

**Osewalt Setback Modification
File Number: 11-110690-LO**





**City of Bellevue
Development Services Department
Land Use Staff Report**

Proposal Name: Osewalt Setback Modification

Proposal Address: 3720 163rd Avenue SE

Proposal Description: Land Use review of a proposal to reduce the 75-foot toe-of-slope structure setback from steep slopes to 25-feet in order to construct a new single-family residence and associated improvements

File Number: 11-110690-LO

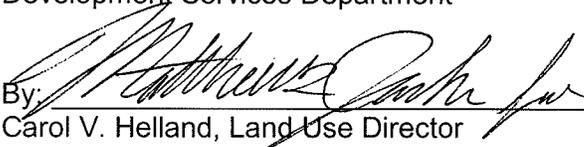
Applicant: Patrick Osewalt, Property Owner

Decisions Included Critical Areas Land Use Permit
(Process II. 20.30P)

Planner: Reilly Pittman, Land Use Planner

**State Environmental Policy Act
Threshold Determination:** Exempt

Director's Decision: **Approval with Conditions**
Michael A. Brennan, Director
Development Services Department

By: 
Carol V. Helland, Land Use Director

Application Date: April 6, 2011
Notice of Application Date: June 2, 2011
Decision Publication Date: August 18, 2011
Project Appeal Deadline: September 1, 2011

For information on how to appeal a proposal, visit Development Services Center at City Hall or call (425) 452-6800. Appeal of the Critical Areas Land Use Permit decision must be received in the City's Clerk's Office by 5 PM on the date noted for appeal of the decision.

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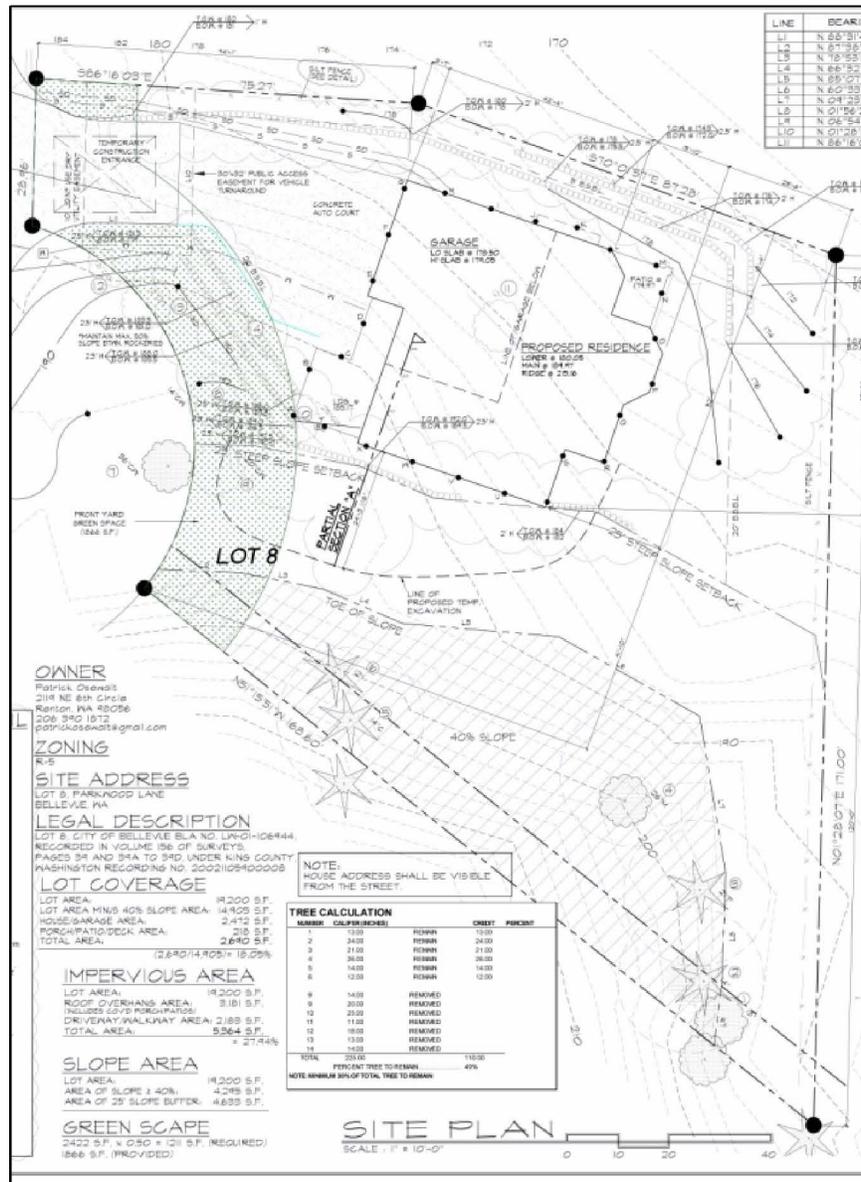
Attachments

1. Site Plan – Enclosed
2. Supplemental Geotech Letters prepared by Associated Earth Sciences – Enclosed
3. Mitigation Plan – Enclosed
4. Geotech Reports, forms, application materials – In File

I. Proposal Description

The applicant proposes to reduce the existing 75-foot toe-of-slope structure setback required from a steep slope critical area to 25 feet in order to construct a new single-family residence and associated improvements. Slightly less than 2,000 square feet of mitigation planting is also proposed to be located in the structure setback between the proposed home and the steep slope. A Critical Area Land Use Permit is required to approve modification of the toe-of-slope setback. See Figure 1 below for a site plan.

Figure 1



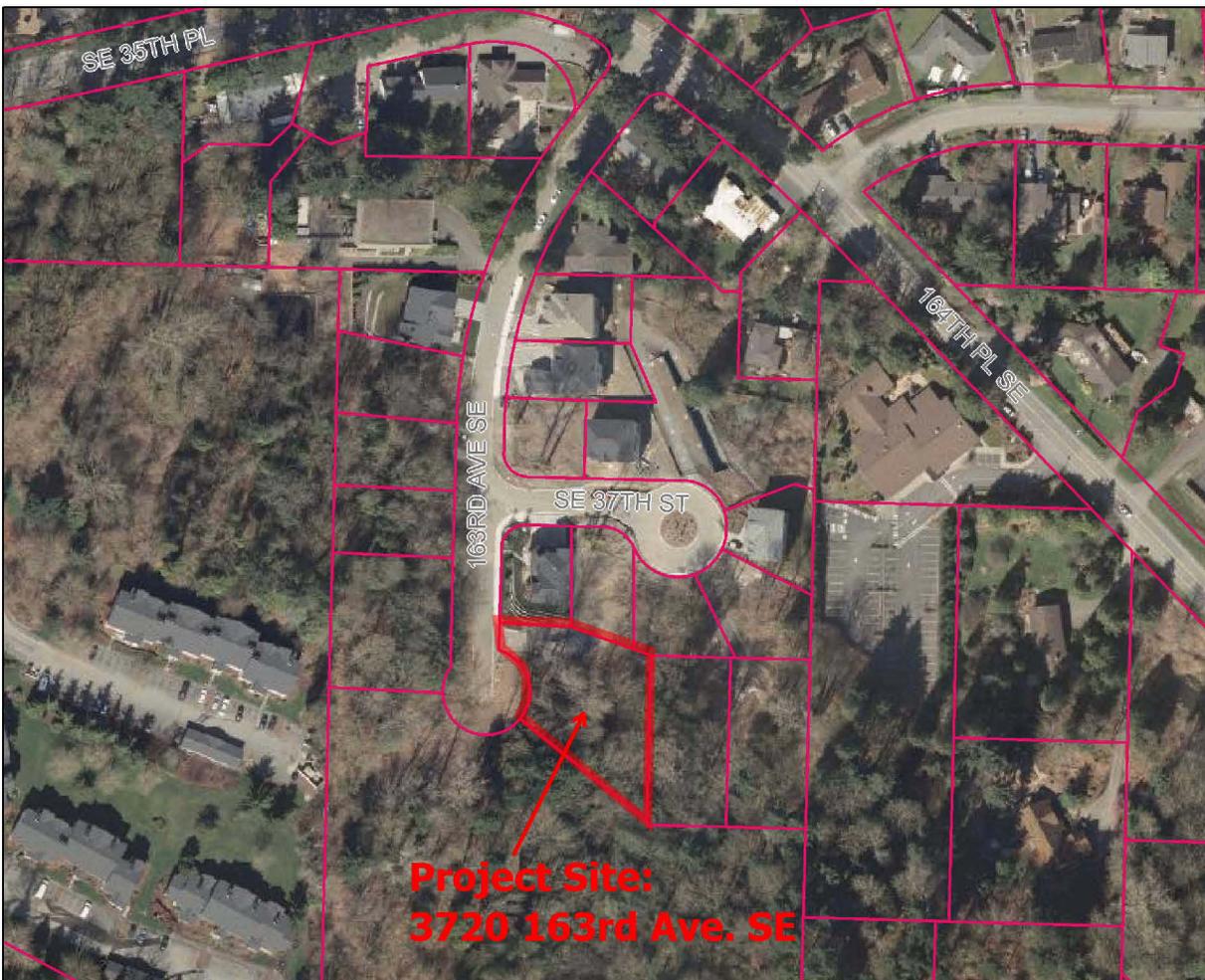
II. Site Description, Zoning, Land Use and Critical Areas

A. Site Description

The project site is located at 3720 163rd Avenue SE in the Eastgate subarea of the City and

is lot 8 of the Parkwood Lane subdivision, SE quadrant of Section 11, Township 24 North, Range 5 East. Other single-family zoned properties are located to the west, north, and east and are mostly undeveloped properties of Parkwood Lane. The property is adjacent to a large undeveloped and densely vegetated property to the south. The property has road frontage along the western property line to access 163rd Avenue SE. The steep slope critical areas in the vicinity are located along the southern property line and the site generally descends in elevation from the SW to the NE. In addition to steep slopes, the Seattle Fault Zone is in the vicinity of this project site. See figure 2 for existing site condition.

Figure 2



B. Zoning

The property is zoned R-5, single-family residential which allows the proposed single-family development.

C. Land Use Context

The property has a Comprehensive plan Land Use Designation of SF-H (Single Family High Density). Construction of a home is consistent with this residential land use.

D. Critical Areas On-Site and Regulations

i. Geologic Hazard Areas

Geologic hazards pose a threat to the health and safety of citizens when commercial, residential, or industrial development is inappropriately sited in areas of significant hazard. Some geologic hazards can be reduced or mitigated by engineering, design, or modified construction practices. When technology cannot reduce risks to acceptable levels, building in geologically hazardous areas is best avoided (WAC 365-190).

Steep slopes may serve several other functions and possess other values for the City and its residents. Several of Bellevue’s remaining large blocks of forest are located in steep slope areas, providing habitat for a variety of wildlife species and important linkages between habitat areas in the City. These steep slope areas also act as conduits for groundwater, which drains from hillsides to provide a water source for the City’s wetlands and stream systems. Vegetated steep slopes also provide a visual amenity in the City, providing a “green” backdrop for urbanized areas enhancing property values and buffering urban development.

ii. Critical Areas Overlay District/Critical Area Land Use Permit

A Critical Area Land Use Permit (CALUP) is required as the applicant is requesting to reduce the 75-foot toe-of-slope setback to 25 feet. In addition to meeting general zoning requirements, the applicant is required to prepare a critical areas report and geotechnical report to show how the project is meeting performance standards for construction in geologically hazardous areas and decision criteria in LUC 20.25H and LUC 20.30P.

III. Consistency with Land Use Code Requirements:

A. Zoning District Dimensional Requirements:

The R-5 zoning dimensional requirements found in LUC 20.20.010 apply to the proposed home construction. The plans submitted generally demonstrate conformance with zoning dimensional standards, however conformance will be verified during building permit review. Based on the plans the proposed structure will meet requirements for lot coverage and impervious surface which are important considerations in assessment of critical areas impacts.

B. Critical Areas Requirements LUC 20.25H:

The City of Bellevue Land Use Code Critical Areas Overlay District (LUC 20.25H) establishes performance standards and procedures that apply to development on any site which contains in whole or in part any portion designated as critical area, critical area buffer or structure setback from a critical area or buffer. The project area is within the 75-foot toe-of-slope setback from a steep slope critical area and is subject to the performance standards found in LUC 20.25H as specified in the table below

Critical Area	Geologic Hazard- Steep Slopes
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Performance Standards	20.25H.125 20.25H.145 20.25H.230
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i. Consistency with LUC 20.25H.125

Development within a landslide hazard or steep slope critical area or the critical area buffers of such hazards shall incorporate the following additional performance standards in design of the development, as applicable. The requirement for long-term slope stability shall exclude designs that require regular and periodic maintenance to maintain their level of function.

1. Structures and improvements shall minimize alterations to the natural contour of the slope, and foundations shall be tiered where possible to conform to existing topography;

The house construction requires temporary alteration of existing grade in order to safely construct the home. Temporary cuts are noted on the site plan and were reviewed by the geotech who made no recommendations concerning the temporary cuts. No work is proposed within steep slope critical areas and the house and proposed retaining walls mostly avoid modification of existing contour outside of the house footprint.

2. Structures and improvements shall be located to preserve the most critical portion of the site and its natural landforms and vegetation;

The proposed development on the property is located outside of any steep slope critical areas and retains vegetation in the steep slope area.

3. The proposed development shall not result in greater risk or a need for increased buffers on neighboring properties;

The project geotechnical engineer has found that the proposal “will not increase risk to adjacent properties” based on the site soils and the design of the proposed home (May 19, 2011 Geotech Letter, pg. 4). Staff required the geotech to also address the location of the Seattle Fault within the vicinity of this site. The Seattle Fault is a zone 4 to 6 km wide, 40 km long, and comprised of multiple thrust or reverse faults crossing the Puget Sound Lowland in an east to west direction. The zone crosses through Bellevue in the vicinity of Interstate 90. The geotech examined the site for possible fault impacts and found that the outwash sediments on site appeared to be “intact and unaltered by landslide or fault activity indicating no movement since this sediment was deposited approximately 10,000 years ago” (pg. 3). The geotech found the proposed reduction of the slope setback to be “suitable” to the site and their evaluation of the fault (pg. 3).

4. The use of retaining walls that allow the maintenance of existing natural slope area is preferred over graded artificial slopes where graded slopes would result in increased disturbance as compared to use of retaining wall;

Retaining walls are used to minimize impacts to existing grade and maintain natural soil conditions as much as possible while enabling construction of the

house and its access.

- 5. Development shall be designed to minimize impervious surfaces within the critical area and critical area buffer;**
No construction is located in a buffer or the actual steep slope critical area. The proposed development is located as far from the steep slope as possible while maintaining conformance with setbacks and other zoning dimensional standards. The geotech has determined the site to be unsuitable for infiltration of storm water or dispersal on-site and recommend that storm water be directed into storm systems.
- 6. Where change in grade outside the building footprint is necessary, the site retention system should be stepped and regrading should be designed to minimize topographic modification. On slopes in excess of 40 percent, grading for yard area may be disallowed where inconsistent with this criteria;**
Grading will occur outside the building footprint. Site retention will be achieved through the use of stepped walls per this standard. No construction is occurring in steep slope critical areas.
- 7. Building foundation walls shall be utilized as retaining walls rather than rockeries or retaining structures built separately and away from the building wherever feasible. Freestanding retaining devices are only permitted when they cannot be designed as structural elements of the building foundation;**
The foundation provides some support to the sloping site. Walls and rockeries are located adjacent to the proposed driveway and road access and allow the structure to be located further from the toe-of-slope.
- 8. On slopes in excess of 40 percent, use of pole-type construction which conforms to the existing topography is required where feasible. If pole-type construction is not technically feasible, the structure must be tiered to conform to the existing topography and to minimize topographic modification;**
No construction is proposed in slopes of 40 percent.
- 9. On slopes in excess of 40 percent, piled deck support structures are required where technically feasible for parking or garages over fill-based construction types; and**
No construction is proposed in slopes of 40 percent.
- 10. Areas of new permanent disturbance and all areas of temporary disturbance shall be mitigated and/or restored pursuant to a mitigation and restoration plan meeting the requirements of LUC 20.25H.210.**
The project will enhance the vegetation on the site. Existing vegetation consists mostly of grass in the area of development. The site trees and shrub layer is

mostly found on or near the steep slope on site. Tree proposed for removal are primarily located adjacent to the public road and are being removed to facilitate access. The project proposes a mitigation plan (Attachment 3) consistent with the City's planting templates for steep slope areas which consists of trees and shrubs to be planted in the reduced 25-foot setback. The planting is required to be maintained and monitored for a period of at least five years. An installation and maintenance surety will be required based on the submitted cost estimate. The installation surety will be released after planting installation and the maintenance surety will be released after the five-year monitoring, assuming restoration has been successful. The monitoring plan can be found in the conditions of approval at the end of this report. See Conditions of Approval in Section X of this report.

ii. Consistency With LUC 20.25H.230 and LUC 20.25H.145

Modification of a toe-of-slope setback requires a critical areas report as part of the application for a Critical Area Land Use Permit. As this is a proposal to reduce the required 75-foot toe-of-slope structure setback the applicant has obtained the services of a qualified geotechnical engineering company to study the site and document the observed conditions. Staff has reviewed the following documents:

- Supplemental letters prepared by Associated Earth Sciences dated May 19, July 27, and July 28, 2011
- Slope Setback Assessment dated December 28, 2007 prepared by Zipper Zeman Associates
- Geotech Report for Parkwood Lane Plat dated November 2, 2001 prepared by Associated Earth Sciences

This geotechnical analysis finds that the proposal does not increase risk to adjacent properties, is not altering the slope on-sites, and the proposed drainage will maintain existing slope stability. The geotech finds that the construction proposed will have "no adverse impact on stability critical areas, critical area buffers, or existing structures" (May 19 letter, pg. 3). Per LUC 20.30P.170, approval of projects to locate or modify buffers, setbacks, or the steep slopes critical areas require the proponent to complete a Hold Harmless Agreement with the City. The agreement is required to be completed prior to building permit issuance on a form provided by the City. See Conditions of Approval in Section X of this report.

IV. Public Notice and Comment

Application Date:	April 6, 2011
Public Notice (500 feet):	June 2, 2011
Minimum Comment Period:	June 16, 2011

Once the project application was determined complete the Notice of Application for this project was published the City of Bellevue weekly permit bulletin on June 2, 2011. It was

mailed to property owners within 500 feet of the project site. Some interest in the project was received from neighbors but no comments were submitted.

V. Summary of Technical Reviews

A. Clearing and Grading

The Clearing and Grading Division of the Development Services Department has reviewed the proposed site development for compliance with Clearing and Grading codes and standards. The Clearing and Grading staff found no issues with the proposed development and has approved the application.

VI. State Environmental Policy Act (SEPA)

Construction of a new single-family residence and the associated improvements are exempt from SEPA in WAC 197-11-800 and no work is proposed within a critical area.

VII. Changes to Proposal Due to Staff Review

Staff required additional mitigation planting area. The applicant has selected to use the established City planting templates for steep slope areas. Staff required trees to be included in the plan and the plan to meet the planting density established on the planting template. In addition, staff required the amount of fill material proposed on the east façade of the house and adjacent retaining walls to be in conformance with limits on fill in LUC 20.20 and with LUC 20.25H.125 which limits changes in existing grade within geologically hazardous areas.

VIII. Decision Criteria

A. 20.25H.255 Critical Areas Report – Decision Criteria – General

The Director may approve, or approve with modifications, the proposed modification where the applicant demonstrates:

1. **The modifications and performance standards included in the proposal lead to levels of protection of critical area functions and values at least as protective as application of the regulations and standards of this code;**

The performance standards related to steep slopes are being met by this proposal as no critical area or critical area buffer is proposed to be modified. The proposed mitigation planting will install more vegetation than exists currently in the setback from the slope. As reviewed in Section III above, the project complies with all required performance standards.

2. **Adequate resources to ensure completion of any required mitigation and monitoring efforts;**

The mitigation planting proposed is required to be maintained and monitored for a period of 5 years. Performance sureties for installation and maintenance will be required. See Conditions of Approval in Section X of this report.

- 3. The modifications and performance standards included in the proposal are not detrimental to the functions and values of critical area and critical area buffers off-site;**

The proposed project complies with the required performance standards. No work is proposed in the steep slope critical area or buffer. The structure setback reduction was reviewed by the project geotech who found that the proposed reduction would have “no adverse impact” on the steep slope (May 19 letter, pg. 3). In addition, the geotech recommended that storm water not be infiltrated into soils on-site in order to avoid potential impacts to slopes and soils on adjacent properties.

- 4. The resulting development is compatible with other uses and development in the same land use district.**

The construction of a single-family residence is an allowed use that is compatible with this land use district and surrounding properties.

B. 20.30P.140 Critical Area Land Use Permit Decision Criteria – Decision Criteria

The Director may approve, or approve with modifications an application for a Critical Area Land Use Permit if:

- 1. The proposal obtains all other permits required by the Land Use Code;**

The applicant must obtain a building permit and utility permits. See Conditions of Approval in Section X of this report.

- 2. The proposal utilizes to the maximum extent possible the best available construction, design and development techniques which result in the least impact on the critical area and critical area buffer;**

The proposed home located as far from the steep slope critical area as possible, while still meeting building setbacks. The house is also located on the site to limit the need to use retaining walls as much as possible. The mitigation planting proposed will improve vegetation coverage between the proposed house and the steep slope.

- 3. The proposal incorporates the performance standards of Part 20.25H to the maximum extent applicable, and ;**

As discussed in Section III of this report, the applicable performance standards of LUC Section 20.25H are being met.

- 4. The proposal will be served by adequate public facilities including street, fire protection, and utilities; and;**

The proposed activity will be served by adequate public facilities.

5. The proposal includes a mitigation or restoration plan consistent with the requirements of LUC Section 20.25H.210; and

The mitigation planting is proposed to be consistent with the City's planting templates for steep slopes. The planting and conditions in this staff report make the project consistent with LUC 20.25H.210.

6. The proposal complies with other applicable requirements of this code.

As discussed in this report, the proposal complies with all other applicable requirements of the Land Use Code.

IX. Conclusion and Decision

After conducting the various administrative reviews associated with this proposal, including Land Use Code consistency, City Code and Standard compliance reviews, the Director of the Development Services Department does hereby **approve with conditions** the reduction of the 75-foot toe-of-slope structure setback to 25-feet to allow construction of a new single-family residence and associated improvements. **Approval of this Critical Areas Land Use Permit does not constitute a permit for construction. A building permit, clear and grade permit, and/or utility permit is required and all plans are subject to review for compliance with applicable City of Bellevue codes and standards.**

Note- Expiration of Approval: In accordance with LUC 20.30P.150 a Critical Areas Land Use Permit automatically expires and is void if the applicant fails to file for a building permit or other necessary development permits within one year of the effective date of the approval.

X. Conditions of Approval

The applicant shall comply with all applicable Bellevue City Codes and Ordinances including but not limited to:

<u>Applicable Ordinances</u>	<u>Contact Person</u>
Clearing and Grading Code- BCC 23.76	Savina Uzunow, 425-452-7860
Land Use Code- BCC Title 20	Reilly Pittman, 425-452-4350
Noise Control- BCC 9.18	Reilly Pittman, 425-452-2973

The following conditions are imposed under the Bellevue City Code or SEPA authority referenced:

- 1. Building Permit:** Approval of this Critical Areas Land Use Permit does not constitute an approval of a development permit. Application for a building permit permit or other required permits must be submitted and approved. Plans submitted as part of either permit application shall be consistent with the activity permitted under this approval.

Authority: Land Use Code 20.30P.140
Reviewer: Reilly Pittman, Development Services Department

- 2. Maintenance and Monitoring:** The following monitoring plan is required for the mitigation planting associated with this approval. Monitoring reports should be mailed to:

Environmental Planning Manager
Development Services Department
City of Bellevue
PO Box 90012
Bellevue, WA 98009-9012

Goal:

Establish vegetation within the structure setback from the toe-of-slope.

Objectives:

*Plant 3 species of trees and 5 species of shrub over a 2,000 square foot area
Maintain and protect existing large trees on the site*

Monitoring:

Reports to be submitted to Land Use in years 1, 3, and 5 with maintenance occurring in all 5 years. Photos from the selected photo points will be included in the monitoring reports to document the planting. The following schedule and performance standards apply:

Year 1 (one year from date of plant acceptance)

100% survival of all installed material or replanted in following dormant season to reestablish 100%

All installed large woody material shall be present and in the same location as when installed.

Year 3 (three years from date of plant acceptance)

90% survival of all installed material

Less than 10% coverage of planting area by invasive species or non-native/ornamental vegetation

Year 5 (five years from date of plant acceptance)

80% survival of all installed material

Less than 10% coverage by invasive species or non-native/ornamental vegetation

100% of existing large trees to be retained are found on-site unless unforeseen damage or disease occurred which required removal

Authority: Land Use Code 20.30P.140; 20.25H.220
Reviewer: Reilly Pittman, Development Services Department

- 3. Installation Surety:** Based on the submitted cost estimate an installation surety in the

amount of \$635.74 is required. The installation surety is required prior to building permit issuance. This surety will be released after Land Use inspection of the mitigation planting installation.

Authority: Land Use Code 20.30P.140

Reviewer: Reilly Pittman, Development Services Department

- 4. Maintenance Surety:** Based on the submitted cost estimate a maintenance surety in the amount of \$635.74 is required. The maintenance surety is required to be held until completion of the 5-year monitoring. Release of this surety is contingent upon successful monitoring established by the plan above. Land Use inspection of the planting after 5-years is required to release the surety.

Authority: Land Use Code 20.30P.140

Reviewer: Reilly Pittman, Development Services Department

- 5. Land Use Inspection:** Following installation of planting the applicant shall contact Land Use staff to inspect the planting area and release the installation surety. At the end of 5 years inspection by Land Use staff is required to release the maintenance surety. Staff will need to find that the plants are in a healthy and growing condition and the mitigation plan is successful per the established performance standards in the monitoring plan.

Authority: Land Use Code 20.30P.140

Reviewer: Reilly Pittman, Development Services Department

- 6. Hold Harmless Agreement:** The applicant shall submit a hold harmless agreement in a form approved by the City Attorney which releases the City from liability for any damage arising from the location of improvements within a critical area buffer in accordance with LUC 20.30P.170. The hold harmless agreement is required to be recorded with King County prior to building permit issuance. Staff will provide the applicant with the hold harmless form.

Authority: Land Use Code 20.30P.170

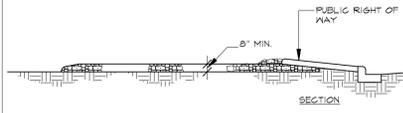
Reviewer: Reilly Pittman, Development Services Department

- 7. Noise Control:** Noise related to construction is exempt from the provisions of BCC 9.18 between the hours of 7 am to 6 pm Monday through Friday and 9 am to 6 pm on Saturdays, except for Federal holidays and as further defined by the Bellevue City Code. Noise emanating from construction is prohibited on Sundays or legal holidays unless expanded hours of operation are specifically authorized in advance. Requests for construction hour extension must be done in advance with submittal of a construction noise expanded exempt hours permit.

Authority: Bellevue City Code 9.18

Reviewer: Reilly Pittman, Development Services Department

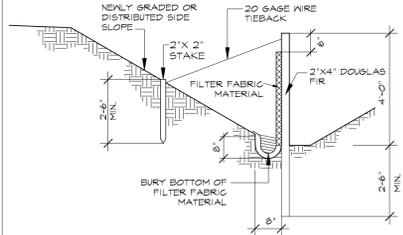
Attachment 1
Site Plan



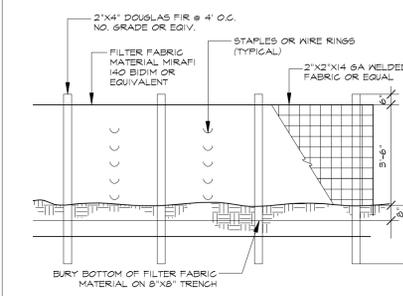
HEIGHT CALC

POINT	ELEVATION	POINT	ELEVATION
A	192.20	AA	0.00
B	191.00	BB	0.00
C	189.90	CC	0.00
D	187.10	DD	0.00
E	184.20	EE	0.00
F	181.00	FF	0.00
G	178.80	GG	0.00
H	177.80	HH	0.00
I	176.90	II	0.00
J	175.70	JJ	0.00
K	174.10	KK	0.00
L	173.90	LL	0.00
M	173.00	MM	0.00
N	173.50	NN	0.00
O	175.00	OO	0.00
P	176.80	PP	0.00
Q	178.50	QQ	0.00
R	181.90	RR	0.00
S	184.10	SS	0.00
T	185.90	TT	0.00
U	187.80	VV	0.00
V	189.90	WW	0.00
X	191.40	XX	0.00
Y	192.10	YY	0.00
Z	0.00	ZZ	0.00
TOTALS:			4552.90

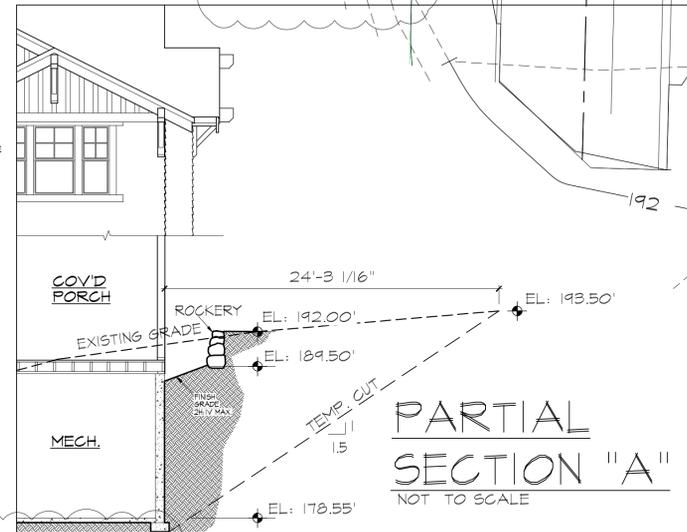
AVERAGE EXG GRADE = TOTAL PRODUCTS / TOTAL WALL LENGTHS:
 4552.90 / 25.00 = 182.12 AVG. EXG. GRADE
 35.00
 + 217.12
 MAX. ALLOWABLE RIDGE ELEV. PROPOSED RIDGE ELEVATION
 215.16
 1.96 BELOW HT. LIMIT



SILT FENCE CROSS SECTION



SILT FENCE ELEVATION

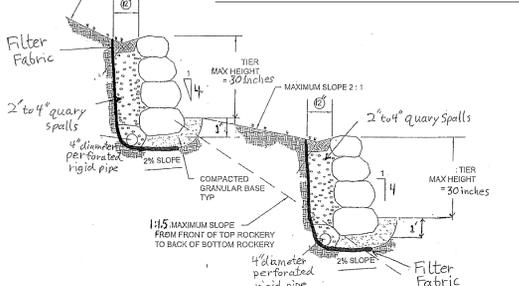


GEOTECH REPORT
 BUILDER SHALL BE AWARE OF AND FOLLOW RECOMMENDATIONS OF SOIL REPORT, BY ASSOCIATED EARTH SCIENCE, INC. DATE NOV. 2, 2001 AND ADENDUM MAY 19, 2011

VICINITY MAP



ROCKERY DETAIL



- 1) Rockeries shall be constructed using 3 man rocks.
 - 2) Rockeries must be installed with drains sloping to storm drain system. Filter fabric (Mirafi 140N or equivalent) should be placed against the cut face behind the 2'-4" quarry spalls
 - 3) All subgrade and slope soil shall be compacted to at least 90% of Modified Proctor (ASTM:D1557).
 - 4) Geotechnical inspections shall be required for rockery subgrade, drainage and soil compaction
- | ROCK | Lb. | Avg. Dimension (in.) |
|-------|-------------|----------------------|
| 1-MAN | 50 - 100 | 12-18 |
| 2-MAN | 200 - 700 | 18-28 |
| 3-MAN | 700 - 2000 | 28-36 |
| 4-MAN | 2000 - 4000 | 36-48 |
| 5-MAN | 4000 - 6000 | 48-54 |

OWNER
 Patrick Osenalt
 2119 NE 6th Circle
 Renton, WA 98056
 206 390 1872
 patrickosenalt@gmail.com

ZONING
 R-5

SITE ADDRESS
 LOT 8, PARKWOOD LANE
 BELLEVUE, WA

LEGAL DESCRIPTION
 LOT 8, CITY OF BELLEVUE BLA NO. LW-01-106944,
 RECORDED IN VOLUME 156 OF SURVEYS,
 PAGES 39 AND 39A TO 39D, UNDER KING COUNTY,
 WASHINGTON RECORDING NO. 20021105900008

LOT COVERAGE
 LOT AREA: 19,200 S.F.
 LOT AREA MINUS 40% SLOPE AREA: 14,905 S.F.
 HOUSE/GARAGE AREA: 2,472 S.F.
 PORCH/PATIO/DECK AREA: 218 S.F.
 TOTAL AREA: 2690 S.F.
 (2690/14,905) = 18.05%

IMPERVIOUS AREA
 LOT AREA: 19,200 S.F.
 ROOF OVERHANG AREA: 3,181 S.F.
 (INCLUDES COVD PORCH/PATIOS)
 DRIVEWAY/WALKWAY AREA: 2,183 S.F.
 TOTAL AREA: 5,364 S.F.
 = 27.94%

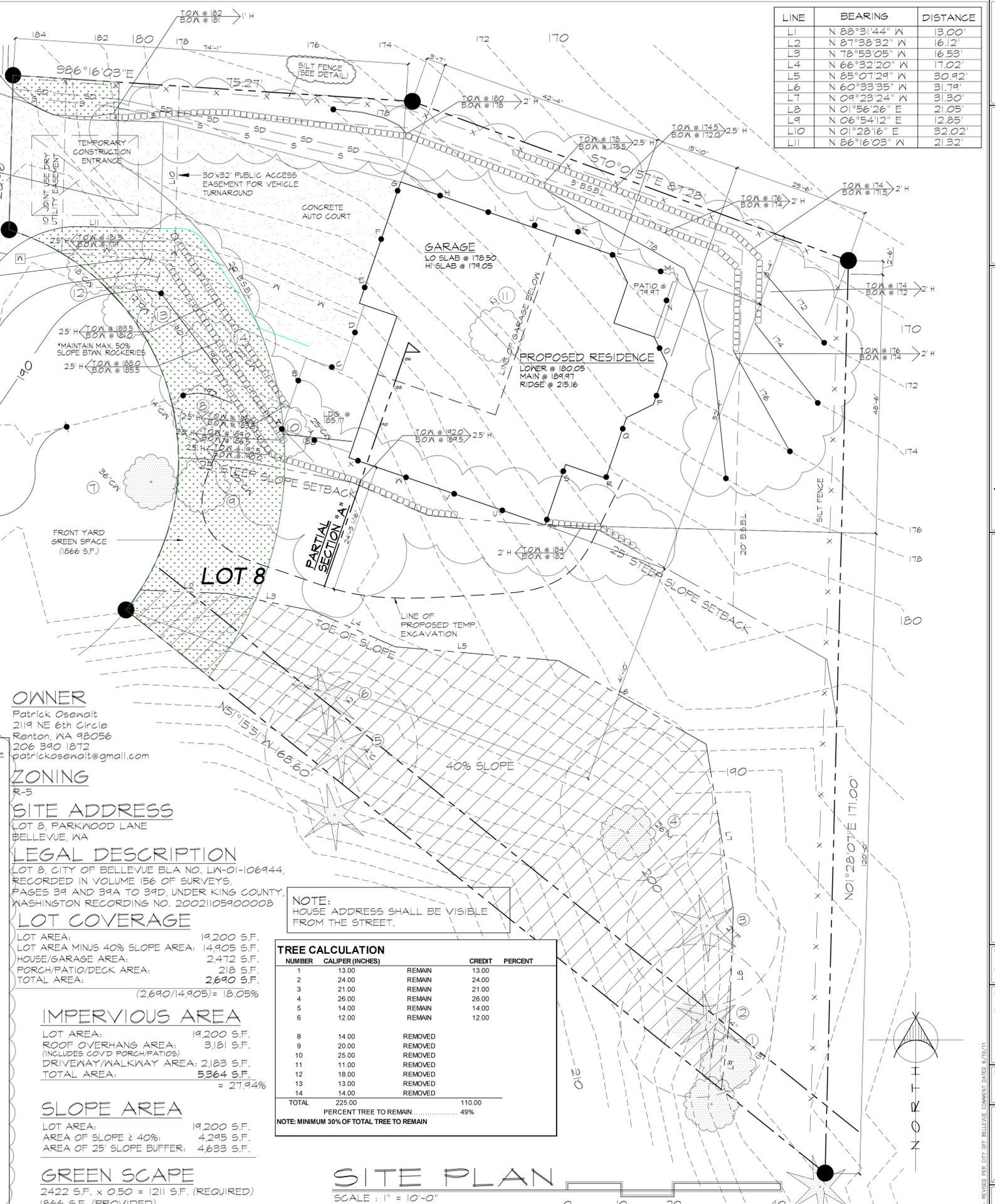
SLOPE AREA
 LOT AREA: 19,200 S.F.
 AREA OF SLOPE ≥ 40%: 4,295 S.F.
 AREA OF 25' SLOPE BUFFER: 4,633 S.F.

GREEN SCOPE
 2422 S.F. x 0.50 = 1211 S.F. (REQUIRED)
 1866 S.F. (PROVIDED)

NOTE: HOUSE ADDRESS SHALL BE VISIBLE FROM THE STREET.

TREE CALCULATION				
NUMBER	CALIPER (INCHES)	REMAIN	CREDIT	PERCENT
1	13.00	REMAIN	13.00	
2	24.00	REMAIN	24.00	
3	21.00	REMAIN	21.00	
4	26.00	REMAIN	26.00	
5	14.00	REMAIN	14.00	
6	12.00	REMAIN	12.00	
8	14.00	REMOVED		
9	20.00	REMOVED		
10	25.00	REMOVED		
11	11.00	REMOVED		
12	18.00	REMOVED		
13	13.00	REMOVED		
14	14.00	REMOVED		
TOTAL	225.00		110.00	
PERCENT TREE TO REMAIN		49%		

NOTE: MINIMUM 30% OF TOTAL TREE TO REMAIN



LINE	BEARING	DISTANCE
L1	N 88°31'44" W	13.00'
L2	N 87°38'32" W	16.12'
L3	N 78°53'05" W	16.53'
L4	N 66°32'20" W	17.02'
L5	N 85°07'29" W	30.92'
L6	N 60°33'35" W	31.74'
L7	N 09°23'24" W	31.30'
L8	N 01°56'26" E	21.05'
L9	N 06°54'12" E	12.05'
L10	N 01°28'16" E	32.02'
L11	N 86°16'03" W	21.32'



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 OFFICE: (425) 485-4800
 TOLL FREE: 1-888-272-1100
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OSEWALT RESIDENCE
 PLAN M4120B3FU-4R

DESIGNED BY: DATE: TC 2005
 DRAWN BY: DATE: JRA 5/23/05
 PROJECT MANAGER: RICK REPP
 REVISED BY: DATE: AG 8/13/07
 AG 10/25/07
 AG 5/14/08
 LP 3/21/11
 1/26/11
 LATERAL BY: DATE: MEI 7/15/07
 LATERAL JOB NUMBER: 07-523

AO
 A2
 ANW WOODINVILLE OFFICE
 JOB NUMBER:
 110033

SITE PLAN

SCALE: 1" = 10'-0"

Attachment 2
Supplemental Geotech Letters

Associated Earth Sciences, Inc.



Celebrating Over 25 Years of Service

May 19, 2011
Project No. KE110161A

Mr. Patrick Osewalt
2119 NE 6th Circle
Renton, Washington 98056

Received

MAY 19 2011

Permit Processing

Attention: Mr. Patrick Osewalt

Subject: Response to City of Bellevue Questions for Osewalt Property
3720 163rd Avenue SE
Bellevue, Washington

Dear Mr. Osewalt:

At your request, Associated Earth Sciences, Inc. (AESI) is pleased to present this letter to respond to the questions posed by the city of Bellevue from their letter dated April 25, 2011. AESI has listed the questions posed by the city and has provided our responses immediately following each question.

1. Landslide Hazards

The City of Bellevue Land Use Code (LUC) regulates areas of geological hazard which come in two varieties that could impact the project: Steep Slopes and Landslide Hazards. The steep slopes and their setbacks have already been identified for this project, however, from reviewing the geotechnical reports the potential for landslide hazards needs to be evaluated for this property. LUV 20.25.120 classifies landslides hazards as the following:

Landslide Hazards. Areas of slopes of 15 percent or more with more than 10 feet of rise, which also display any of the following characteristics:

- a. Areas of historic failures, including those areas designated as quaternary slumps, earthflows, mudflows, or landslides.*

Response: None of these features exist on this lot.

Kirkland ▪ Everett ▪ Tacoma
425-827-7701 425-259-0522 253-722-2992
www.aesgeo.com

b. Areas that have shown movement during the Holocene Epoch (past 13,500 years) or that are underlain by landslide deposits.

Response: AESI explorations found that the recessional outwash deposits were intact, so no landslides have occurred since the last glacial event.

c. Slopes that are parallel or subparallel to planes of weakness in subsurface materials.

Response: These conditions were not observed on the lot.

d. Slopes exhibiting geomorphological features indicative of past failures, such as hummocky ground and back-rotated benches on slopes.

Response: These conditions were not observed on the lot.

e. Areas with seeps indicating a shallow ground water table on or adjacent to the slope face.

Response: AESI did observe shallow water in the exploration borings. The water is assumed to be perched on the underlying silt and not a water table. No seeps were observed in the slope.

f. Areas of potential instability because of rapid stream incision, stream bank erosion, and undercutting by wave action.

Response: No streams or bodies of water are on or around this site.

Please submit an updated geotechnical evaluation to:

- Determine if based on the above criteria, any landslide hazards or buffer/setbacks exist which impact the property. If landslide hazards exist they need to be depicted on a plan along with either the 50-foot-top-of-slope buffer or 75-foot toe-of-slope setback which is required.*
- Consider the Seattle Fault location in the vicinity and provided any project recommendations.*

Response: Based on our review of previous documentation and our recent site visits, AESI observed that the slope to the west of the lot has been regraded for utility installation and for road construction, and in AESI's opinion is not a setback concern because the site conditions have changed from when our earlier report and site-specific analysis was done. The south

slope is limited in height, well vegetated, and shows no signs of recent landside activity. AESI also observed the location of the Seattle Fault relative to the site and it appears the fault runs in the vicinity of this site. AESI performed a review of geologic studies conducted by USGS in the vicinity of the site. Thrust fault, backthrust features, and short wavelength folding in this area have been identified (Liberty, L.M. and Pratt, T.L. [2008] Structure of the Eastern Seattle Fault Zone, Washington State: New insights from Seismic Reflection Data: Bull Seis. Soc. Am., Vol. 98 No. 4). The recessional outwash sediments on the lot appear to be intact and unaltered by landslide or fault activity indicating no movement since this sediment was deposited approximately 10,000 years ago. In AESI's opinion, the proposed setback of 25 feet from toe of slope is suitable for the new home site.

2. Land Use Code

The Geotech also must address how the project is in compliance with each item of the Land Use Code sections attached to this letter. I have removed some items which are not applicable.

LUC 20.25H.125 Performance standards – Landslide hazards and steep slopes.

In addition to generally applicable performance standards set forth in LUC 20.25H.055 and 20.25H.065, development within a landslide hazard or steep slope critical area or the critical area buffers of such hazards shall incorporate the following additional performance standards in design of the development, as applicable. The requirement for long-term slope stability shall exclude designs that require regular and periodic maintenance to maintain their level of function.

- A. Structures and improvements shall minimize alterations to the natural contour of the slope, and foundations shall be tiered where possible to conform to existing topography;*

Response: The proposed house location is located along the northern end of the site as far away from the steep slope as is practical. The southern side of the building the pad steps up to follow the existing slope to limit the excavation in this area. The house location and foundation design do not require long term maintenance beyond the usual maintenance for a residence.

- B. Structures and improvements shall be located to preserve the most critical portion of the site and its natural landforms and vegetation;*

Response: The proposed house location is located along the northern end of the site as far away from the steep slope as is practical and leaves the vegetation in the steep slope area intact.

C. The proposed development shall not result in greater risk or a need for increased buffers on neighboring properties;

Response: The new home location is set into the site to limit regrading and filling of the foundation footprint, thus eliminating the surcharge weight fill would add. Additionally, the new home will use footing loads of 1,500 pounds per square foot (psf), lower than the usual 2,000 psf foundation loads. The subsurface soil in the area where the house is to be built consists of native soft to medium stiff silty lacustrine or loose to medium dense sandy recessional outwash deposits. Footings above these soils may also require some mitigation with a rock mat per AESI's report from November 2, 2001 report entitled "Subsurface Exploration, Geologic Hazard, and Geotechnical Engineering Report for Parkwood Lane" (Also see section A4 of plan set and exploration pit and boring logs in appendix). The planned construction of the home will not increase risk to adjacent properties.

D. The use of retaining walls that allow the maintenance of existing natural slope area is preferred over graded artificial slopes where graded slopes would result in increased disturbance as compared to use of retaining wall;

Response: The plans show a cut of up to 9 feet for the proposed driveway, but limit the cut as much as is practical through the use of tiered walls, rockeries, and sloped excavations. The rockeries step up the slope to limit alteration of natural soil slope conditions. Slopes between the rockeries will be constructed to no greater than 2:1 H:V (Horizontal:Vertical). A 9-foot cut will also be required for a portion of the building foundation. This portion of the slope will be supported by the foundation wall. On the northern side of the house a retaining wall is planned. This wall will be approximately 4 feet high and will not significantly alter the natural slope conditions. (See page A0 of plan set)

E. Development shall be designed to minimize impervious surfaces within the critical area and critical area buffer;

Response: No construction is to occur on the marked steep slope area or within the proposed 25-foot buffer area. Additionally, the proposed home site and driveway are on the northern end of the site as far as is practical away from the steep slope area. Runoff from the impervious surfaces including roof and driveway will be collected and routed to a storm water system. To protect slope stability AESI recommends that storm water runoff not be dispersed or infiltrated on the lot.

F. Where change in grade outside the building footprint is necessary, the site retention system should be stepped and regrading should be designed to minimize topographic modification. On slopes in excess of 40 percent, grading for yard area may be disallowed where inconsistent with this criteria;

Response: The plans show the use of tiered rockeries with heights of 30 inches or less stepping up the slope, with slopes between the rockeries of no more than 2H:1V, to mitigate modification of the slope conditions. The recommended cross-section detail for these tiered rockeries is attached to this comment response letter. On the northern side of the house a retaining wall is planned. This wall will to be approximately 4 feet high and will not significantly alter the natural slope conditions. No slope modifications are planned on the marked steep slope area or within the 25-foot buffer zone.

G. Building foundation walls shall be utilized as retaining walls rather than rockeries or retaining structures built separately and away from the building wherever feasible. Freestanding retaining devices are only permitted when they cannot be designed as structural elements of the building foundation;

Response: The rockeries and retaining wall are only to be used adjacent to the right-of-way and driveway areas where they are an extension of the house and garage wall elements.

J. Areas of new permanent disturbance and all areas of temporary disturbance shall be mitigated and/or restored pursuant to a mitigation and restoration plan meeting the requirements of LUC 20.25H.210.

Response: The site will be landscaped where disturbed. A landscape plan will be prepared by others.

LUC 20.25H.145 Critical areas report – Approval of modification.

Modifications to geologic hazard critical areas and critical area buffers shall only be approved if the Director determines that the modification:

A. Will not increase the threat of the geological hazard to adjacent properties over conditions that would exist if the provisions of this part were not modified;

Response: See response to LUC 20.25H.125 Performance standards – Landslide hazards and steep slopes Section C, above.

B. Will not adversely impact other critical areas;

Response: The new construction on this lot does not alter the 40 percent slope area by removing vegetation or performing excavation into the slope and should have no impact on this critical area.

C. Is designed so that the hazard to the project is eliminated or mitigated to a level equal to or less than what would exist if the provisions of this part were not modified;

Response: The home is located below slopes so there will be virtually no impact on upper slopes. Footings, roof, and driveway drains will route water from the site and prevent excess water from eroding the existing site gradients. The new home construction on this property will occur mainly on native silty lacustrine deposits below the recessional outwash deposits. Placement of a footing drain system around the house and behind the new rockeries along with a surface drainage system will provide drainage to maintain stability of the slope.

D. Is certified as safe as designed and under anticipated conditions by a qualified engineer or geologist, licensed in the state of Washington;

Response: The home will be constructed on medium dense or stiff soils, as determined by a geotechnical engineer, or where determined necessary, on a rock mat placed below the foundations, as outlined in Section 12.0 of our report from November 2, 2001, the footing and wall designs will be suitable for support of the residence.

E. The applicant provides a geotechnical report prepared by a qualified professional demonstrating that modification of the critical area or critical area buffer will have no adverse impacts on stability of any adjacent slopes, and will not impact stability of any existing structures. Geotechnical reporting standards shall comply with requirements developed by the Director in City of Bellevue Submittal Requirements Sheet 25, Geotechnical Report and Stability Analysis Requirements, now or as hereafter amended;

Response: In AESI's opinion, based on our previous reports and recent site reconnaissance, the proposed new construction on this lot will have no adverse impact on the stability of critical areas, critical areas buffers, or existing structures.

- F. *Any modification complies with recommendations of the geotechnical support with respect to best management practices, construction techniques or other recommendations;*

Response: If during construction any conditions are encountered that may lead to a modification from the plans, AESI should be consulted to verify that any modifications meet the geotechnical and code requirements.

3. *Reasonable Use*

This property is zoned R-5 and must have at least 2,160 square feet of buildable area not impacted by steep slopes, landslide hazard areas, buffers, or setbacks. If there is not at least 2,160 square feet of buildable area the Reasonable Use requirements found in LUC 20.25H.200 Apply.

Please show on the plans that there is at least 2,160 square feet of buildable area once the landslide hazard evaluation is completed.

Response: Steep slope areas are mapped, along with the approved 25-foot toe of slope setback, on the drawing on page A0 of the plans. The calculation of buildable square footage is to be determined by others.

4. *To be determined by others*

5. *To be answered by others.*

6. *Fill and Excavation*

Please address how the project is meeting fill and excavation limits outside the house footprint and locate any locations where it does not. The following limits are applicable:

Changes in existing grade outside the building footprint shall be minimized. Excavation shall not exceed 10 feet. Fill shall not exceed five feet subject to the following provision: all fill in excess of four feet shall be engineered; and engineered fill may be approved in exceptional circumstances to exceed five feet to a maximum of eight feet. Exceptional circumstances are: (1) instances where driveway access would exceed 15 percent slope if additional fill retained by the building foundation is not permitted; or (2) where the five foot fill maximum generally is observed but limited additional fill is necessary to accommodate localized variations in topography.

Response: The maximum proposed excavation for the site is to be approximately 9 feet in the northwest corner of the proposed new house, and should not exceed the 10-foot maximum excavation. The temporary cut slopes on the site cut will be sloped in accordance with our recommendations in Section 10.1 of AESI's report from November 2, 2001. On the northern side of the proposed home foundation and next to the retaining wall on the north side of the proposed home up to a 4-foot fill will be required. The driveway will require up to 3 feet of fill behind a small retaining wall. These fill thicknesses are less than the thresholds listed. Fill placed on-site will be placed in accordance with our recommendation from Section 11.0 of our report from November 2, 2001, entitled "Subsurface Exploration, Geologic Hazard, and Geotechnical Engineering Report for Parkwood Lane."

If you have any questions pertaining to our responses listed above feel free to contact us.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington



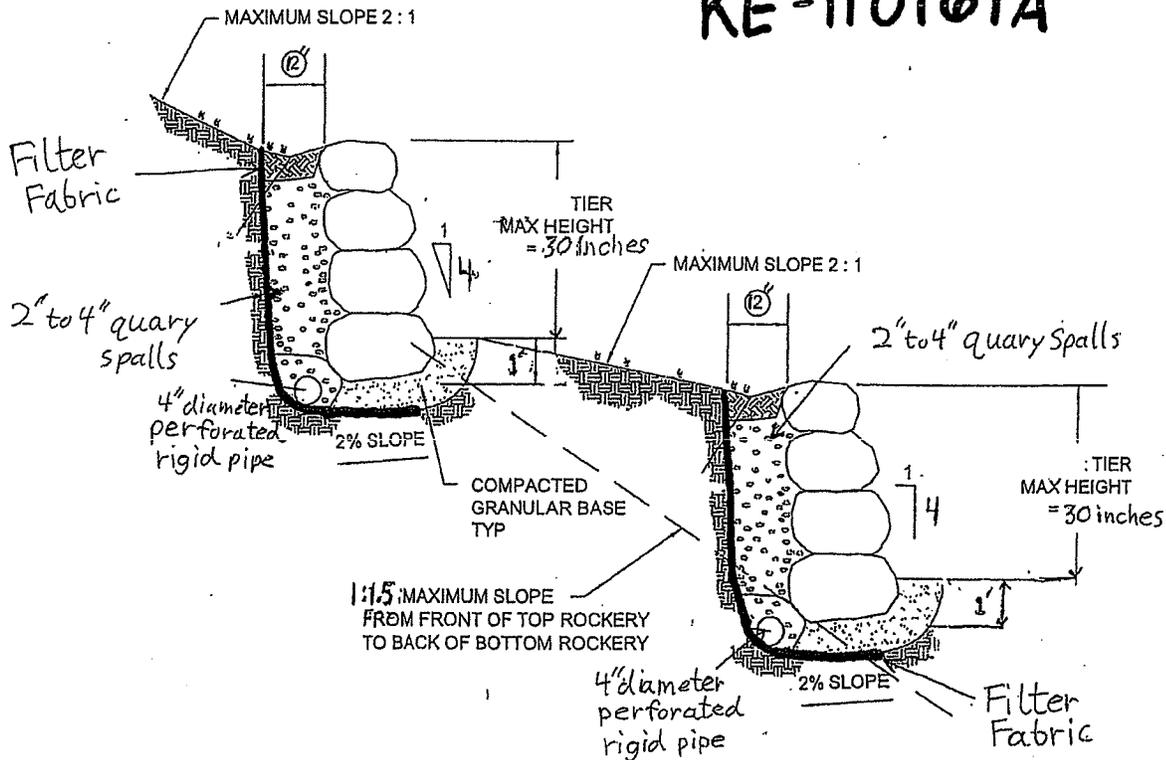
Michael S. Place, P.E.
Senior Staff Engineer



Bruce L. Blyton, P.E.
Principal Engineer

Attachment: Rockery Cross-Section Detail

Osewalt Property KE-110161A



- 1.) Rockeries shall be constructed using 3 man rocks.
- 2.) Rockeries must be installed with drains sloping to Storm Drain system. Filter fabric (Mirafi 140N or equivalent) should be placed against the cut face behind the 2-4" quarry spalls
- 3.) All subgrade and slope soil shall be compacted to at least 90% of Modified Proctor (ASTM:D 1557).
- 4.) Geotechnical inspections shall be required for rockery subgrade, drainage and soil compaction

ROCK	Lb.	Avg. Dimension (in.)
1-MAN	50 - 100	12-18
2-MAN	200 - 700	18-28
3-MAN	700 - 2000	28-36
4-MAN	2000 - 4000	36-48
5-MAN	4000 - 6000	48-54

Associated Earth Sciences, Inc.



Celebrating Over 25 Years of Service

July 27, 2011
Project No. KE110161A

Mr. Patrick Osewalt
2119 NE 6th Circle
Renton, Washington 98056

Attention: Mr. Patrick Osewalt

Subject: Response to City of Bellevue Review Comments
Osewalt Property
3720 163rd Avenue SE
Bellevue, Washington

Dear Mr. Osewalt:

At your request, Associated Earth Sciences, Inc. (AESI) has prepared this letter to respond to City of Bellevue review comments in the Soils portion of their letter dated June 10, 2011. The City's questions followed by AESI's responses are presented below.

1. Provide a letter from the Geotechnical Engineer indicating that they have reviewed the plans and documents for this project and it is in compliance with the recommendations of the Geotechnical Report.

Response: AESI has reviewed the revised sheet A0 forwarded by Architects NW on June 26, 2011. The sheet includes AESI's rockery detail, the temporary cut line and cross section view of the foundation cut requested by the City (see comments below). It is our opinion that this revised sheet combined with the previously reviewed sheets A1-A6, A10, A12, and S1 are in compliance with the recommendations in the Geotechnical Report.

2. *Reference soils report on plans.*

Response: A reference to AESI's November 11, 2001 and May 19, 2011 report and letter have been added to the revised sheet A0.

3. *Geotechnical special inspection is required for this project. Please complete the schedule and return with the revised plans and documents.*

Response: The special inspection form will be completed by the owner and contractor and returned with the re-submittal package.

4. *Provide a copy of the Geotechnical Report and response letter.*

Response: A copy of the Geotechnical Report and this response letter will be included with the re-submittal package.

5. *Excavation for the south foundation retaining wall will extend into the steep slope setback. The previous letter from the geotechnical engineer indicates that this area will not be disturbed.*

Response: The revised plan sheet A0 shows the anticipated extent of the temporary cut based on the recommended 1.5H:1V (Horizontal:Vertical) inclination. This cut extends up to approximately 20 feet into the 25-foot-wide steep slope buffer. It is AESI's opinion that the cut, as shown, is suitable from a geotechnical standpoint and will not impact the steep slope area.

6. *Provide a section at the south foundation wall excavation showing temporary excavation slope and relationship between the 25 foot steep slope setback.*

Response: The requested section and temporary cut line have been added to revised sheet A0. The cut line extends up to approximately 20 feet into the 25-foot steep slope setback.

7. *Temporary excavation at the south appears to be as deep as 11 feet or greater. The previous letter from the geotechnical engineer indicates that the excavation will not exceed the 10 foot maximum excavation.*

Response: At section “A” the planned finish floor is at elevation 178.55 and existing grade is approximately elevation 191. With a footing set at 1.5 feet below finish floor, a cut depth of approximately 14 feet will be required. This proposed cut at the recommended 1.5H:1V inclination is acceptable to AESI.

8. *Provide a construction section of the rockeries and the drains behind them, on the plans as indicated in the geotechnical letter.*

Response: AESI’s rockery and drain detail have been added to revised sheet S0.

If you have any questions pertaining to our responses listed above, feel free to contact us.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington



Bruce L. Blyton, P.E.
Principal Engineer

BLB/tb/ld
KE110161A3
Projects\20110161\KE\WP

Associated Earth Sciences, Inc.



Celebrating Over 25 Years of Service

July 28, 2011
Project No. KE110161A

Mr. Patrick Osewalt
2119 NE 6th Circle
Renton, Washington 98056

Attention: Mr. Patrick Osewalt

Subject: Response to City of Bellevue Drainage Review
Osewalt Property
3720 163rd Avenue SE
Bellevue, Washington

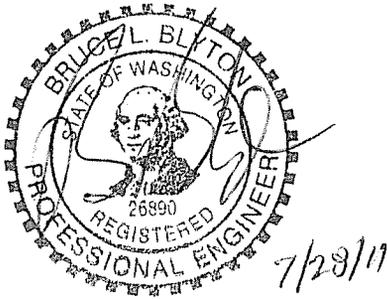
Dear Mr. Osewalt:

At your request, Associated Earth Sciences, Inc. (AESI) has prepared this letter to address the City of Bellevue's drainage review comments in Mr. Mark Frazier's e-mail dated July 22, 2011. Mr. Frazier requests a geotechnical report addressing the feasibility of on-site storm water infiltration.

In response to Bellevue's earlier April 25, 2011 review comment letter, AESI representatives visited the site to review soil and slope conditions on the Osewalt lot and on the adjacent downgradient lots to the north. The lots to the north are developed with homes that were constructed by cutting into the base of the slope below the Osewalt lot. In particular, Lot 9 is landscaped with a series of precast block retaining walls that are terraced to step down the slope toward the residence on that lot. Grade change in this area was estimated to be up to 15 feet with an overall slope gradient of about 80 percent. Lot 10 was undergoing foundation construction at the time of our visit and the excavation had exposed soft clay in the base of the hillside cut. Sloughing of the cut was problematic and a series of pipe piles and heavy plywood sheeting were being used to temporarily shore the slope adjacent to the excavation. Based on these observations, AESI does not recommend infiltrating any storm water on the Osewalt lot due to the risk of creating slope instability for the downslope lots. Storm runoff should instead be tightlined to the site storm drain system.

If you have any questions pertaining to our responses listed above feel free to call.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington



Bruce L. Blyton, P.E.
Principal Engineer

**Attachment 3
Mitigation Plan**

To Whom It May Concern:

We have applied for the following critical areas land use permit (11-110690 L0). As part of this application we would like to submit a replanting plan for the South side of our property. The majority of the natural vegetation will not be impacted. The house will be constructed on a portion of the site that was cleared by the previous builder before he foreclosed on the land.

After our discussion with David Pyle from the Bellevue Department of Land use he recommended that we consult the Critical Areas Handbook.

Reference: The Critical Areas Handbook

http://www.bellevuewa.gov/pdf/Development%20Services/ca_handbook.pdf

After referencing this document we have determined that since the Southern portion of our land is in a shady area we plan on restoring the disturbed area once construction has been completed.

Our intent is to restore the steep slope on the South side of our home to avoid erosion, strengthen the slope, and to help retain nutrient rich soil.

We intend to choose plants from the Geological Hazards (Steep Slope) planting template on page 62 and more specifically using plants from page 64, (Plant Legend for shady sites). We plan to restore to the density of plants to exceed the current plant density.

The template recommends 8 trees per 1000sq ft
The template recommends 30 shrubs per 1000sq ft

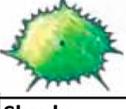
Our replanting plan covers slightly less than 2000 sq ft and we plan to source this replanting plan buy purchasing 75% of the plants from PlantsNorthWest in Woodinville and repurposing some native plans that reside on the property already. This will exceed the recommendations on the (Steep Slope) planting template when finished.

The soil in this area is very moist and with our selection of shrubs and trees from the planting template for shady sites we expect that this will be an ideal location to foster growth. All monitoring and watering will be done by the homeowner.

Attached is a quote from Scott Decker for each of the plants individually. He has priced out each of the trees, shrubs, groundcovers, and perennials from Geological Hazards (Steep Slope) planting template for shady sites. We estimate that by using a combination of native plans and items from PlantsNorthWest we estimate the cost of this replanting plan to be around \$645.74 with Adam Leland's discount after delivery and tax.

Thank you for your consideration,
Patrick

Patrick Osewalt
patrickosewalt@gmail.com
mobile 206-390-1872

Symbol	Common Name	Latin Name	Spacing	Size	Quantity	Price	
Trees							sub total
	Big-Leaf Maple	Acer macrophyllum	9 feet on center	1 gallon	4	4.50	18.00
	Red alder	Alnus rubra	9 feet on center	1 gallon	4	4.50	18.00
	Western red cedar	Thuja plicata	9 feet on center	1 gallon	4	4.50	18.00
Shrubs							
	Vine Maple	Accer Circinatum	4.5ft on center	2 gallon	9	10.00	90.00
	Western Service Berry	Amelanchier alnifalial	4.5ft on center	2 gallon	9	10.00	90.00
	Beaked Hazelnut	Corylus Cornutal	6ft on center	2 gallon	9	10.00	90.00
	Osoberry	Memleria cerasifomis	4.5ft on center	2 gallon	9	10.00	90.00
	Red elderberry	Sambucus racemosal	4ft on center	2 gallon	9	10.00	90.00
Ground Covers & Perennials							
	Kinnikinnick	Arctostaphylos uva-ursi	24in on center	4 inch		1.50	
	Wild Ginger	Asarum Caudatum	24in on center	4 inch		2.00	
	Sword fern	Polystichum munitum	24in on center	4 inch		4.50	

Pricing provided by:

Scott Decker

Sales Manager

Plants Northwest, Inc

14273 Woodinville-Redmond Road NE

Redmond, WA 98052

P: (425) 481-5911 F: (425) 483-4263

www.plantsnorthwest.net

	delivery	75.00
	tax	56.74
total		635.74

