Associated Earth Sciences, Inc.

Serving the Pacific Northwest Since 1981

EXHIBIT 14
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April 30, 2013
Project No. KE110151A

Quadrant Corporation
14725 SE 36th Street, Suite 100
Bellevue, Washington 98006

Attention: Mr. Pete Lymberis

Subject: Plan Review Response #2
Slocum Property
NE 195th Street and 136th Avenue NE
Woodinville, Washington

Dear Mr. Lymberis:

This letter has been prepared at the request of the City of Woodinville in response to comments on the plan review letter dated April 29, 2013. The comment is noted below with our response following as well as the attachment for clarification.

8. The previous comments made note that the stability of existing slopes greater than 40% in steepness, manmade or not, was not addressed with calculations and analysis. We did not see any information provided in the resubmittal that addressed this comment.

Steep slopes greater than 40% are located on the north property perimeter and on the lower slopes to the south. The slope on the north side of the site will be retained using engineered retaining walls. This design will maintain the stability of the area and will be designed to take into consideration local and global stability.

Geology and topography on the site is consistent both for the north and south perimeters. We generated a slope model in the software SlopeW that is consistent with the geology encountered in our explorations. The analysis and cross section is included as an attachment to this letter. Soil parameters included for the analysis include the following:

Recessional Outwash

Unit weight	115 pcf
Phi	33 degrees
Cohesion	50 psf

Advanced Outwash

Unit weight	125 pcf
Phi	37 degrees
Cohesion	100 psf

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The slope stability was analyzed in a static and seismic case using a seismic coefficient of 0.16 g, this is based upon one half of the A_{max} as a standard. Our results indicate a minimum factor of safety of 2.0 in a static case and 1.4 in a seismic condition. The minimum industry standards are 1.5 and 1.1 respectively.

We hope this information serves your present needs. If you have any questions, please call.

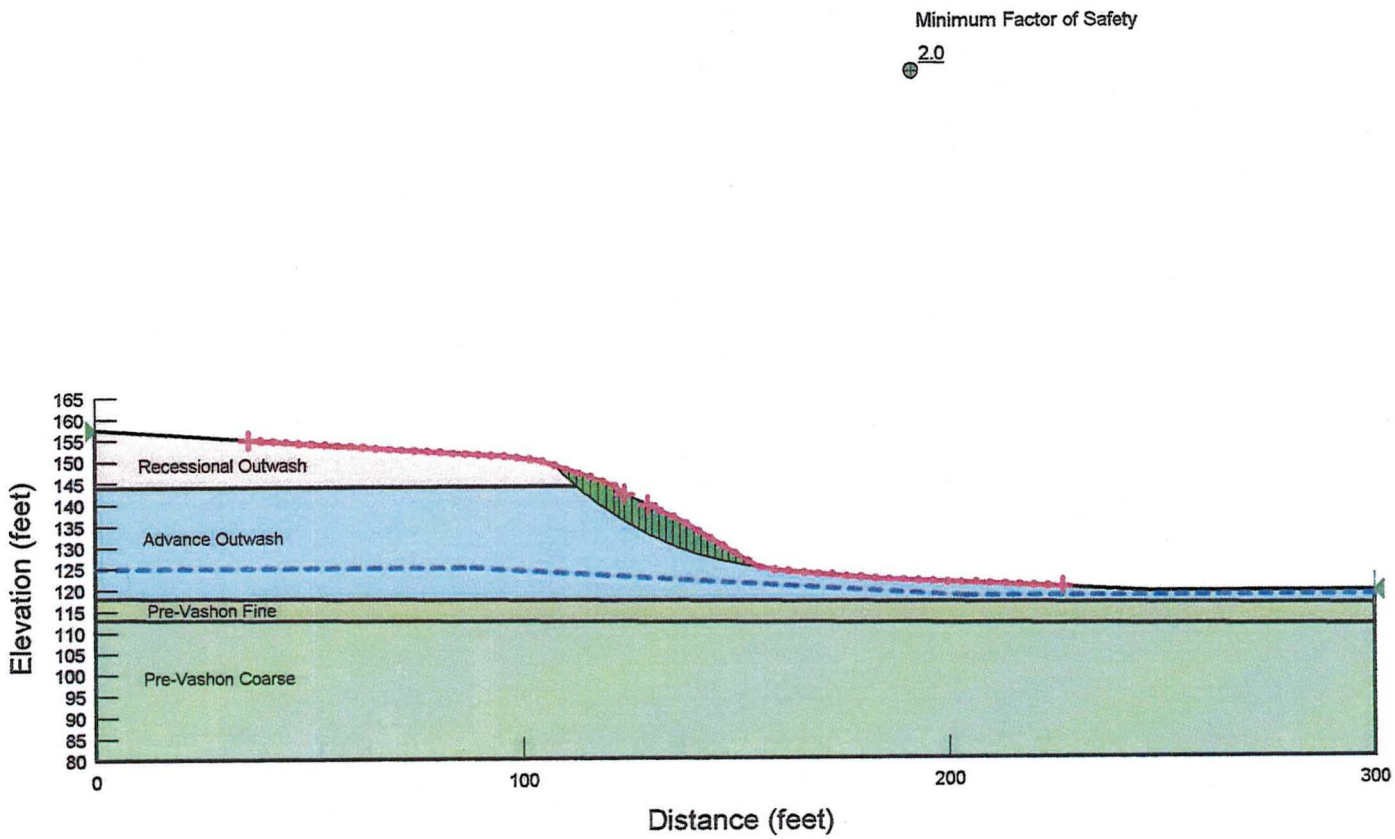
Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington

MATTHEW A. MILLER
STATE OF WASHINGTON
30284
REGISTERED
PROFESSIONAL ENGINEER

5-1-13

Matthew A. Miller, P.E.
Principal Engineer

Slocum South Slope - A-A'
Static Conditions



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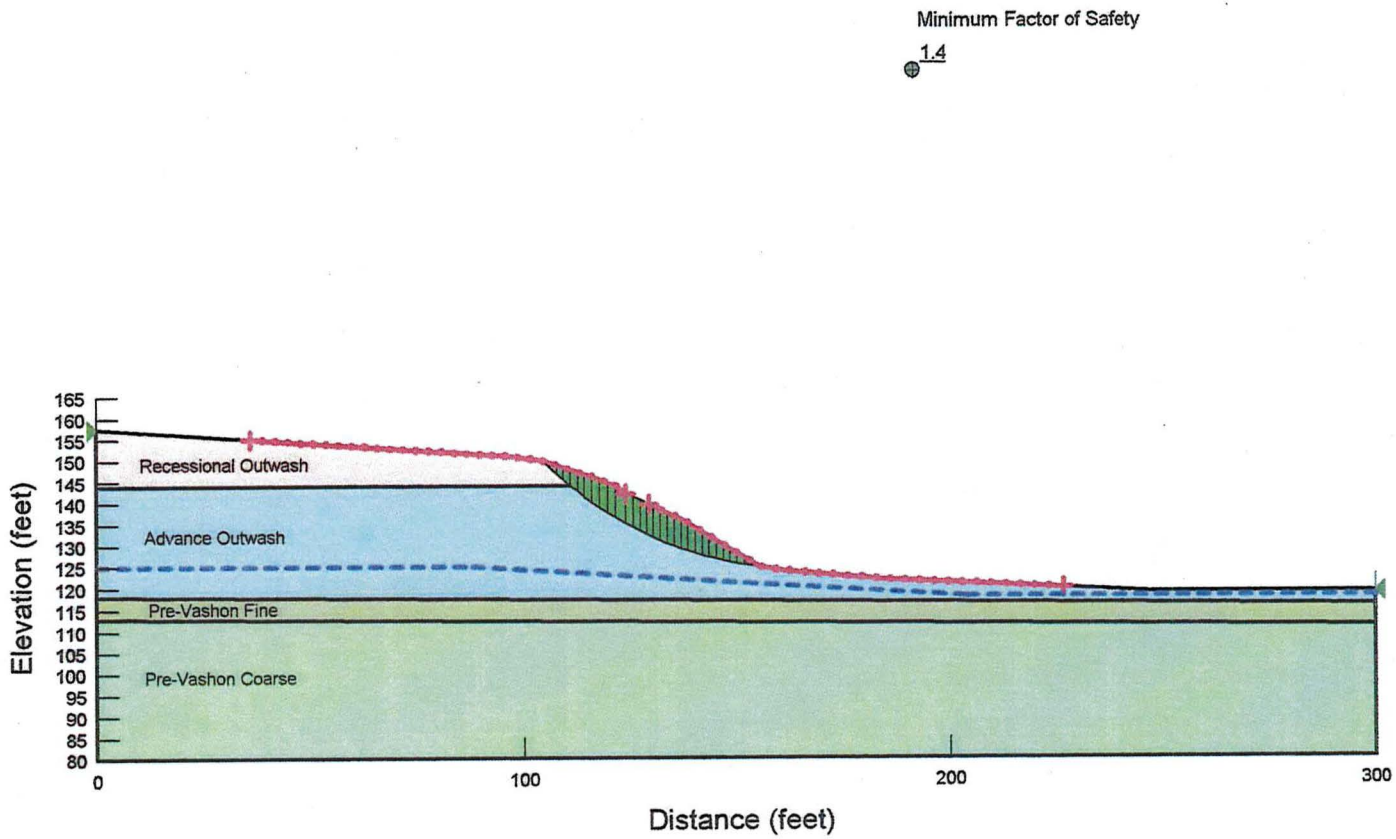
Slocum South Slope - A-A'
Seismic Conditions - 0.16g



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Materials

Recessional Outwash

Model: Mohr-Coulomb
Unit Weight: 115 pcf
Cohesion: 50 psf
Phi: 33 °
Phi-B: 0 °

Advance Outwash

Model: Mohr-Coulomb
Unit Weight: 125 pcf
Cohesion: 100 psf
Phi: 37 °
Phi-B: 0 °
Pore Water Pressure
Piezometric Line: 1

Pre-Vashon Fine

Model: Mohr-Coulomb
Unit Weight: 125 pcf
Cohesion: 500 psf
Phi: 25 °
Phi-B: 0 °
Pore Water Pressure
Piezometric Line: 1

Pre-Vashon Coarse

Model: Mohr-Coulomb
Unit Weight: 130 pcf
Cohesion: 100 psf
Phi: 37 °
Phi-B: 0 °
Pore Water Pressure
Piezometric Line: 1