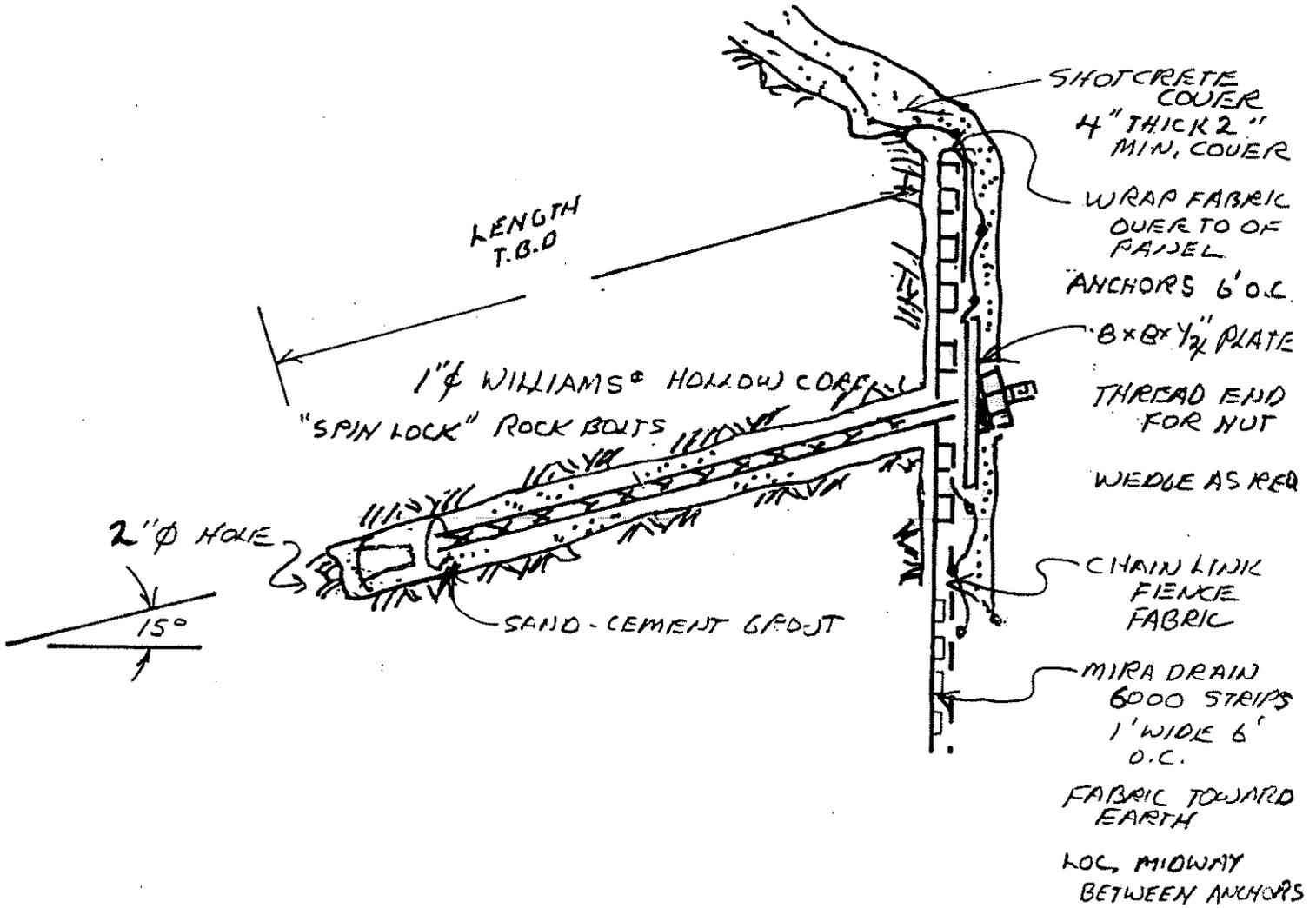
A SITE PLAN AND LOCATION OF TEST BORINGS

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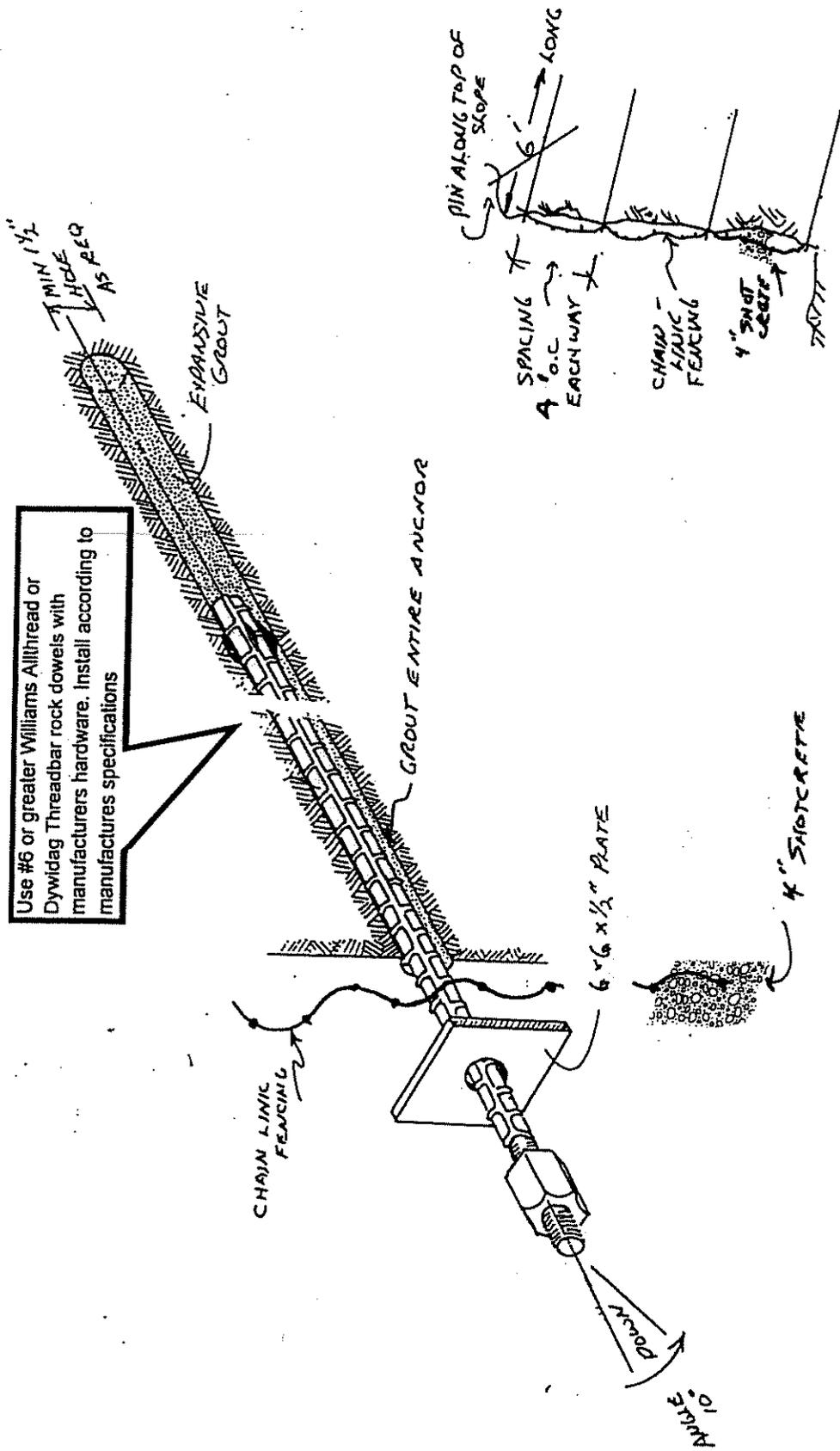
TYPICAL TIEBACK INSTALLATION

NO SCALE



TYPICAL REINFORCED SHOTCRETE APPLICATION

NO SCALE



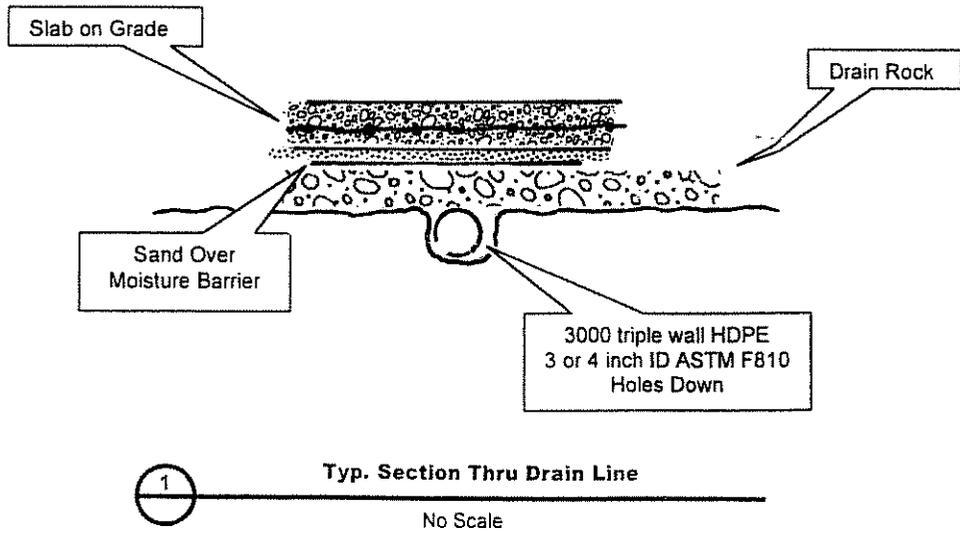
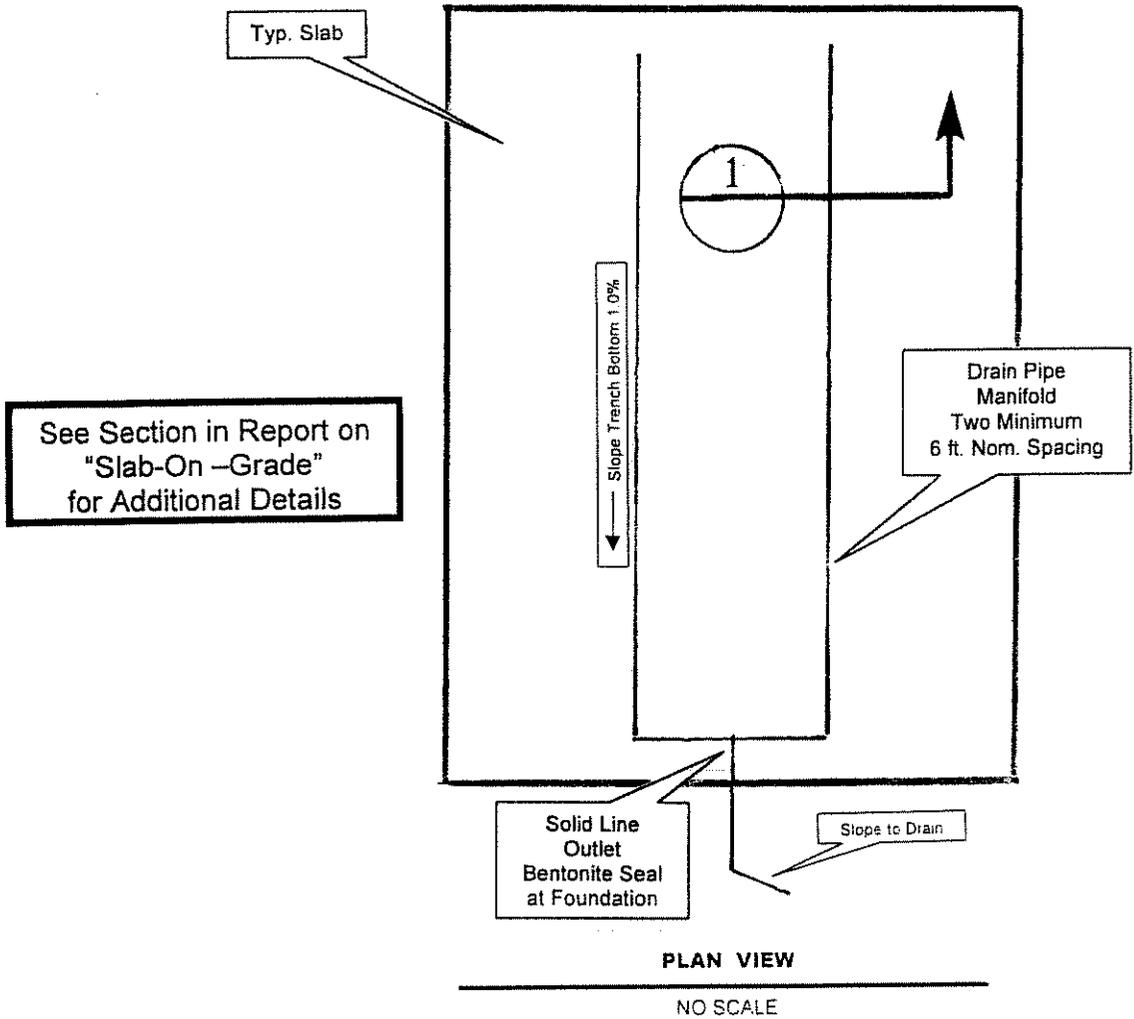
Use #6 or greater Williams Allthread or Dywidag Threadbar rock dowels with manufacturers hardware. Install according to manufacturers specifications

Alternate: "Mackenzie System" uses regular #6 reinforcing bars and welds #5 wales to the protruding #6 bars.

INSTALL BOLT AT BOTTOM OF BENCH BEFORE EXCAVATING FURTHER.
INSTALL CHAIN LINK AS SOON AS POSSIBLE AFTER.

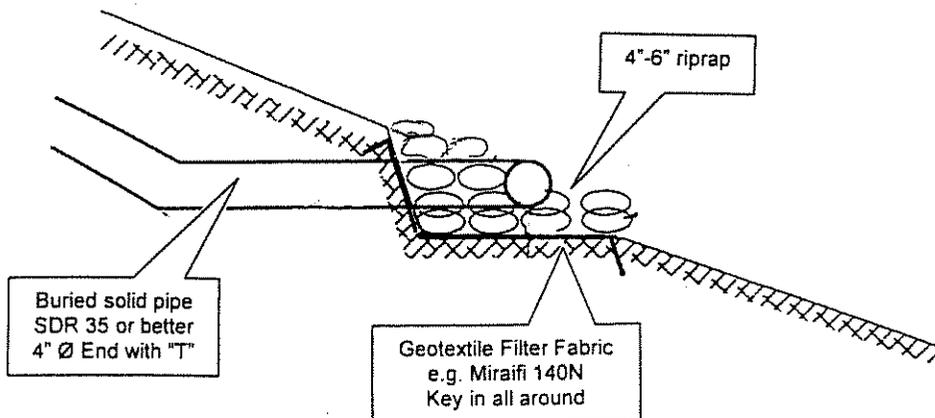
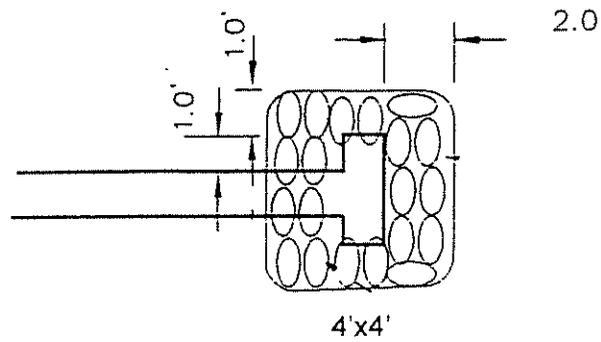
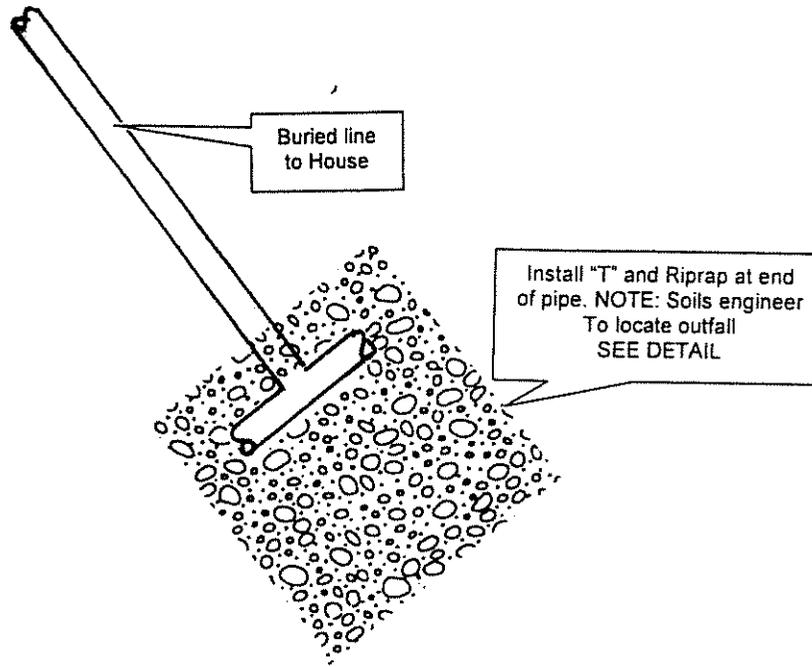
TYPICAL SHORING INSTALLATION

NO SCALE



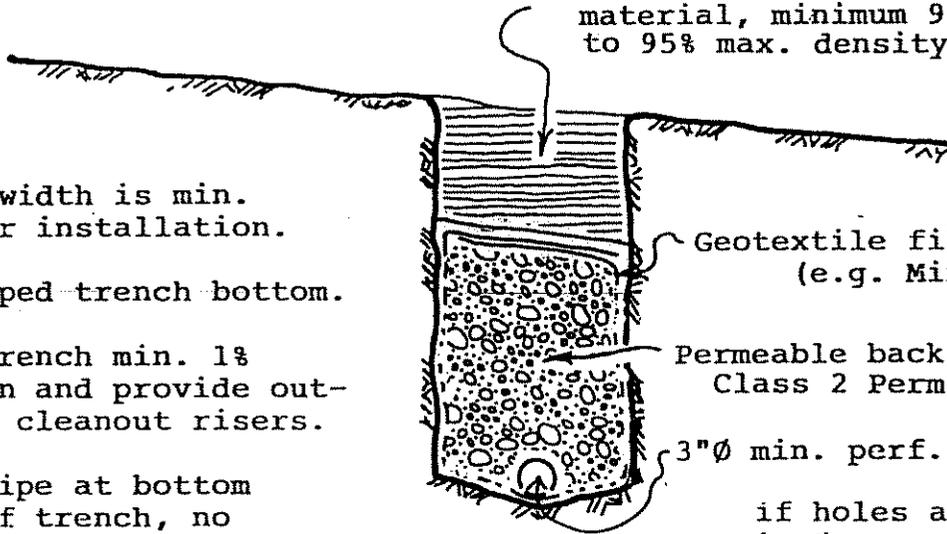
TYPICAL UNDERSLAB DRAINS

NO SCALE



OUTFALL DETAILS
No Scale

Backfill with impermeable (clay rich) material, minimum 9" thick. Compact to 95% max. density per ASTM D-1557.



Trench width is min. req. for installation.

'U' Shaped trench bottom.

Slope trench min. 1% to drain and provide outlet and cleanout risers.

Note: pipe at bottom of trench, no gravel under pipe. Top of pipe 4" below adjacent interior grade.

Geotextile filter fabric on top. (e.g. Mirafi 140N).

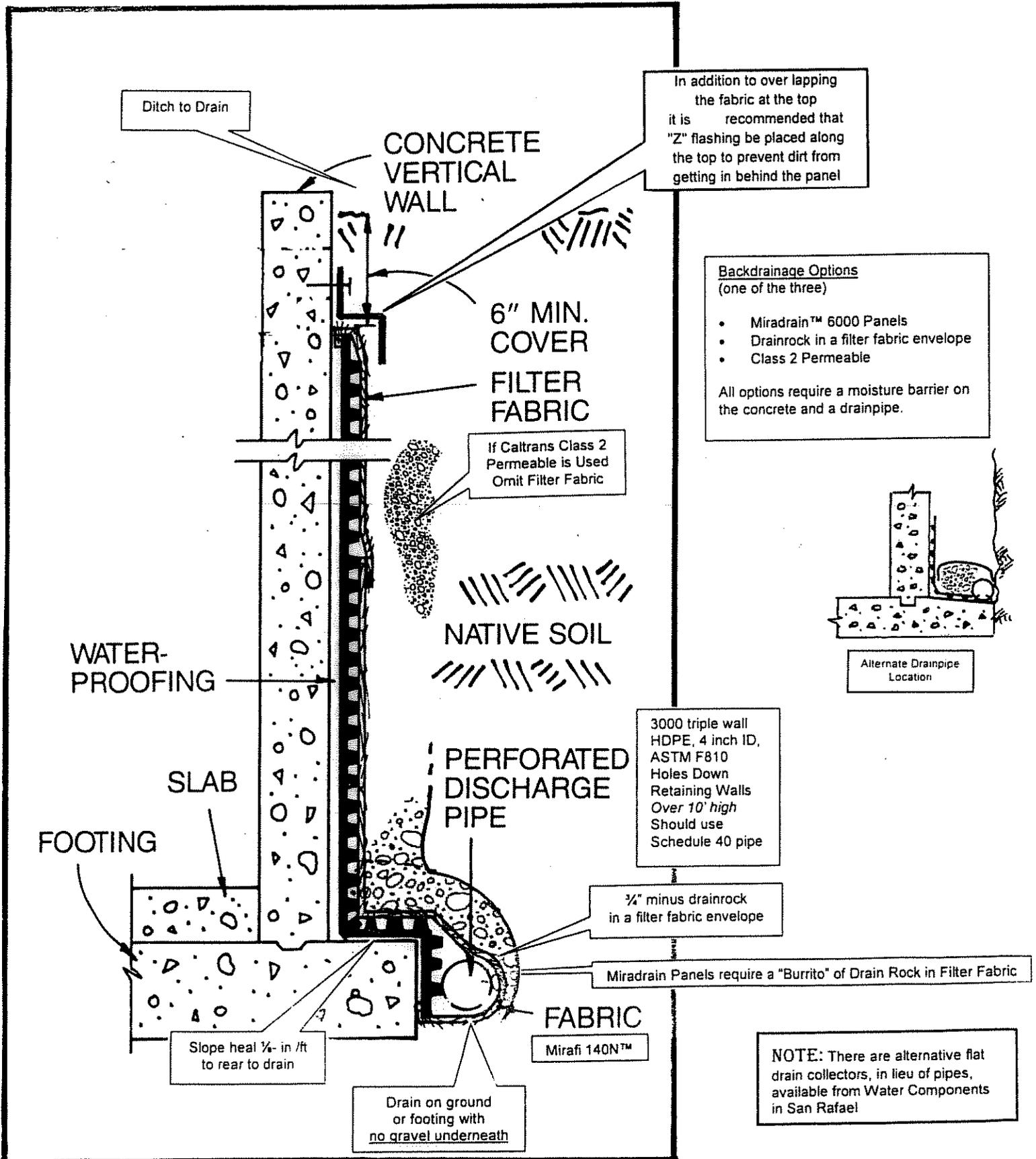
Permeable backfill (e.g. Caltrans Class 2 Perm.) Vibrate into place.

3"Ø min. perf. pipe (See Note) perforations down. if holes are greater than 0.1" in Ø wrap pipe in fabric.

Bentonite clay seal at transition to solid pipe.

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

TYPICAL DRAIN DETAILS



TYPICAL RETAINING WALL DRAINAGE DETAILS



PROJECT: 62 Valley Rd	BORING: A
ENGINEER: E. V. Howes	LOGGED BY: J. Gillis
JOB # : 1010054	DATE: 25 January 2011

PLASTICITY INDEX (PI)	LIQUID LIMIT	SAMPLE TYPE	(N) Blows Per foot	DEPTH (feet)	WATER LEVEL	DESCRIPTIVE LOG	GRAPHIC LOG	REMARKS
				1		FILL [Qaf] 0.0'-2.0' brown, silty clayey [ML-CL] soil with small to large angular sandstone fragments, slightly rooted, large harder fragments at 2.0'		Top of Rock 6.5' SHEARED SHALE [fm]
		SPT	6	2				
				3		RESIDUAL SOIL 2.0'-6.5' soft at top of section stiffens with depth, dark gray, silty clayey [ML-CL] soil with sandstone and shale fragments, slightly moist throughout section. grades to less weathered sheared shale at 5.0' and grades to sheared shale bedrock at 6.5'		
				4				
		SPT	12	5				
				6		SHEARED SHALE [fm] 6.5'-8.0' very hard, dark gray sheared shale with tapered shale fragments within softer sheared shale matrix. some sandstone fragments and not rooted, slightly moist		
		SPT	39	7				
				8		End of Log		Ground water was not Encountered in boring
				9				
				10				
				11				
				12				
				13				
				14				
				15				
				16				
				17				
				18				
				19				
				20				
				21				

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



PROJECT: 62 Valley Rd	BORING: B
ENGINEER: E. V. Howes	LOGGED BY: J. Gillis
JOB # : 1010054	DATE: 25 January 2011

PLASTICITY INDEX (PI)	LIQUID LIMIT	SAMPLE TYPE	(N) Blows Per foot	DEPTH (feet)	WATER LEVEL	DESCRIPTIVE LOG	GRAPHIC LOG	REMARKS
				1		FILL [Qaf] 0.0'-4.5' brown, silty clayey [ML-CL] soil with small to large angular sandstone fragments. some clayey rooted zones. slightly moist		
		SPT	28	2				
				3				
				4				
				5		SANDSTONE [fm] 4.5'-5.0' very hard, fractured brown sandstone, similar to sandstone seen in nearby outcrops.		Top of Rock 4.5' SANDSTONE [fm]
				6		End of Log		
				7				
				8				
				9				
				10				
				11				
				12				
				13				
				14				
				15				
				16				
				17				
				18				
				19				
				20				
				21				

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



PROJECT: 62 Valley Rd	BORING: C
ENGINEER: E. V. Howes	LOGGED BY: J. Gillis
JOB # : 1010054	DATE: 25 January 2011

PLASTICITY INDEX (PI)	LIQUID LIMIT	SAMPLE TYPE	(N) Blows Per foot	DEPTH (feet)	WATER LEVEL	DESCRIPTIVE LOG	GRAPHIC LOG	REMARKS
				1		FILL [Qaf] 0.0'-3.5' brown, silty clayey [ML-CL] soil with small to large angular sandstone fragments, slightly rooted		
		SPT	3	2				
		SPT	6	3				
		SPT	8	4		RESIDUAL SOIL 3.5'-8.0 soft at top of section stiffens with depth, dark gray, silty clayey [ML-CL] soil with with sandstone and shale fragments, slightly moist throughout section. grades to less weathered sheared shale at 6.0' and grades to sheared shale bedrock at 8.0'		
		SPT	6	5				
		SPT	8	6				
		SPT	28	7				
				8		SHEARED SHALE [fm] 8.0'-9.0'		Top of Rock 8.0' SHEARED SHALE [fm]
				9		very hard, dark gray sheared shale with tapered shale fragments within softer sheared shale matrix. some sandstone fragments and not rooted, slightly moist		
				10		End of Log		Ground water was not Encountered in boring
				11				
				12				
				13				
				14				
				15				
				16				
				17				
				18				
				19				
				20				
				21				

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

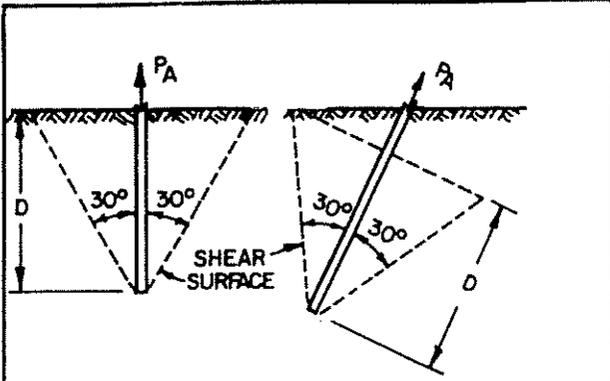
Notes to Boring Logs

- 1) Soil designations in this report conform to the Unified Soil Classifications per ASTM D22487, Classification of Soil for Engineering Purposes. Rock classifications conform to NAVFAC DM-7.
- 2) The SPT, Standard Penetration Test, is made using a standard 2" OD - 1.375" ID sampler driven by a 140# hammer falling 30" (per ASTM D-1586). A MPT, Modified penetration Test, is made using the same standard sampler driver by a 70# hammer falling 30". Other sampler and hammer size data for information only. TW indicates a Thin Wall sampler. The sample is driven 18" and the number of blows required to penetrate the last 12" is indicated on the log. "REF" (refusal) indicates the number of blows required to penetrate 6" exceeded 50.
- 3) Borehole and test pit data are considered representative of the subsurface condition only for the time and location at which the data were obtained. Interpretation or extrapolation of these data represent an exercise in judgment based on education and experience and is not warranted as precisely representing subsurface conditions at all locations. During construction variations will be observed in the field and field design changes should be expected.
- 4) PP indicates in situ measurements made by a standard pocket penetrometer in tons per square foot unconfined compressive strength.

TV indicates in situ measurements made by a Torvane in kilograms per square centimeter.
- 5) LL indicates the Liquid Limit of soils and
PI indicates the Plasticity Index of soils per ASTM D-4318
Quc indicates the unconfined compressive strength per
ASTM D-2166
TX/UU indicates an Unconsolidated Undrained Triaxial Test,
Confinement pressure/Ultimate strength in psf.
DD indicates dry density in pcf.
mc indicates moisture content in percent.
- 6) Qaf = artificial fill
Qc = colluvium
fm = sandstone and shale bedrock

(*)Colluvium - Unconsolidated and unsorted soil material and weathered rock fragments which have accumulated on or at the base of slopes by natural gravitational or slope wash processes, derived by weathering and decomposition of the underlying bedrock material.

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



SINGLE BAR ANCHORAGES

P_A = ALLOWABLE ANCHOR PULL
 D = EMBEDMENT DEPTH, MEASURED AS SHOWN
 C_{all} = ALLOWABLE ROCK SHEAR STRESS
 f_s = ALLOWABLE BAR STRESS, $0.66 f_y$
 $brqd$ = BOND STRESS ON BAR PERIMETER REQUIRED TO DEVELOP C_{all}
 A = BAR CROSS-SECTION AREA

$P_A = (2.1) D^2 (C_{all})$ AND $P_A = A f_s$

$brqd = \frac{P_A}{\text{BAR PERIMETER} \times D}$

TESTS INDICATE THAT FOR BAR IN ORDINARY FRACTURED ROCK NEAR THE SURFACE:
 MINIMUM D (FT) = $(1.25) \sqrt{P_A}$ (KIPS)
 AT THIS DEPTH $C_{all} = 0.3$ KSF AND SHOULD NOT BE TAKEN GREATER THAN THIS VALUE WITHOUT PULLOUT TESTS
 SPACING OF BARS IN PLAN SHOULD EXCEED 1.2D

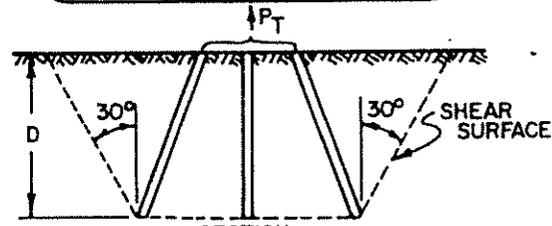
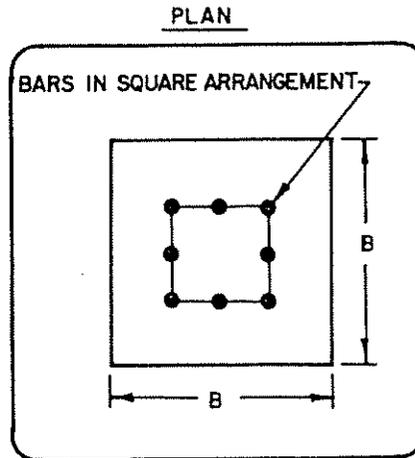
EXAMPLE:

GIVEN: $P_A = 20K$ FOR 1 IN. SQUARE BAR
 MINIMUM $D = 1.25 \sqrt{20} = 5.6$ FT.
 BAR SPACING = $1.2 (5.6) = 6.7$ FT.

$brqd = \frac{20,000}{4(5.6)(12)} = 74$ PSI

Not to exceed 100 psi.

(*) Minimum depth for any application is 6 feet, as measured above.



SECTION
BAR GROUP ANCHORAGE

P_T = ALLOWABLE ANCHOR PULL FOR GROUP OF BARS.
 N = NUMBER OF BARS IN SQUARE ARRANGEMENT
 $P_T = 4.6D(B + 0.58D) C_{all}$ AND
 $P_T = NA f_s$
 $brqd = \frac{P_T}{\text{BAR PERIMETER} \times ND}$

TESTS INDICATE THAT FOR BAR GROUP IN ORDINARY FRACTURED ROCK NEAR THE SURFACE:
 MINIMUM D (FT)

$D = \frac{-4.6 B C_{all} + \sqrt{21.2 B^2 (C_{all})^2 + 10.7 C_{all} \times NA f_s}}{5.34 C_{all}}$

AT THIS DEPTH $C_{all} = 0.3$ KSF AND SHOULD NOT BE TAKEN GREATER THAN THIS VALUE WITHOUT PULLOUT TESTS

EXAMPLE:

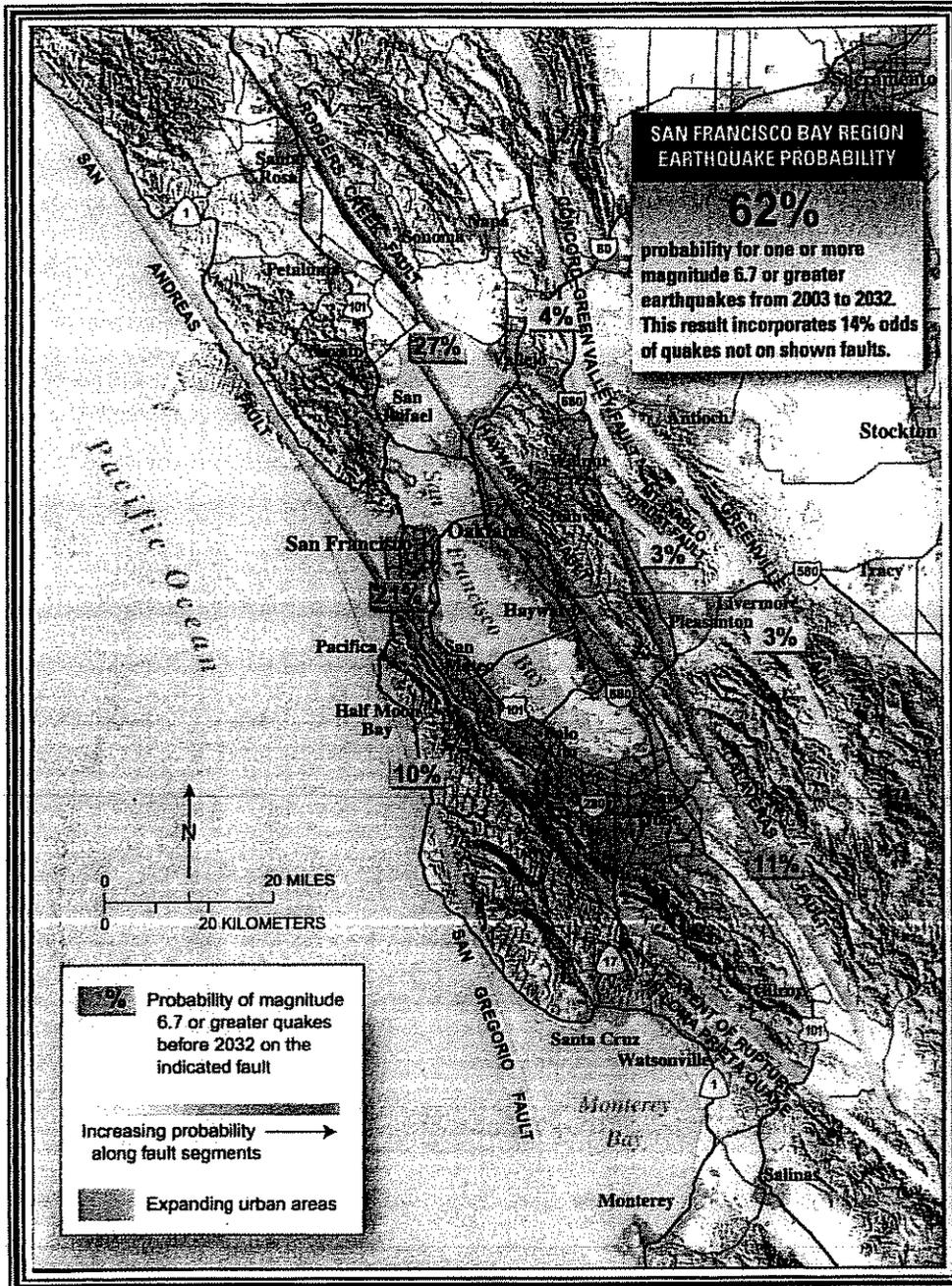
GIVEN $P_T = 80K$, USE 4 - 1 IN SQUARE BARS
 $B = 4.5$ FT $f_s = 20$ KSI
 MIN. D : WITHOUT TESTS:

$D = \frac{-4.6 \times 4.5 \times 0.3 + \sqrt{21.2 \times 4.5^2 \times 0.3^2 + 10.7 \times 0.3 \times 4 \times 1 \times 200}}{5.34 \times 0.3}$
 $= 6.9$ FT

$brqd = \frac{80,000}{(4)(4)(6.9)(12)} = 60$ PSI

Capacity of Anchor Rods in Fractured Rock

Table 1



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

Plate 1, San Francisco Bay Region Earthquake Probabilities

From: USGS Fact Sheet 039-03
Revised September 2004

CHAPTER 5

FIRE SERVICE FEATURES

SECTION 501 GENERAL

501.1 Scope. Fire service features for buildings, structures and premises shall comply with this chapter.

501.2 Permits. A permit shall be required as set forth in Sections 105.6 and 105.7.

501.3 Construction documents. *Construction documents* for proposed fire apparatus access, location of *fire lanes*, security gates across fire apparatus access and *construction documents* and hydraulic calculations for fire hydrant systems shall be submitted to the fire department for review and approval prior to construction.

501.4 Timing of installation. When fire apparatus access roads or a water supply for fire protection is required to be installed, such protection shall be installed and made serviceable prior to and during the time of construction except when *approved* alternative methods of protection are provided. Temporary street signs shall be installed at each street intersection when construction of new roadways allows passage by vehicles in accordance with Section 505.2.

SECTION 502 DEFINITIONS

502.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

FIRE APPARATUS ACCESS ROAD. A road that provides fire apparatus access from a fire station to a facility, building or portion thereof. This is a general term inclusive of all other terms such as *fire lane*, public street, private street, parking lot lane and access roadway.

FIRE COMMAND CENTER. The principal attended or unattended location where the status of the detection, alarm communications and control systems is displayed, and from which the system(s) can be manually controlled.

FIRE DEPARTMENT MASTER KEY. A limited issue key of special or controlled design to be carried by fire department officials in command which will open key boxes on specified properties.

FIRE LANE. A road or other passageway developed to allow the passage of fire apparatus. A fire lane is not necessarily intended for vehicular traffic other than fire apparatus.

KEY BOX. A secure device with a lock operable only by a fire department master key, and containing building entry keys and other keys that may be required for access in an emergency.

SECTION 503 FIRE APPARATUS ACCESS ROADS

503.1 Where required. Fire apparatus access roads shall be provided and maintained in accordance with Sections 503.1.1 through 503.1.3.

503.1.1 Buildings and facilities. *Approved* fire apparatus access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into or within the jurisdiction. The fire apparatus access road shall comply with the requirements of this section and shall extend to within 150 feet (45 720 mm) of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an *approved* route around the exterior of the building or facility.

Exception: The *fire code official* is authorized to increase the dimension of 150 feet (45 720 mm) where:

1. The building is equipped throughout with an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.
2. Fire apparatus access roads cannot be installed because of location on property, topography, waterways, nonnegotiable grades or other similar conditions, and an *approved* alternative means of fire protection is provided.
3. There are not more than two Group R-3 or Group U occupancies.

503.1.2 Additional access. The *fire code official* is authorized to require more than one fire apparatus access road based on the potential for impairment of a single road by vehicle congestion, condition of terrain, climatic conditions or other factors that could limit access.

503.1.3 High-piled storage. Fire department vehicle access to buildings used for *high-piled combustible storage* shall comply with the applicable provisions of Chapter 23.

503.2 Specifications. Fire apparatus access roads shall be installed and arranged in accordance with Sections 503.2.1 through 503.2.8.

[California Code of Regulations, Title 19, Division 1 §3.05(a)] **Fire Department Access and Egress. (Roads)**

(a) *Roads.* Required access roads from every building to a public street shall be all-weather hard-surfaced (suitable for use by fire apparatus) right-of-way not less than 20 feet (6096 mm) in width. Such right-of-way shall be unobstructed and maintained only as access to the public street.

Exception: The enforcing agency may waive or modify this requirement if in his opinion such all-weather hard-surfaced condition is not necessary in the interest of public safety and welfare.

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm), exclusive of shoulders, except for *approved* security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115 mm).

503.2.2 Authority. The *fire code official* shall have the authority to require an increase in the minimum access widths where they are inadequate for fire or rescue operations.

503.2.3 Surface. Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be surfaced so as to provide all-weather driving capabilities.

503.2.4 Turning radius. The required turning radius of a fire apparatus access road shall be determined by the *fire code official*.

503.2.5 Dead ends. Dead-end fire apparatus access roads in excess of 150 feet (45 720 mm) in length shall be provided with an *approved* area for turning around fire apparatus.

503.2.6 Bridges and elevated surfaces. Where a bridge or an elevated surface is part of a fire apparatus access road, the bridge shall be constructed and maintained in accordance with AASHTO HB-17. Bridges and elevated surfaces shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. Vehicle load limits shall be posted at both entrances to bridges when required by the *fire code official*. Where elevated surfaces designed for emergency vehicle use are adjacent to surfaces which are not designed for such use, *approved* barriers, *approved* signs or both shall be installed and maintained when required by the *fire code official*.

503.2.7 Grade. The grade of the fire apparatus access road shall be within the limits established by the *fire code official* based on the fire department's apparatus.

503.2.8 Angles of approach and departure. The angles of approach and departure for fire apparatus access roads shall be within the limits established by the *fire code official* based on the fire department's apparatus.

503.3 Marking. Where required by the *fire code official*, *approved* signs or other *approved* notices or markings that include the words NO PARKING—FIRE LANE shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. The means by which *fire lanes* are designated shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility.

503.4 Obstruction of fire apparatus access roads. Fire apparatus access roads shall not be obstructed in any manner, including the parking of vehicles. The minimum widths and clearances established in Section 503.2.1 shall be maintained at all times.

503.5 Required gates or barricades. The *fire code official* is authorized to require the installation and maintenance of gates or other *approved* barricades across fire apparatus

access roads, trails or other accessways, not including public streets, alleys or highways. Electric gate operators, where provided, shall be *listed* in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

503.5.1 Secured gates and barricades. When required, gates and barricades shall be secured in an *approved* manner. Roads, trails and other accessways that have been closed and obstructed in the manner prescribed by Section 503.5 shall not be trespassed on or used unless authorized by the *owner* and the *fire code official*.

Exception: The restriction on use shall not apply to public officers acting within the scope of duty.

503.5.2 Fences and gates. School grounds may be fenced and gates therein may be equipped with locks, provided that safe dispersal areas based on 3 square feet (0.28 m²) per occupant are located between the school and the fence. Such required safe dispersal areas shall not be located less than 50 feet (15 240 mm) from school buildings.

Every public and private school shall conform with Section 32020 of the Education Code, which states:

The governing board of every public school district, and the governing authority of every private school, which maintains any building used for the instruction or housing of school pupils on land entirely enclosed (except for building walls) by fences of walls, shall, through cooperation with the local law enforcement and fire-protection agencies having jurisdiction of the area, make provision for the erection of gates in such fences or walls. The gates shall be of sufficient size to permit the entrance of the ambulances, police equipment and fire-fighting apparatus used by the law enforcement and fire-protection agencies. There shall be no less than one such access gate and there shall be as many such gates as needed to assure access to all major buildings and ground areas. If such gates are to be equipped with locks, the locking devices shall be designed to permit ready entrance by the use of the chain or bolt-cutting devices with which the local law enforcement and fire-protection agencies may be equipped.

503.6 Security gates. The installation of security gates across a fire apparatus access road shall be *approved* by the fire chief. Where security gates are installed, they shall have an *approved* means of emergency operation. The security gates and the emergency operation shall be maintained operational at all times. Electric gate operators, where provided, shall be *listed* in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

SECTION 504

ACCESS TO BUILDING OPENINGS AND ROOFS

504.1 Required access. Exterior doors and openings required by this code or the *International Building Code* shall be maintained readily accessible for emergency access by the fire



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

FIRE DEPARTMENT PLAN REVIEW

PROJECT: New Single Family Dwelling
ADDRESS: 62 Valley Road
Fairfax CA, 94960

Page: 1 of 4
Date: 01/09/2012
Reviewed by: Rob Bastianon
(415) 258-4673

TYPE OF REVIEW: Planning E-mail: Rbastianon@rossvalleyfire.org
Bldg. Dept. # Date Stamp # 01/04/12 Fire Dept. # 11-0033
Review No. 4

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

Applicant*: Fairfax Planning
Address: Town Hall
Fairfax, CA

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

Occupancy Class: R-3	Fire Flow Req: 1000 GPM	Sprinklers Required: YES
Type of Construction: V-B	On-site Hyd. Req: YES	Fire Alarm Required: NO
Bldg Area: 2696sf	Turn-Around Req: YES	Permits Required: Sprinkler
Stories: 2	Fire Flow Test Required: NO	Vegetation Management Plan
Height: 35ft.	Wildland Urban Interface: YES	

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

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

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

ROSS VALLEY FIRE DEPT.
REVIEWED
DATE: 1/9/12

Inspections required:

- Access/Water Supply prior to delivery of combustibles**
- Defensible Space/Vegetation Management Plan**
- Sprinkler Hydro/Final**
- Final**

EXHIBIT # D



Ross Valley Fire
Department

777 San Anselmo Ave
San Anselmo, Ca 94960
Ph. 415-258-4686

FIRE DEPARTMENT PLAN REVIEW

PROJECT: New Single Family Dwelling
ADDRESS: 62 Valley Road
Fairfax CA, 94960

Page: 2 of 4
Date: 01/09/2012
Reviewed by: Rob Bastianon
(415) 258-4673

TYPE OF REVIEW: Planning
Bldg. Dept. #

E-mail: Rbastianon@rossvalleyfire.org

Date Stamp # 01/04/12

Fire Dept. # 11-0033

Review No. 4

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

ITEM #	SHEET	COMMENTS	Corr. Made
1		This project has been reviewed by the Ross Valley Fire Department (RVFD) to ensure compliance with the intent of the Fire Code. It should be noted that Sheet 1 (Site Plan) does not match dimensions on other sheets.	
		Submitter's Response: Correction has been completed. See Sheet _____ of <input type="checkbox"/> Plans <input type="checkbox"/> Calculations.	
2		The scope of this project is to replace a single family dwelling destroyed by fire, with a new 2696sf single family dwelling. Project is located in the Wildland Urban Interface area of Fairfax. Projects within the Wildland-Urban Interface are required to meet the requirements in Chapter 7A of the California Building Code and the 2006 International Wildland-Urban Interface Code as amended and adopted by the Town of Fairfax.	
		Submitter's Response: Correction has been completed. See Sheet _____ of <input type="checkbox"/> Plans <input type="checkbox"/> Calculations.	
3	C-2	Fire apparatus access shall be provided to within 150 feet of all portions of 1st floor exterior walls. Fire access exceeding 150 feet in length shall have an approved turnaround designed to Ross Valley Fire Department Standards. Sheet C-2 utilizes improvements to the existing driveway configuration to provide approved fire apparatus access. The following is a list of conditions for approval: <ol style="list-style-type: none"> 1. Minimum driveway width for this project shall be no less than 12 feet in the straights and 14 feet through the curves. 2. Minimum inside turning radius shall be 27 feet. 3. Driveway shall be constructed with an all weather surface. All weather surfaces shall mean A/C paving, or concrete capable of supporting 40,000 gross vehicle weights. An engineered stamped plan sheet (acceptable to the Town Engineer) shall be provided. 4. Grades up to and including 18% may be of A/C paving. Grades greater than 18% shall be of concrete curb-cut so as to allow for water run-off and traction. 5. All roadways, turnarounds, and turn outs are designated Fire Lanes. Parking is not permitted within the required clearance widths and shall be posted in accordance with Ross Valley Fire Department Standard #204. 	



Ross Valley Fire
Department

777 San Anselmo Ave
San Anselmo, Ca 94960
Ph. 415-258-4686

FIRE DEPARTMENT PLAN REVIEW

PROJECT: New Single Family Dwelling
ADDRESS: 62 Valley Road
Fairfax CA, 94960

Page: 3 of 4
Date: 01/09/2012
Reviewed by: Rob Bastianon
(415) 258-4673

TYPE OF REVIEW: Planning
Bldg. Dept. #

E-mail: Rbastianon@rossvalleyfire.org
Date Stamp # 01/04/12
Review No. 4

Fire Dept. # 11-0033

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

ITEM #	SHEET	COMMENTS	Corr. Made
		<p>6. Grading shall extend a minimum 6 feet beyond the paved portion of the turnaround as shown on the plans. This will allow the tailboard to hang over and comply with minimum RVFD standards.</p> <p>7. Access shall be installed and made serviceable prior to and during the time of construction. Approval by the Fire Marshal and Town Engineer or other designated representative shall be required prior to the delivery of combustible materials.</p>	
		<p>Submitter's Response: Correction has been completed. See Sheet _____ of <input type="checkbox"/>Plans <input type="checkbox"/>Calculations.</p>	
4	C-2	<p>CFC Section 4903.7 requires removal of flammable and combustible vegetation within 10 feet of driveways. Remove the vegetation within the easement areas only and on your property. Do not remove vegetation outside of the easement without first obtaining permission from adjoining property owners. Noted on plan sheet C-2</p>	YES
		<p>Submitter's Response: Correction has been completed. See Sheet _____ of <input type="checkbox"/>Plans <input type="checkbox"/>Calculations.</p>	
5	1	<p>A fire protection sprinkler system shall be installed which complies with the requirements of the National Fire Protection Association (NFPA) 13-D and as modified in the approved alternate materials request. A separate deferred permit shall be required for this system. Plans and specifications for the system shall be submitted by an individual or firm licensed to design and/or design-build sprinkler systems.</p>	YES
		<p>Submitter's Response: Correction has been completed. See Sheet _____ of <input type="checkbox"/>Plans <input type="checkbox"/>Calculations.</p>	
6		<p>A fire hydrant shall be provided so that all portions of the buildings shall be no greater than 350 feet from the closest hydrant. Distance is measured along the actual path of travel. The hydrant is required to be a Jones Model # 3740 with 1 - 2.5" outlet and 1 - 4.5" outlet.</p> <p>A modified 13D fire sprinkler system is approved as an alternate to relocating or adding an additional fire hydrant. Upgrading the existing hydrant body per by Section 508.5.1.1 of the Fire Code to a Jones model #3740 is required as a condition of approval for this project.</p>	
		<p>Submitter's Response: Correction has been completed. See Sheet _____ of <input type="checkbox"/>Plans <input type="checkbox"/>Calculations.</p>	
7		<p>A Vegetation Management Plan (VMP) shall be required for this project and shall be designed in accordance with RVFD Standard #220. A</p>	



Ross Valley Fire
Department

777 San Anselmo Ave
San Anselmo, Ca 94960
Ph. 415-258-4686

FIRE DEPARTMENT PLAN REVIEW

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Page: 4 of 4
Date: 01/09/2012
Reviewed by: Rob Bastianon
(415) 258-4673

TYPE OF REVIEW: Planning
Bldg. Dept. #

E-mail: Rbastianon@rossvalleyfire.org
Date Stamp # 01/04/12
Fire Dept. # 11-0033

Review No. 4

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

ITEM #	SHEET	COMMENTS	Corr. Made
		separate permit is required.	
		Submitter's Response: Correction has been completed. See Sheet ___ of <input type="checkbox"/> Plans <input type="checkbox"/> Calculations.	
8		Alternate materials or method are approved for this project. All approval documents shall be copied onto the permit set of construction plans. Any changes to the scope of work for this project will require further review to ensure the entire intent of the fire code is in compliance.	

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



MARIN MUNICIPAL WATER DISTRICT

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

March 15, 2011
Service No. 17361

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

TOWN OF FAIRFAX
MAR 17 2011
RECEIVED

RE: WATER AVAILABILITY - Single Family Dwelling
Assessor's Parcel No.: 001-063-31, 003-191-01 and 003-191-02
Location: 62 Valley Rd., Fairfax

Dear Ms. Neal:

Parcels 003-191-01 and -02 are not currently being served. Parcel 001-063-31 is currently being served. The purpose and intent of this service are to provide water to a single family dwelling. The proposed construction of a new single family dwelling to replace one previously destroyed by fire will not impair the District's ability to continue service to this property.

Compliance with the District's Water Conservation Ordinance 414 is a condition of water service. Plans shall be submitted, and reviewed to confirm compliance. The ordinance requires a landscape plan, an irrigation plan, and a grading plan for projects with grades over 10%. Any questions regarding this ordinance should be directed to the plan review program manager at (415) 945-1497. You can also find information about the ordinance online at www.marinwater.org.

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

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

Very truly yours,

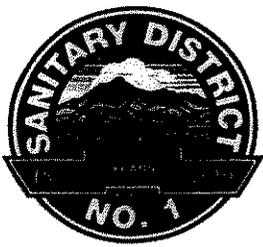
Joseph Eischens
Engineering Technician

JE:dh

cc: Marin County Building Dept

EXHIBIT # E





ROSS VALLEY SANITARY DISTRICT

Serving the Greater Ross Valley Area for 111 Years

2960 Kerner Boulevard San Rafael, Ca 94901

Ph: 415.259.2949 Fax: 415.460.2149

WWW.RVSD.ORG

Brett N. Richards ~ General Manager

Directors: Marcia Jonson, President ~ Peter Wm Sullivan, M.D., Secretary ~ Patrick Guasco, Treasurer ~ Pam Meigs~ Frank Egger

March 16, 2011

Ms. Linda Neal
Town of Fairfax
142 Bolinas Road
Fairfax, CA 94930

TOWN OF FAIRFAX
MAR 17 2011
RECEIVED

SUBJECT: 62 VALLEY ROAD, FAIRFAX, APN 001-063-63, 003-191-01 AND 02

Dear Ms. Neal:

We are in receipt of your transmittal dated March 4, 2011 concerning the above-referenced project. (District) has no objection in general, but has the following comments and requirements if the project is approved:

We have been informed that a building permit is pending for the above-referenced demo-rebuild. Sanitary District No. 1 requires that a sewer connection permit be issued for new buildings. The fee for this permit will depend on the number of fixture units in the new house, and can be calculated from the enclosed Requirements to Obtain a Sewer Permit information sheet. Additionally, enclosed for your use is another informational sheet regarding the side sewer connection permit and inspection process.

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

Should you require additional information, please do not hesitate to contact this office.

Sincerely,

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

District Engineer

Attachments:

1. Side Sewer Connection Permit & Inspection Process.
2. Requirements to obtain a sewer connection Permit.

EXHIBIT #

F



ROSS VALLEY SANITARY DISTRICT

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

REQUIREMENTS TO OBTAIN A SEWER CONNECTION PERMIT when sewer is available

Bring to the District Office: a) Set of approved plans showing plumbing fixtures, and b) Building Permit Number obtained from building department of jurisdiction (town/city/county).

RESIDENTIAL:

New Construction:

- District Connection Fee: \$ 50 **per fixture unit w/ \$500 minimum*
- District Inspection Fee: 1,000
- CMSA Capacity Charge: 4,935.33 ***fee adjusted each July 1 by an increment based on the change in the Engineering News-Record Construction Cost Index (ENR Index) for San Francisco*

Transfer from septic to public sewer: \$5435.33**

Rebuild by pre-tear-down owner within 6 months of tear-down:

- District Inspection Fee: \$1,000
- District Connection Fee: \$ 50 **per fixture unit. Credit will be given for pre-tear-down fixture units when fixture units are counted by District inspector prior to tear-down or can be otherwise verified. Old side sewer/lateral may be used only if it passes test meeting all current District Specifications. If rebuilt by anyone other than pre-tear-down owner, new construction requirements/ fees apply.*

Rebuild by pre-burn-down owner within 24 months of burn-down:

No District fees required if residence is rebuilt in kind by pre-burn-down owner within 24 months of burn-down, and rebuild may connect to the existing side sewer/lateral. Sewer lateral must be equipped with a backwater relief device as required by current District Specifications. If rebuild doesn't replace burn-down in kind, tear-down requirements/fees apply. If rebuilt by anyone other than pre-burn-down owner, new construction requirements/fees apply.

COMMERCIAL - New Construction:

- District Connection Fee: \$ 50.00 **per fixture unit w/ \$500 minimum*
- District Inspection Fee: 1,000.00 *plus \$.20 per sq.ft. over 2,000 sq.ft.*
- **CMSA Capacity Charge: 308.46 **per fixture unit w/ \$4,935.33 minimum*
- **CMSA Capacity Charge: 721.79 **per fixture unit w/ \$4,935.33 minimum*
- High Strength Users

SIDE SEWER REPAIR OR REPLACEMENT:

- First Sewer Inspection Fee: \$98.00
- Each Additional Sewer Inspection: \$75.00

METHOD OF PAYMENT: Personal/Business check, cashier's check or money order. If the bank for any reason does not honor payment tendered, the full amount plus a ten percent penalty must be paid by a cashier's check to the District immediately to avoid legal action.

*Connection fees are calculated by number of plumbing fixture units according to the 1985 Uniform Plumbing Code as follows:

<u>Units</u>	<u>Fixture</u>	<u>Units</u>	<u>Fixture</u>
2	Kitchen sink/dishwasher	2	Sink, bar, commercial
1	Bar Sink, private	3	Sink, commercial/industrial
2	Bathtub or Shower	1	Drinking Fountain
1	Wash basin (lavatory)	6	Water Closet, public
4	Water Closet, private	6	Urinal, pedestal
2	Clothes Washer	2	Urinal, stall or wall
2	Laundry Tub	2	Bidet
3	Service Sinks	3	Floor Drain, grease/oil
2	Floor Drain, standard	6	Floor Drain, sand/auto wash

Sanitary District No. 1 of Marin County Side Sewer Connection Permit & Inspection Process

1. Applicant obtains a building permit from the building department of jurisdiction.
2. Prior to connecting the building to the public sewer and prior to the final inspection of the building by the building department of jurisdiction, applicant must pay the applicable connection fee.
3. If installation of the side sewer requires digging in a street or public right-of-way, applicant must obtain the necessary encroachment permit from the city, town, or county having jurisdiction over the street or right-of-way.
4. The sewer contractor must arrange a District inspection prior to performing any work. The contractor can begin the sewer work on the date of the scheduled inspection. It is the responsibility of the sewer contractor to arrange for the necessary District inspections as the work progresses. Forty-eight hour notice to the District is required for all inspections. Work performed without inspection will be required to be exposed and tested.
5. When the side sewer work is completed, a District inspector will provide a final inspection upon 48-hour notification by the sewer contractor.
6. Inspection of partial installations of side sewers may be requested prior to obtaining the sewer connection permit, but the building cannot be connected to the sewer main until the permit fees have been paid and the permit has been issued. "Connecting" to the sewer main requires the side sewer to be connected to both the sewer main and the structure, so the following scenarios could exist for inspection of partial installations of side sewers without a permit:
 - a. Side sewer is connected to the sewer main, but not to the structure; or
 - b. Side sewer is connected to the structure but not to the sewer main.

Application No: _____

Project Location: 62 VALLEY RD.

Authorization for Engineering Review

I, Frances Kibbe, as owner / applicant on the above application and property hereby authorize the Town Engineer to review the application plans and subject site and agree to reimburse the Town for any and all charges. I understand this includes the actual cost charged by the Town Engineer, plus 20% to cover the cost of staff review, coordination and general overhead. I am making a deposit of \$ _____ toward such charges. Should the cost of the review exceed this deposit, an additional deposit to cover overages must be made before processing the application continues or prior to the issuance of respective permits and entitlements.

Date: 2/28/11

Signature: *Frances Kibbe*

Property Owner / Applicant: FRANCES KIBBE

Mailing Address: 62 VALLEY RD.

City: FAIRFAX State: CA Zip Code: 94930

Telephone: (H) 606-1744 (W) _____

Deposit Amount: _____

Receipt No.: _____

Date: _____