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Kathy Hill, Skagit County Auditor
5/30/2000 Page 1 of 3 3:20:11PM

RETURN TO:
R. E. Finegan

DOCUMENT TITLE(S) *(or transactions contained herein):*
Letter

REFERENCE NUMBER(S) OF DOCUMENTS ASSIGNED OR RELEASED:

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GRANTOR(S) *( Last name, first name and initials):*
1. Ray Finegan
2. Puget Sound Investment
3.
4.

[ ] ADDITIONAL NAMES ON PAGE _____ OF DOCUMENT.

GRANTEE(S) *(Last name, first name and initials):*
1. Public
2.
3.
4.

[ ] ADDITIONAL NAMES ON PAGE _____ OF DOCUMENT.

LEGAL DESCRIPTION *(Abbreviated: i.e., lot, block, plat or quarter, quarter, section, township and range):*
Replat of Big Lk W.F. TRS
Lots 122-127 -Portion of Lot 9-210

[ ] ADDITIONAL LEGAL(S) ON PAGE _____ OF DOCUMENT.

ASSESSOR'S PARCEL/TAX I.D. NUMBER: P98695

[ ] TAX PARCEL NUMBER(S) FOR ADDITIONAL LEGAL(S) ON PAGE _____ OF DOCUMENT.

**Advanced Soil Mechanics**
**27765 West Gilligan Creek Road, Sedro Woolley, WA 98284**
**phone and fax: (360) 856-9098**

March 13, 2000

Mr. Ray Finnegan, DC
1500 A E College Way, #436
Mt. Vernon, WA 98273

Re: a letter of opinion regarding slope stability and the potential for development of the following lot:

Lot #10 of First Add'n to Big Lake Waterfront Tracts, P# 78695

***1. Background and scope of work:*** The present work was done at the request of Mr. Ray Finnegan, owner of an adjoining lot (lot #8, P#78693) at Big Lake. The present work seeks to evaluate lot 10 for slope stability and potential for building considering the room available on said lot.

To that end, the attached figure 1 to 1" = 20 ft scale has been drawn up to show the amount of room available on the site . Surrounding slopes are also indicated, along with distances to the access road and setbacks from each.

***2. Tools and methodology:*** Simple tools including a rock hammer, digi-roller measuring wheel, forest service inclinometer, vinyl tape measure, and Brunton Compass were used for measurements. Visual methods were used for the slope stability evaluation below near West Big lake Blvd.

***3. Findings (including a description of the site):*** The site is at the south end of Big Lake and consists of mostly very steep terrain dissected by an access road, with one level area measuring about 100 ft x 60 ft. The total area of this lot is 1.3 acres, with the lot measuring about 100 ft x 300 ft. , with the lot ending at W Big Lake Blvd. The layout of the lot is east-west, with one end terminating at W Big Lake Blvd. The slopes below the level area are in the 70% to 110% range (1:1 or steeper).

A careful evaluation of the slopes along W Big Lake Blvd. revealed slopes in the very high risk category. Talus and colluvium has been coming down the slope near the drainage stream and causing partial blockage of the access drive. A large segment of the slope here is exposed, with no plant growth or trees with root-binding cohesion properties to protect the slope. The rocks on this slope are severely weathered and break off very easily. The rocks appear to be sheared and folded as a result of very close proximity to the Devil's Mountain Fault Zone (a now inactive

fault running east-west along the south end of Big Lake). In short, the slopes at the road is very unstable and is likely to cause problems with the access road for quite some time into the future.

With this in mind, the level area mentioned earlier (and really the only potential building site on the lot, considering the steepness of the surrounding area) would require the full 30 ft setback from major slopes that exhibit instability (see the Skagit County CAO: 14.060430(7): requires a 30 ft buffer setback from all known unstable areas/slopes. The attached figure 1 has this 30 ft buffer drawn to scale. In addition, a setback is required from the access road allowing a 30 ft buffer from the road centerline (i.e. 15 ft on each side of the road). When all this is figured in, the actual area available for development is about 30 ft x 100 ft (between the dashed lines in figure 1). This would seem sufficient by itself except for the fact that a septic drainfield also needs to be installed (this area of the lake is not yet on sewer, however public water supply is available).

It would not seem possible to build both a house (or bring in a double-wide mobile home) AND install a septic system at this site, there simply is not enough room.

***4. Conclusions:*** The site is inherently unstable, as evidenced by the folded, faulted, and highly weathered rocks exposed at W Big Lake Blvd. There is ample evidence of talus, rock fall, colluvial soil deposition, and debris such that upkeep of the access road promises to be challenging for years to come.

The only "flat" area on the lot is too small to support both a house/mobile home and a septic drainfield when one considers the required slope setbacks/buffers from the geologically hazardous slope (30 ft minimum in our case) and the buffer from the access road (15 ft from the centerline of the road, total of a 30 ft easement swath for the road). This leaves about 30 ft x 100 ft free to actually develop on the lot, which is not large enough for both a house and a septic drainfield. In addition to the above, the county may actually INCREASE the setback buffer requirements above 30 ft is a slope is considered unstable enough, or actually deem a slope simply not stable enough to build above. The writer would not be comfortable erecting a structure above the subject slope.

Recommendations might be to combine the subject lot with lot #11 and use a fairly sizeable flat area on lot #11 to build on. This area appears to have sufficient room for BOTH a house and a septic drainfield on this lot. Also, the slopes below the flat area are a bit less severe than on lot 10 (although they are still very steep, in the 60 to 90% range).

This report submitted March 13, 2000.

Ron Hansen, CPSS #3086
principal geologist, ASM

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CERTIFIED PROFESSIONAL
SOIL SCIENTIST
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