



DEVELOPMENT SERVICES DEPARTMENT
 ENVIRONMENTAL COORDINATOR
 450 100th Ave NE., P.O. BOX 90012
 BELLEVUE, WA 98009-9012

DETERMINATION OF NON-SIGNIFICANCE

PROPONENT: Todd and Tracy Guyette

LOCATION OF PROPOSAL: 1219 96th Ave SE

NAME & DESCRIPTION OF PROPOSAL:

Guyette Residence Slope Modification Critical Areas Land Use Permit

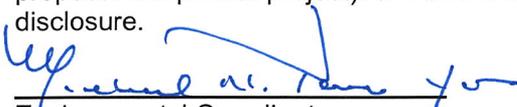
Approval of Critical Areas Land Use Permit to expand an existing single family residence and appurtenant hardscape development within a geologic hazard critical area buffer. The proposal includes a varied reduction of the 50 foot top of slope buffer to accommodate a new residence and patio, installation of a stormwater drainage pipe across the slope, construction of a new rain garden/bio-swale within the 25 foot shoreline buffer, reconstruction of the slope staircase, and restoration planting within the slope, slope buffer, and shoreline buffer. The proposal also includes and is supported by critical areas and geotechnical analysis.

FILE NUMBER: 12-117991-LO

The Environmental Coordinator of the City of Bellevue has determined that this proposal does not have a probable significant adverse impact upon the environment. An Environmental Impact Statement (EIS) is not required under RCW 43.21C.030(2)(C). This decision was made after the Bellevue Environmental Coordinator reviewed the completed environmental checklist and information filed with the Land Use Division of the Development Services Department. This information is available to the public on request.

- There is no comment period for this DNS. There is a 14-day appeal period. Only persons who submitted written comments before the DNS was issued may appeal the decision. A written appeal must be filed in the City Clerk's office by 5:00 p.m. on _____.
- This DNS is issued after using the optional DNS process in WAC 197-11-355. There is no further comment period on the DNS. There is a 14-day appeal period. Only persons who submitted written comments before the DNS was issued may appeal the decision. A written appeal must be filed in the City Clerk's Office by 5 p.m. on **January 17, 2013**.
- This DNS is issued under WAC 197-11-340(2) and is subject to a 14-day comment period from the date below. Comments must be submitted by 5 p.m. on _____. This DNS is also subject to appeal. A written appeal must be filed in the City Clerk's Office by 5 p.m. on _____.

This DNS may be withdrawn at any time if the proposal is modified so that it is likely to have significant adverse environmental impacts; if there is significant new information indicating, or on, a proposals probable significant adverse environmental impacts (unless a non-exempt license has been issued if the proposal is a private project); or if the DNS was procured by misrepresentation or lack of material disclosure.


 Environmental Coordinator

January 3, 2013
 Date

OTHERS TO RECEIVE THIS DOCUMENT:

- State Department of Fish and Wildlife
- State Department of Ecology,
- Army Corps of Engineers
- Attorney General
- Muckleshoot Indian Tribe



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

Proposal Name: Guyette Residence Slope Modification

Proposal Address: 1219 96th Ave SE

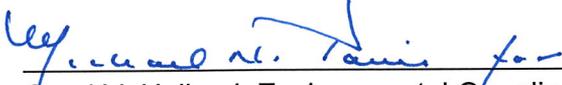
Proposal Description: Approval of Critical Areas Land Use Permit to expand an existing single family residence and appurtenant hardscape development within a geologic hazard critical area buffer. The proposal includes a varied reduction of the 50 foot top of slope buffer to accommodate a new residence and patio, installation of a stormwater drainage pipe across the slope, construction of a new rain garden/bio-swale within the 25 foot shoreline buffer, reconstruction of the slope staircase, and restoration planting within the slope, slope buffer, and shoreline buffer. The proposal also includes and is supported by critical areas and geotechnical analysis.

File Number: 12-117991-LO

Applicant: Todd and Tracy Guyette

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

Planner: David Pyle, Land Use Planner

**State Environmental Policy Act
Threshold Determination:** **Determination of Non-Significance**

Carol V. Helland, Environmental Coordinator
Development Services Department

Director's Decision: **Approval with Conditions**
Michael A. Brennan, Director
Development Services Department
By: 
Carol V. Helland, Land Use Director

Application Date: July 19, 2012
Notice of Application Date: August 16, 2012
Decision Publication Date: January 3, 2013
Project Appeal Deadline: January 17, 2013

For information on how to appeal a proposal, visit Development Services Center at City Hall or call (425) 452-6800. Comments on State Environmental Policy Act (SEPA) Determinations can be made with or without appealing the proposal within the noted comment period for a SEPA Determination. Appeal of the 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
2. Critical Areas Report
3. Geotechnical Report
4. SEPA Checklist
5. Restoration Planting Plan and Mitigation and Monitoring Plan

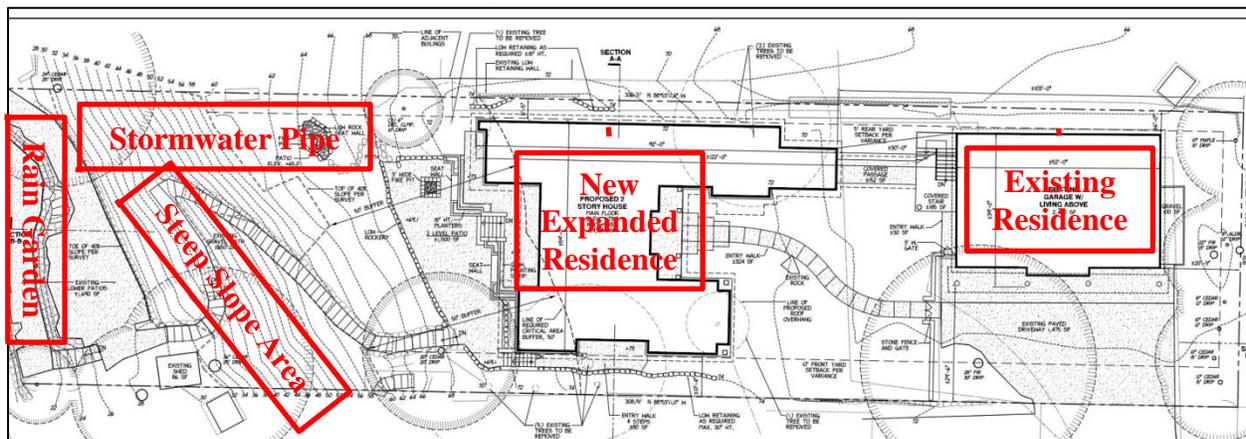
I. Proposal Description

This is a proposal to expand an existing single family residence at 1219 96th Ave SE by constructing a new structure and patios (hardscape areas) in the center of the property and more than 120 feet from the shoreline edge. The property is currently developed with a residence that is located above a three car garage along the eastern portion of the property. The existing residence will remain as a detached unit under a single family use agreement. The applicant proposes to reduce the 50-foot top of slope buffer in order to expand the house and develop new patios. The proposal also includes the installation of a new stormwater pipe across the slope and a new raingarden within the shoreline buffer where stormwater generated by the new residence and hardscape surfaces will flow for infiltration. No direct outfall into Lake Washington is proposed.

The condition of the slope, slope buffer, shoreline, and shoreline buffer is degraded by past clearing activity. The entire area is vegetated with nonnative and invasive plant species and is generally void of shrubs, trees, and other significant vegetation as the site has been maintained through routine mowing and pruning.

Slope conditions will be improved as part of the proposal through planned mitigation planting in exchange for the reduced buffer as allowed through a critical areas report process (LUC 20.25H.230). This proposal requires the approval of a Critical Areas Land Use Permit for the house and hardscape to be allowed. See Figure 1 below for a site plan showing the proposal. A full size site plan is included as **Attachment 1**. A complete project and site description is included in the project Critical Areas Report as **Attachment 2**.

Figure 1 – Project Site Plans



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

A. Site Description

The project site is located at 1219 96th Ave SE in the Southwest Bellevue subarea of the City along the shoreline of Lake Washington. The property is south of Chism Beach Park in an established residential neighborhood. The site is along the eastern shoreline of Lake Washington and the steep slope critical areas on the property are located along the western portion of the property, sloping down from the east to the west. The shoreline is currently

considered developed and the water frontage is armored with an existing rockery/bulkhead. See Figure 2 for a map of existing site conditions.

Figure 2 – Map of Existing Site Conditions



B. Zoning

The property is zoned R-2.5, single-family residential.

C. Land Use Context

The property has a Comprehensive plan Land Use Designation of SF-M, Single Family Medium Density. The site is regulated under the Critical Areas Overlay District (LUC 20.25H) and the Shoreline Overlay District (LUC 20.25E).

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. Shorelines

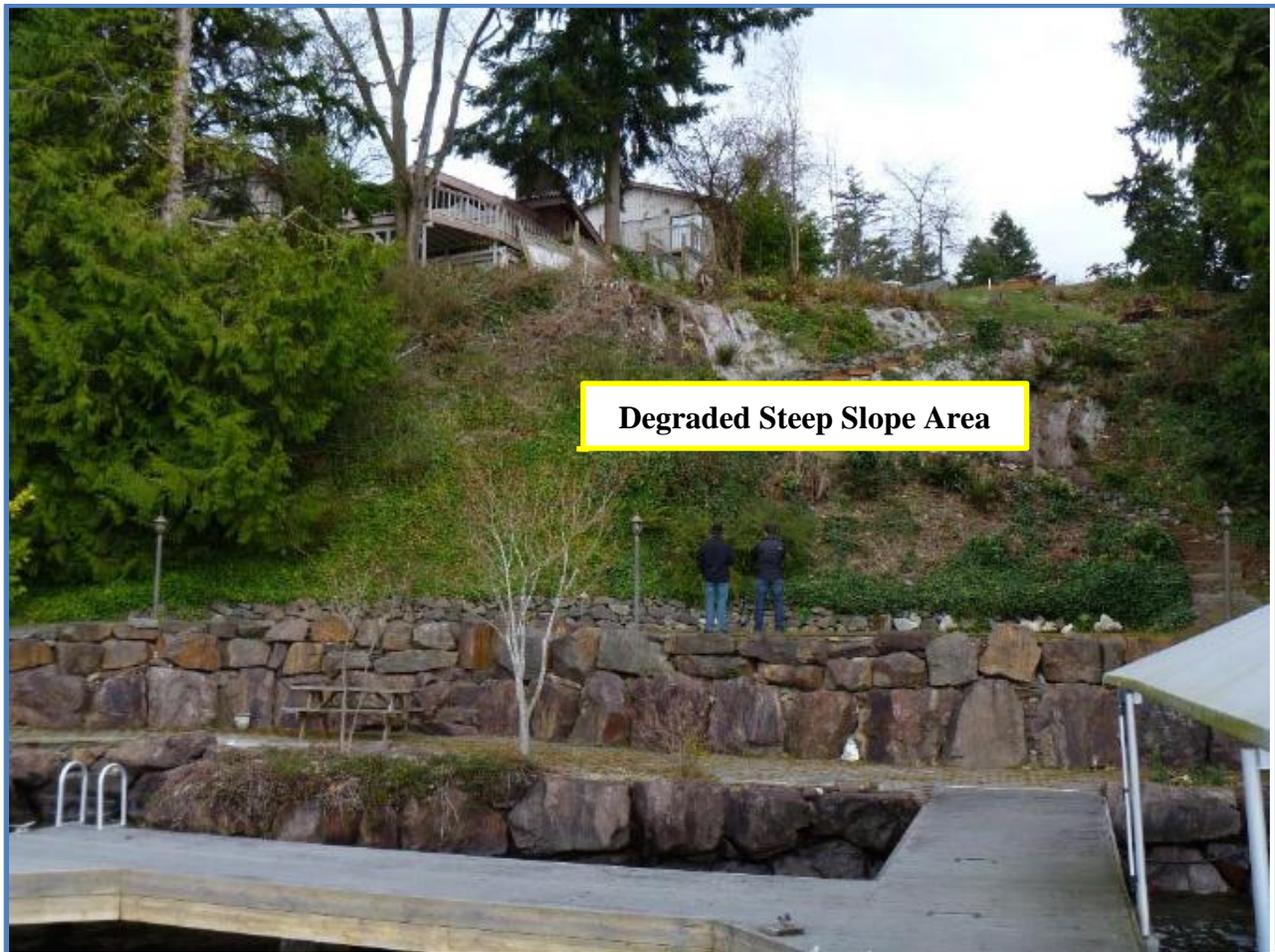
Shorelines provide a wide variety of functions related to aquatic and riparian habitat, flood control, water quality, economic resources, and recreation. Each function is a product of physical, chemical, and biological processes at work within the overall landscape. In lakes, these processes take place within an

integrated system of coupled aquatic and riparian habitats. Hence, it is important to have an ecosystem approach which incorporates an understanding of shoreline functions and values.

iii. Site Conditions

The project site is characterized by a cleared and maintained sparsely vegetated large slope area along the western edge of the property along the eastern shoreline of Lake Washington. The properties shoreline is developed with a recreational dock and is protected by a large rockery/bulkhead. A staircase crosses the slope and provides access to the Lake Washington shoreline from the flat portion of the site above and to the east. The slope, slope buffer, shoreline, and shoreline buffer are generally void of shrubs and trees and the entire area is maintained through routine grass and weed mowing and trimming precluding the establishment of significant vegetation that would typically colonize this area. A complete description of the site's critical areas is included in the project critical areas report as **Attachment 2**. A photo of existing shoreline and slope conditions is included as Figure 3 below.

Figure 3 – Existing Shoreline and Slope Conditions



III. Consistency with Land Use Code Requirements:

A. Zoning District Dimensional Requirements:

The R-2.5 zoning dimensional requirements found in LUC 20.20.010 apply to the proposed house. The plans submitted generally demonstrate conformance with zoning dimensional standards, however conformance will be verified during building permit review. The following issues were noted during project review:

- The orientation of setbacks has been previously determined for this property. The front setback shall be the east property boundary, the side setbacks shall be the north and south property boundaries, and rear setback shall be the west property boundary.
- The construction of the new home will declare the over-garage residence as an Accessory Dwelling Unit (ADU). ADUs are not allowed. To resolve this issue the property owner must record a single family use agreement with King County Records declaring that the ADU will not be rented and will be used only as part of the primary residence as a single family unit.
- Structural lot coverage is calculated based on net square footage in accordance with LUC 20.20.010 footnote 13.
- Impervious surface is limited to 50% of gross lot area.
- Building height is limited to 35 feet measured from average existing grade.
- Building volume must meet FAR requirements found in LUC 20.20.010.
- Total cut and fill associated with the home construction is estimated at 490 cubic yards of cut and 148 cubic yards of fill. Of this the total cut and fill outside of the building footing is 55 cubic yards of cut and 148 cubic yards of fill for a total of 203 cubic yards of site grading cut and fill. A shoreline substantial development permit is only required when proposed grading outside of that required for a foundation exceeds 250 cubic yards (WAC 173-27-040(2)(g)).
- A new street sign is required to properly identify the access driveway to the home.

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 proposed house and patio construction will modify the 50-foot top-of-slope buffer and the proposed rain garden will modify the shoreline buffer. The project is subject to the performance standards found in LUC 20.25H.125 which are reviewed below.

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. The applicant, through their approved critical areas report and associated development proposals has incorporated following performance standards as applicable.

- 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 is not placed within a steep slope critical area. The proposed house avoids alterations of the existing grade. Excavation and grading will be limited to the minimum necessary for the proposed development.

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

No construction is proposed in the steep slope critical area. The property is developed and lacks significant vegetation. The slope and slope buffer is proposed to be restored with native vegetation.

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

According to the applicant's geotechnical engineer, the proposed development shall not result in greater risk or a need for increased buffers on neighboring properties. The proposed residence with the reduced variable buffer of down to 16 feet from the top of slope (see project site plan – **Attachement 1**) was determined to be adequate. The project's Geotechnical Report is included as **Attachment 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;**

No retaining walls are proposed. A small rockery is proposed along the western edge of the proposed patio to support leveling of buffer area.

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

Impervious surface areas will be concentrated to areas around the proposed home to the east of the steep slope areas. Stormwater will be collected and conveyed to the bottom of the slope where it will be infiltrated through a rain garden.

- 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;**

No work or development is proposed 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;**

No construction is taking place in steep slopes where the foundation would be used as retention. No freestanding walls or rockeries are needed to construct the house. A small rockery is proposed along the western edge of the proposed patio to support leveling of buffer area.

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 structures are proposed in slopes in excess 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 structures are proposed in slopes in excess 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 proposal includes a mitigation plan and planting is proposed to be located in the reduced buffer and slope areas. The proposed mitigation plan is included as **Attachment 4**. The planting is required to be maintained and monitored for a period of 5 years following installation. **See Conditions of Approval in Section IX of this report.**

ii. Consistency with LUC 20.25E.080.B & Q.

The proposal to develop a raingarden within the 25 foot regulatory shoreline buffer requires consistency with performance standards for shoreline critical areas LUC 20.25E.080.B & Q. The applicant's approved critical areas report and associated development proposal has incorporated the following performance standards as applicable.

- All federal and state water quality and effluent standards shall be met through reviewed and approved temporary erosion and sedimentation controls to be implemented by the applicant and inspected by the City of Bellevue.
- The portion of the property that is covered under this proposal extends into the Shoreline Overlay District. The proposed development is consistent with the Shoreline Master Program Policies to favor residential development and recreational water uses in the shoreline overlay district.

- The proposed development within the Shoreline Overlay District is accompanied by a plan to preserve desirable, native shoreline vegetation for control of erosion during and following construction and for habitat functions following construction.
- Care will be exercised to preserve desirable vegetation in the shoreline areas to prevent soil erosion. Removal of vegetation from or disturbance of shoreline critical areas and shoreline critical area buffers, and from other critical area and critical area buffer is in conformance with LUC 20.25H and 20.25E as demonstrated herein.
- The proposed development within the Shoreline Overlay District is required to also obtain applicable building permits to ensure compliance with other applicable Bellevue ordinances, including but not limited to the Bellevue Land Use Code, Building Code, Fire Code and clearing and grading regulations.
- One element of the proposed development is the allowance for required storm drainage and sewer facilities connections associated with the construction of the approved single-family residence on the upper portion of the property. This connection has been review and approved by the applicable city departments. Storm drainage facilities shall be separated from sewage disposal systems.
- The applicant has provided an approved critical areas report in order to modify the shoreline buffer for the purpose of the development of a rain garden.

iii. Consistency with LUC 20.25H.140 and LUC 20.25H.145

Modification of a top-of-slope buffer requires a critical areas report as part of the application for a Critical Area Land Use Permit. 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 Geotech Report (**Attachment 3**) dated June 07, 2012 prepared by Terra Associates, Inc. and updated through addendum on November 28, 2012. This geotechnical analysis finds that the proposed variable buffer (See **Attachment 1** – Project Plans) with a minimum 16-foot slope buffer is adequate to protect the residence from damages caused by soil movement. The geotech found that adverse impacts to the steep slope are minimized by the proposed development and stormwater improvements designed to convey stormwater to the bottom of the slope. Per LUC 20.30P.170, approval of projects to modify slope buffers or steep slope 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 IX of this report.**

iii. Consistency with Critical Areas Report LUC 20.25.230.

The applicant supplied a complete critical areas report prepared by the Watershed Company, qualified professionals. The report meets the minimum requirements in LUC 20.25H.250.

IV. Public Notice and Comment

Application Date:	July 19, 2012
Public Notice (500 feet):	August 16, 2012

Minimum Comment Period: August 30, 2012

The Notice of Application for this project was published the City of Bellevue Weekly Permit Bulletin on August 16, 2012. It was mailed to property owners within 500 feet of the project site. No comments were received.

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)

The environmental review indicates no probability of significant adverse environmental impacts occurring as a result of the proposal. The Environmental Checklist (**Attachment 4**) submitted with the application adequately discloses expected environmental impacts associated with the project. The City codes and requirements, including the Clear and Grade Code, Utility Code, Land Use Code, Noise Ordinance, Building Code and other construction codes are expected to mitigate potential environmental impacts. Therefore, issuance of a Determination of Non-Significance (DNS) is the appropriate threshold determination under the State Environmental Policy Act (SEPA) requirements.

A. Earth, Air, and Water

No large-scale earthmoving activity is proposed other than excavation for the house. Erosion and sedimentation control requirements and BMPs will be reviewed by the Clearing and Grading Department as part of a clearing and grading permit.

B. Plants and Animals

No significant or important species were identified on the site and the proposed project will not cause for removal of significant vegetation or impact potential habitat resources. The plan includes mitigation planting which will restore site vegetation including trees and shrubs within the slope and shoreline areas resulting in a net improvement to site conditions.

C. Noise

Any noise generated is regulated by Chapter 9.18 BCC. **See Section IX for a related condition of approval.**

VII. Decision Criteria

A. 20.25H.255.B Critical Areas Report Decision Criteria

The Director may approve, or approve with modifications, a proposal to reduce the regulated critical area buffer on a site where the applicant demonstrates:

1. The proposal includes plans for restoration of degraded critical area or critical

area buffer functions which demonstrate a net gain in overall critical area or critical area buffer functions;

The mitigation of native planting will improve vegetation cover at the top of slope which provides slope stability and erosion protection. As part of the building permit for the house a final mitigation planting plan, including five years of maintenance and monitoring, shall be submitted.

- 2. The proposal includes plans for restoration of degraded critical area or critical area buffer functions which demonstrate a net gain in the most important critical area or critical area buffer functions to the ecosystem in which they exist;**

The most important critical area function for the slopes on this site which are slope stability and erosion control are improved.

- 3. The proposal includes a net gain in stormwater quality function by the critical area buffer or by elements of the development proposal outside of the reduced regulated critical area buffer;**

Stormwater quality will be improved by increased capture of runoff onto the slope from the vegetation to be installed and the conveyance of stormwater to the toe of the slope to be infiltrated through the proposed rain garden.

- 4. Adequate resources to ensure completion of any required restoration, mitigation and monitoring efforts;**

A maintenance surety will be required in an amount equal to 20 percent of the cost of materials and labor needed for 5 years of maintenance and monitoring. **See Conditions of Approval in Section IX of this report.**

- 5. 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; and**

The modifications and performance measures in this proposal are not detrimental to the functions and values of the steep slope.

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

Construction of a single-family house is compatible with residential land use districts. Noise generated by construction is limited to 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. **See Conditions of Approval in Section IX of this report.**

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 required development permits. See Conditions of Approval in Section IX 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.

As mitigation for impacts of the proposed residence, the existing degraded steep slope critical area and buffer will be restored. The applicant has used the best available design and development techniques to design the new residence. The design constitutes the minimum necessary impact on the critical area buffer while still fulfilling the project purpose. Steep slope impacts have been avoided and structural encroachment into the buffer has been minimized. These development techniques, coupled with the planting of native vegetation on the steep slope and buffer, will result in the least possible impact on the critical area and critical area buffer.

3. The proposal incorporates the performance standards of Part 20.25H to the maximum extent applicable.

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.

The proposed activity will not impact public facilities.

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

The proposal includes a complete mitigation plan that meets the requirements of LUC 20.25H.210. An installation and maintenance surety is required and the proposed planting will be monitored for 5 years. See Conditions of Approval in Section IX of this report.

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.

VIII. Conclusion and Decision

After conducting the various administrative reviews associated with this proposal, including Land Use Code consistency, SEPA, City Code and Standard compliance reviews, the Director of the Development Services Department does hereby **approve with conditions** the reduction of the 50-foot top-of-slope buffer to a variable dimension of not less than 16 feet as indicated in the project site plans (**Attachment 1**) to construct an expanded single family residence and raingarden with vegetation restoration. **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.

IX. 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	David Pyle, 425-452-2973
Noise Control- BCC 9.18	David Pyle, 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. A building permit and any other associated development permits are required. Plans submitted as part of any permit application shall be consistent with the activity permitted under this approval.

Authority: Land Use Code 20.30P.140
Reviewer: David Pyle, Development Services Department

- 2. Approved Buffer Modification:** This decision approves the reduction of the 50-foot top-of-slope buffer to a variable dimension of not less than 16 feet as indicated in the project site plans (**Attachment 1**) to construct an expanded single family residence and raingarden with vegetation restoration. This buffer modification does not allow future structures or improvements to be located in the reduced buffer without future review and approval of a Critical Areas Land Use Permit. Geotechnical evaluation may still be required for any future development on the property.

Authority: Land Use Code 20.30P.140
Reviewer: David Pyle, Development Services Department

- 3. Geotechnical Recommendations:** The project shall be constructed per the recommended procedures and practices in the geotechnical report prepared by Terra Associates, Inc. dated June 7, 2012, 2012 and updated by addendum on November 28, 2012.

Authority: Land Use Code 20.30P.140
Reviewer: David Pyle, Development Services Department

- 4. Geotechnical Inspection:** Geotechnical inspection made by the Engineer of Record to verify implementation of the construction recommendations included in the project geotechnical report dated June 7, 2012 and updated by addendum on November 28, 2012 shall be performed during construction.

Authority: Land Use Code 20.30P.140
Reviewer: David Pyle, Development Services Department

- 5. Designation of Setbacks:** The front setback (LUC 20.20.030) shall be measured from the eastern property boundary. The side setbacks shall be measured from the north and south property boundaries. The rear setback shall be measured from the OHWM of Lake Washington (and is overlaid by the shoreline buffer and setback of LUC 20.25H). These setback dimensions must be shown on the building permit submittal.

Authority: Land Use Code 20.20.040
Reviewer: David Pyle, Development Services Department

- 6. Mitigation Planting Area:** The reduced slope buffer requires replanting to mitigate the approved buffer reduction in accordance with the project steep slope mitigation plan included as **Attachment 3**. **The applicant shall submit a final planting plan as part of the building permit which is consistent with the requirements in this report.**

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

- 7. Maintenance and Monitoring:** The planting area shall be maintained and monitored for 5 years as required by LUC 20.25H.220. Annual monitoring reports are to be submitted to Land Use each of the five years. Photos from selected photo points will be included in the monitoring reports to document the planting. The schedule and performance standards included in the project steep slope mitigation plan included as **Attachment 4** apply and are evaluated in the report for each year. Annual monitoring reports are to be submitted to the Development Services Department Land Use Division at the end of the growing season by no later than November 30 for each year monitored. The reports, along with a copy of the planting plan, can be sent to David Pyle at dpyle@bellevuewa.gov or to the address below:

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

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

- 8. Installation Device:** To ensure the required mitigation and restoration of areas of temporary disturbance is completed, the applicant shall post an Installation Assurance Device prior to the building permit or clearing and grading permit issuance. The device shall be equal to 150% of the value of the approved mitigation. The device will be released when the applicant demonstrates required mitigation has successfully been installed.

Authority: Land Use Code 20.25H.125.J, 20.25H.220, and 20.40.490
Reviewer: David Pyle, Development Services Department

- 9. Maintenance Device:** Prior to the issuance of the building permit or clearing and grading permit, the applicant shall submit a restoration / replanting maintenance plan cost estimate to be used in determining the amount of the assignment of the maintenance and monitoring financial security device that will be required prior to permit issuance. A complete assignment of savings financial security device in the amount determined by the project planner must be submitted prior to building permit or clearing and grading permit issuance. For the purpose of this permit, maintenance and monitoring shall be completed for a period of five growing seasons. Release of this assurance device is contingent upon receipt of documentation reporting successful establishment in compliance with the mitigation performance standards listed in the project mitigation plan included as **Attachment 4**. Land Use inspection of the planting after 5-years is required to release the surety.

Authority: Land Use Code 20.25H.125.J and 20.25H.220
Reviewer: David Pyle, Development Services Department

- 10. 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: David Pyle, Development Services Department

- 11. 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: David Pyle, Development Services Department

12. Tree Protection: As part of the Clearing and Grading submittal, the applicant shall provide a Tree Protection Plan that implements the City of Bellevue Drawing Number TP-1, Tree Protection Procedures during Construction; for every inch diameter of tree, fencing would be 1 foot from the tree trunk. This radius may be modified to accommodate site access. Additional measures will be employed to protect roots where the radius was modified, such as the temporary placement of hog fuel. Tree protection fencing must be installed prior to construction. The applicant shall provide a certified arborist to monitor the grading and construction activities to protect the rootzones of all the trees to be preserved, to ensure that the health of the retained trees is not endangered, and to identify trees which may constitute a hazard

Authority: Bellevue City Code 23.76
Reviewer: David Pyle, Development Services Department

13. Rainy Season Restrictions: Due to the proximity to Lake Washington and the site's steep slopes, no clearing and grading activity may occur during the rainy season, which is defined as October 1 through April 30 without written authorization of the Development Services Department. Should approval be granted for work during the rainy season, increased erosion and sedimentation measures, representing the best available technology must be implemented prior to beginning or resuming site work.

Authority: Bellevue City Code 23.76.093.A,
Reviewer: Savina Uzunow, Development Services Department

14. Storm Water Pollution Prevention Plan: To ensure contaminated stormwater or construction-related runoff does not pollute adjacent surface water, a construction stormwater pollution prevention plan (CSWPPP) is required. The CSWPPP outline should be generally consistent with the SWPPP requirements of the National Pollutant Discharge Elimination System (NPDES) General Storm water Permit for Construction Activities.

Authority: Clearing and Grading Code BCC 23.76
Reviewer: Savina Uzunow, Development Services Department

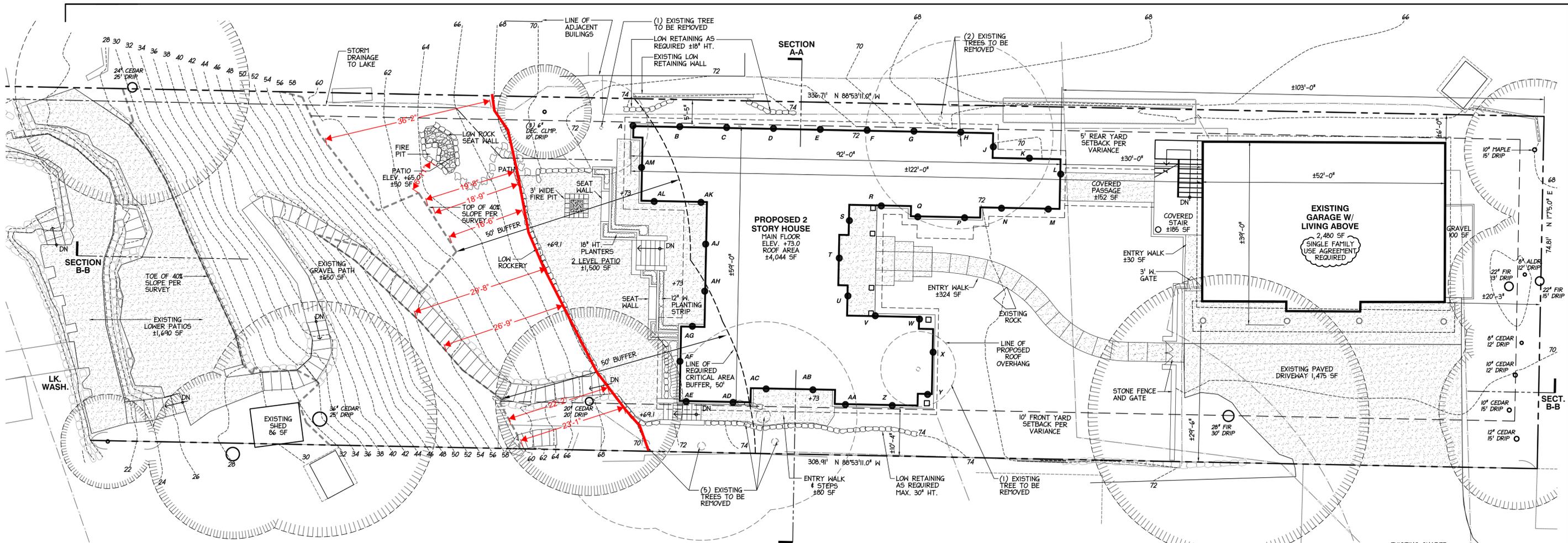
15. New Street Sign Required/New Addresses to be Posted: The address for this property has changed. It was 1219 96th Ave SE (AFN 0624059024)

It has been changed to:

Main residence (new) address: 9518 NE 13TH LN
Guest cottage (existing building) address: 9526 NE 13TH LN

A new street sign is required to properly identify the access driveway to the home and the home addresses served. Please contact Hillary Stibbard (425-452-4357) in the Transportation Department for information on sign design.

Authority: Emergency Services Providers/Address Coordination
Reviewer: Jami Crawford, Information and Technology Department



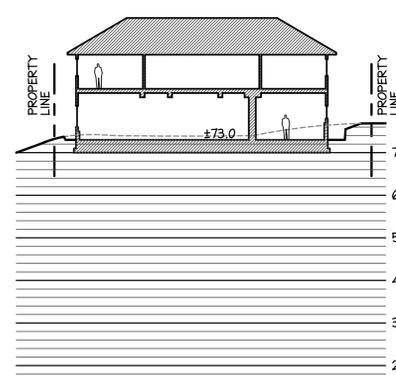
SITE PLAN
 SCALE: 1:10

ZONING & CODE INFORMATION

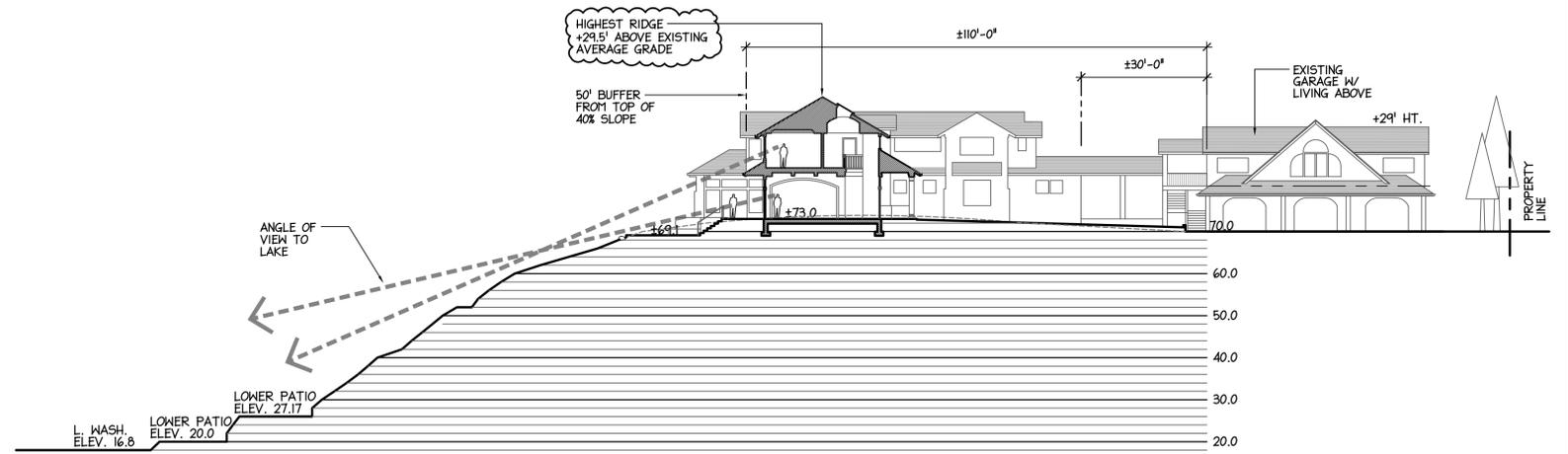
- Jurisdiction: CITY OF BELLEVUE
- Present Zoning: R - 2.5
- Parcel Number: #
- Required Setbacks:
 - Front Yard Setback: 10'-0" (VARIANCE GRANTED)
 - Side Yard Setback: 5'-0" MIN.
 - Rear Yard Setback: 5' (VARIANCE GRANTED)
- Lot Coverage:
 - Gross Lot Area: ±23,902.33 Sq. Ft.
 - Critical Area: ±5,891 Sq. Ft.
 - Net Site Area: ±18,011 Sq. Ft.
 - Allowable Structural Coverage: ±6,304 Sq. Ft. 35%
 - Proposed Structural Coverage: ±4,962 Sq. Ft. 27.5%
 - Existing Building Footprint Area: ±1,976 Sq. Ft. (including covered porches)
 - Proposed Building Footprint Area: ±2,986 Sq. Ft. (including covered porches)
 - Allowable Impervious Surface Coverage: 11,951 Sq. Ft. = 50%
 - Proposed Impervious Surface Coverage: 11,947 Sq. Ft. = 49.3%
 - Existing Building Roof Area: ±2,236 Sq. Ft. (including porches)
 - Uncovered Porch/Steps: ±326 Sq. Ft.
 - Existing Driveway: ±1,475 Sq. Ft.
 - Existing Paths & Patios: ±3,386 Sq. Ft.
 - Demolition, Areas Removed: -(1,020) Sq. Ft.
 - New Building Roof Area: ±4,380 Sq. Ft. (including porches)
 - New Walks & Patios: ±2,000 Sq. Ft.
 - Area Required to be pervious paving: -(936) Sq. Ft.
- Floor Area Ratio (F.A.R.):
 - Existing Main Floor Area: ±445 Sq. Ft.
 - Existing Upper Floor Area: ±1,657 Sq. Ft.
 - Proposed Main Floor Area: ±2,946 Sq. Ft.
 - Proposed Upper Floor Area: ±2,037 Sq. Ft.
 - Total Floor Area: ±6,985 Sq. Ft.
 - Floor Area / Net Site Area: .39 FAR
- Building Areas:
 - Existing Main Level: ±500 Sq. Ft.
 - Existing Upper Level: ±1,800 Sq. Ft.
 - Proposed Main Level: ±3,029 Sq. Ft.
 - Proposed Upper Level: ±2,300 Sq. Ft.
 - Total Conditioned Floor Area: ±7,635 Sq. Ft.
 - Existing Garage: ±1,300 Sq. Ft.
 - Covered Porches: ±835 Sq. Ft.
 - Total Unconditioned Floor Area: ±2,135 Sq. Ft.
 - Total Building Area: ±9,764 Sq. Ft.
- Building Height:
 - Max. Building Height Allowed: 35'-0" Ridge Height Abv. Average Existing Grade
 - Average Existing Grade: 72.8' per Calculation
 - Proposed Building Height: 29.6' Above Average Existing Grade
 - Benchmark Elevations: -

AVERAGE GRADE	
POINT	EXIST. ELEV.
A	74.3
B	74.4
C	74.5
D	74.5
E	73.8
F	71.8
G	69.1
H	68.8
I	NOT USED
J	70.0
K	70.4
L	69.8
M	70.0
N	71.4
O	NOT USED
P	72.1
Q	72.7
R	72.7
S	72.7
T	72.7
U	72.8
V	74.0
W	73.8
X	73.9
Y	74.1
Z	74.8
AA	75.8
AB	76.0
AC	75.0
AD	74.1
AE	72.5
AF	72.5
AG	72.5
AH	72.6
AI	NOT USED
AJ	72.8
AK	72.8
AL	73.0
AM	73.8
TOTAL	2,622.5
SUM A-M	2,622.5 = 72.8
# POINTS	36 AVE. ELEV.

NOTES:
 POINTS ARE TAKEN AT EXISTING GRADE, TYPICAL



SECTION A-A

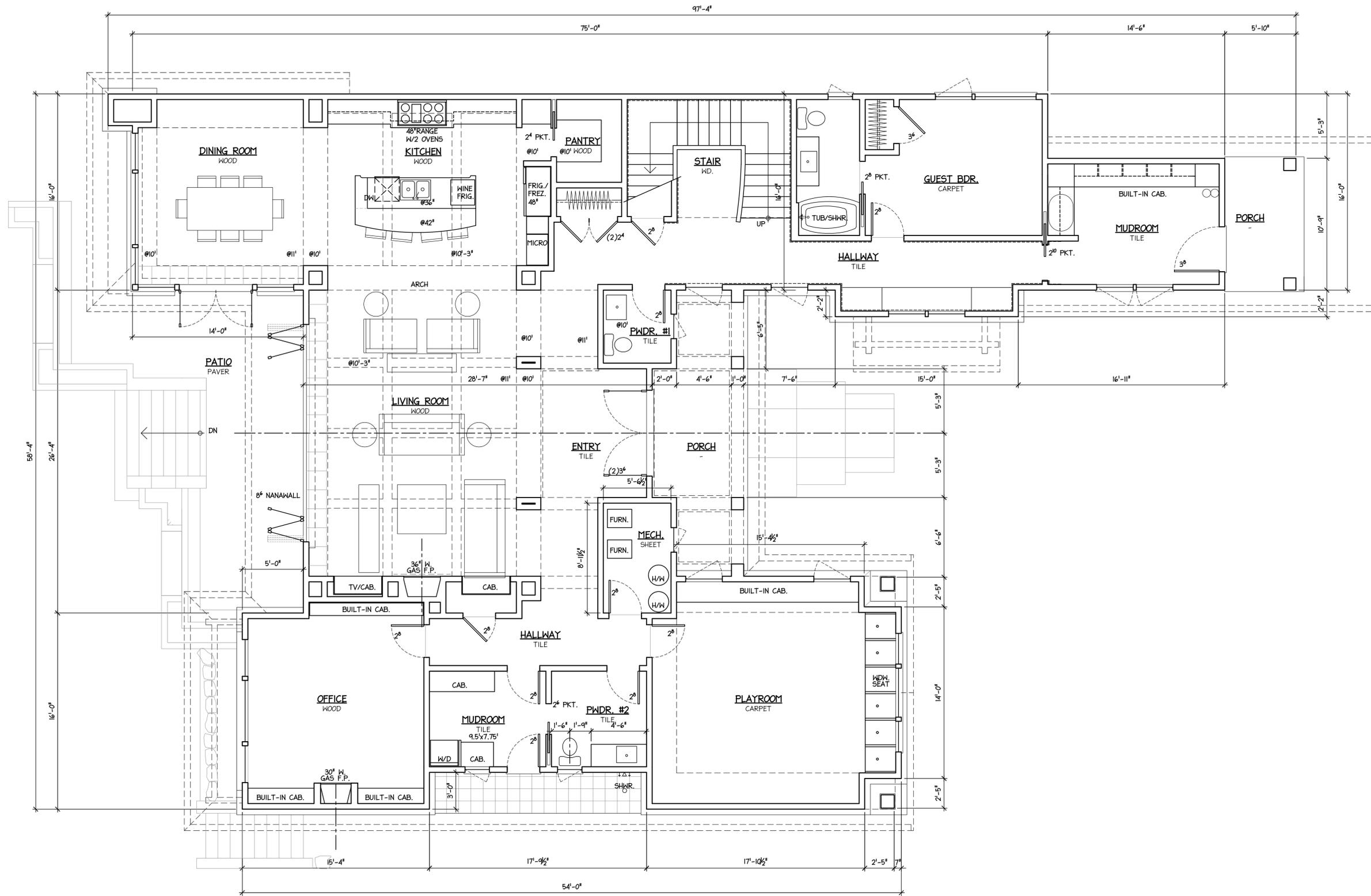


SECTION B-B

SITE SECTIONS

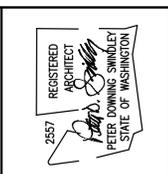
SCALE: 1:20

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MAIN FLOOR PLAN

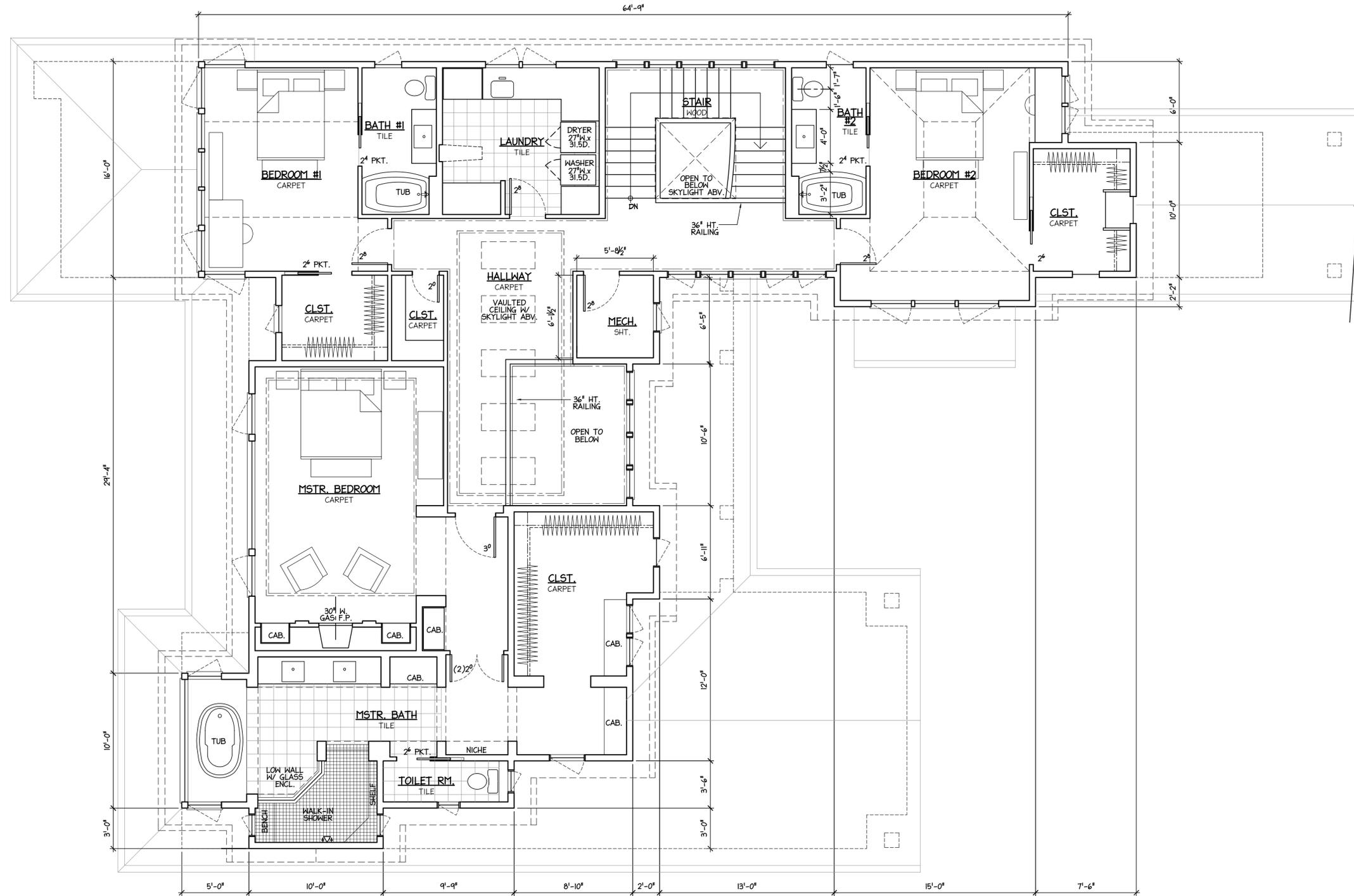
SCALE: 1/4" = 1'-0"
 BUILDING AREA 3,029 SQ. FT.
 GROSS FLOOR AREA (INSIDE FINISH) 2,846 SQ. FT.



rev: -
 drn by: ROC
 date: 12 JUL 2012

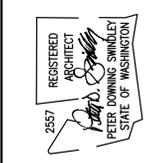
NEW RESIDENCE FOR:
TRACY AND TODD GUYETTE
 1219 96TH AVE S.E.
 BELLEVUE WASHINGTON 98004
MAIN FLOOR PLAN

Peter D. Swindley
 architects and interiors inc.
 2223 112th ave ne suite # 100 belle vue wa 98004 425-455-9358



UPPER FLOOR PLAN

SCALE: 1/4" = 1'-0"
 BUILDING AREA 2,300 SQ. FT.
 GROSS FLOOR AREA (INSIDE FINISH) 2,037 SQ. FT.



rev: -
 drn by: ROC
 date: 12 JUL 2012

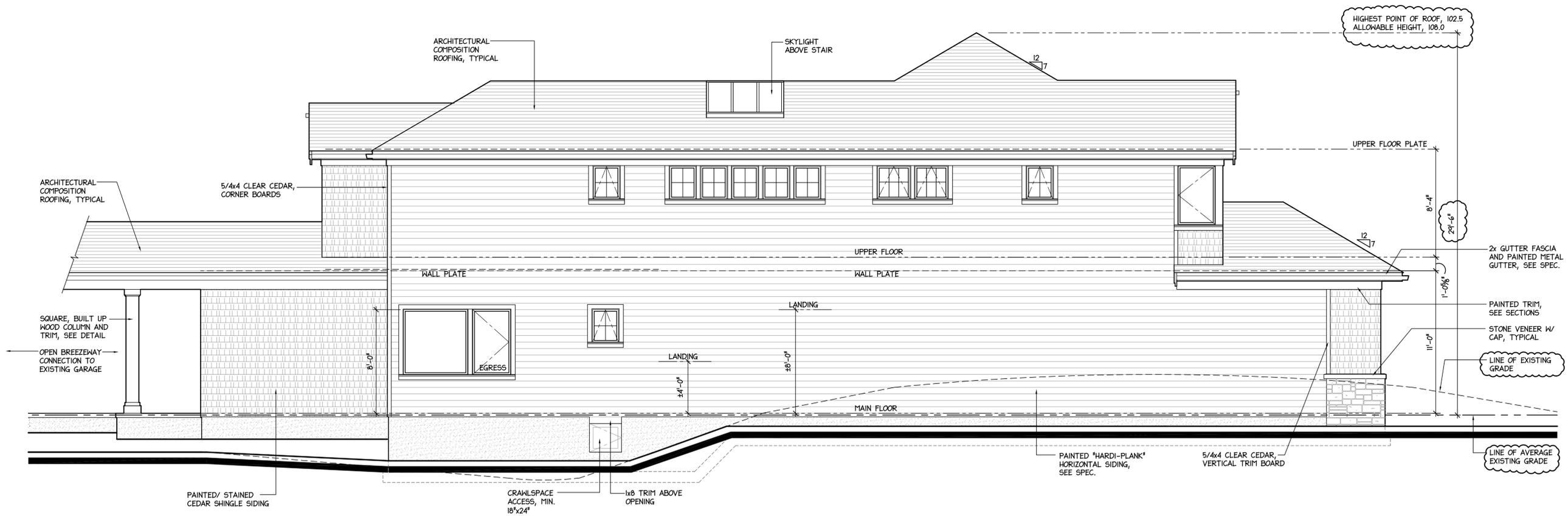
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 1219 96TH AVE S.E.
 BELLEVUE WASHINGTON 98004
 UPPER FLOOR PLAN

Peter D. Swindley
 architects and interiors inc.
 2223 112th ave ne suite #100 bellevue wa 98004 425-455-9358



EAST ELEVATION

SCALE: 1/4"=1'-0"



NORTH ELEVATION

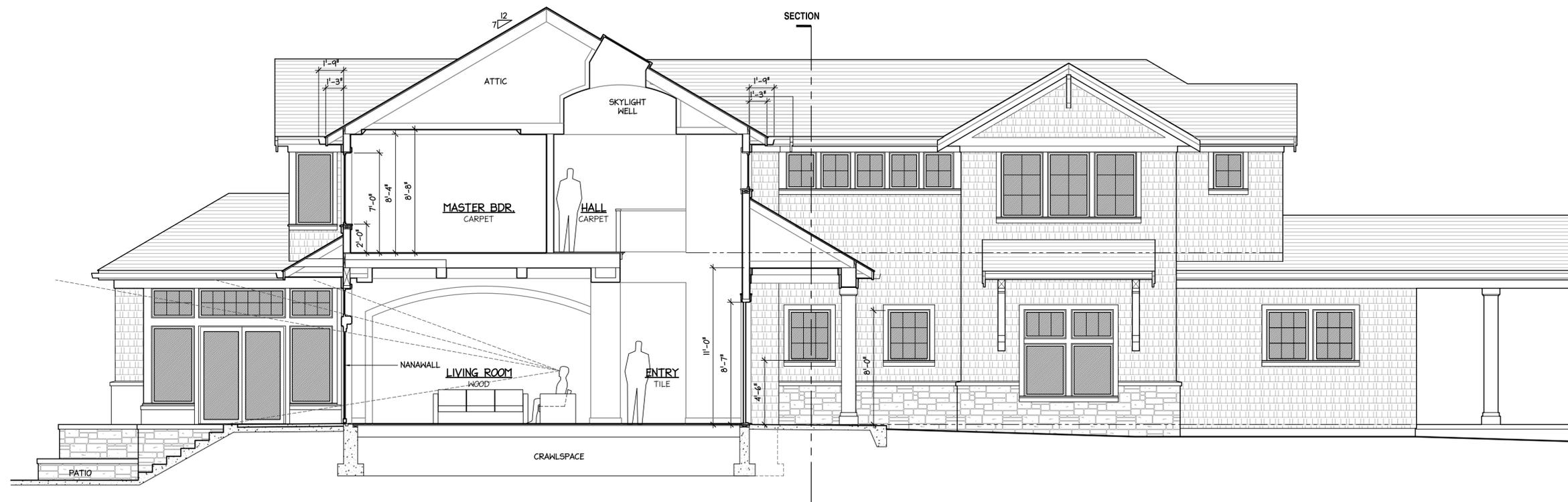
SCALE: 1/4"=1'-0"

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SOUTH / NORTH SECTION - ELEVATION

SCALE: 1/4"=1'-0"



WEST / EAST SECTION - ELEVATION

SCALE: 1/4"=1'-0"

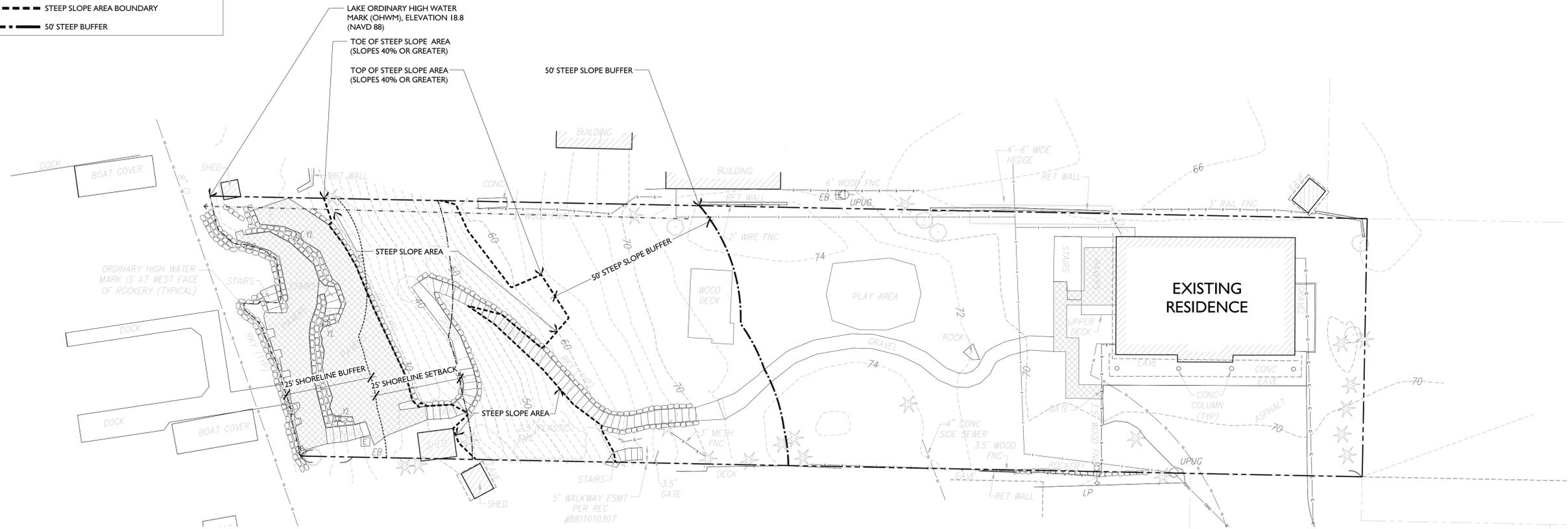
THE GUYETTE RESIDENCE

STEEP SLOPE MITIGATION PLAN



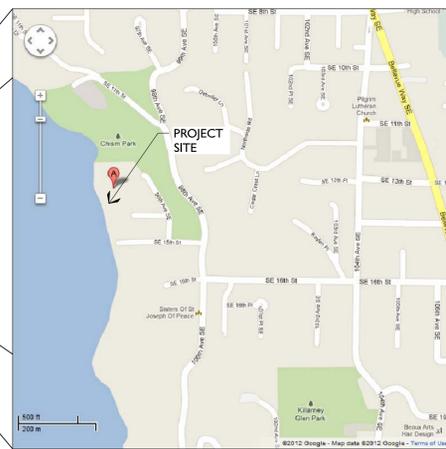
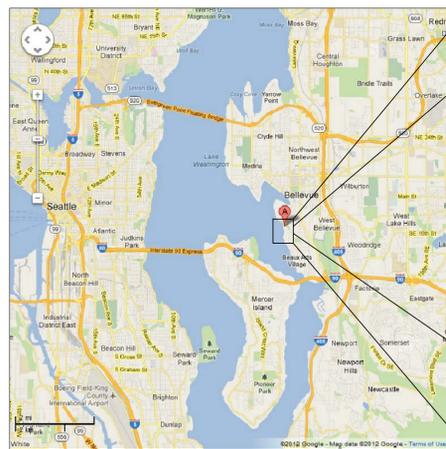
750 Sixth Street South
Kirkland WA 98033
p 425.822.5242 f 425.827.8136
www.watershedco.com
Science & Design

PLAN LEGEND	
	LAKE WASHINGTON OHWM (EL. 18.8, NAVD 88)
	25' SHORELINE BUFFER
	25' SHORELINE SETBACK
	STEEP SLOPE AREA BOUNDARY
	50' STEEP BUFFER



EXISTING CONDITIONS

SCALE: 1/8" = 1'-0"



VICINITY MAPS

SHEET INDEX	
1	EXISTING CONDITIONS
2	IMPACTS AND MITIGATION PLAN
3	PLANTING PLAN, SCHEDULE & NOTES
4	PLANTING NOTES & DETAILS; MITIGATION PLAN NOTES

THE GUYETTE RESIDENCE
STEEP SLOPE MITIGATION PLAN
FOR: TRACY AND TODD GUYETTE
SITE ADDRESS: 1219 96TH AVE. SE
BELLEVUE, WA 98004

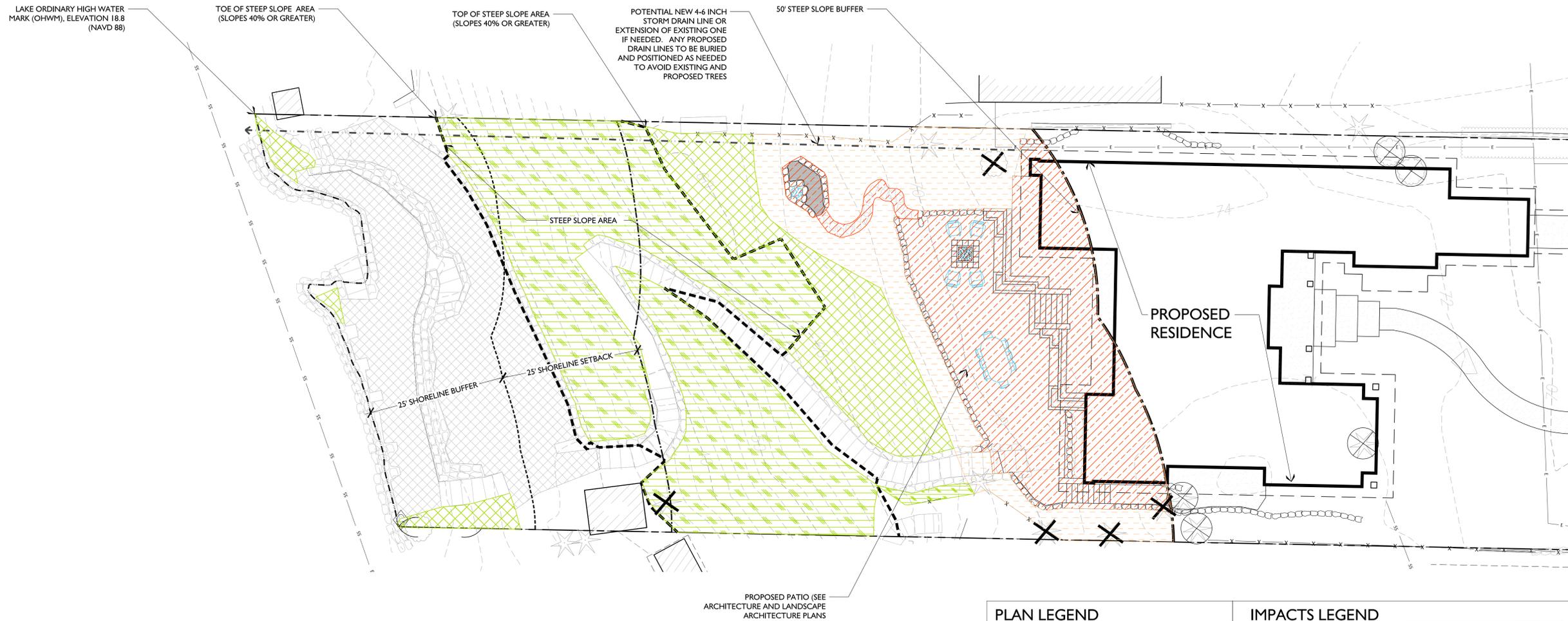
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NO.	DATE	DESCRIPTION	BY	CL
1	7-14-12	REVIEW SET		CL
2	7-13-12	REVIEW SET		CL
3	8-30-12	CITY COMMENTS		CL

GENERAL NOTES:

NOT FOR CONSTRUCTION
THESE PLANS ARE SUBJECT TO AGENCY APPROVAL. UNTIL APPROVED, THESE PLANS ARE SUBJECT TO REVISION

SHEET SIZE:
ORIGINAL PLAN IS 24" x 36"
SCALE ACCORDINGLY.

PROJECT MANAGER: KB
DESIGNED: MG
DRAFTED: CL
CHECKED: MG, KB
JOB NUMBER:
120229
SHEET NUMBER:
1 OF 4



PLAN LEGEND

- LAKE WASHINGTON OHWM (EL. 18.8, NAVD 88)
- 25' SHORELINE BUFFER
- 25' SHORELINE SETBACK
- STEEP SLOPE AREA BOUNDARY
- 50' STEEP BUFFER

IMPACTS LEGEND

	PERMANENT IMPACTS WITHIN BUFFERS	2,001 SF
	TEMPORARY DISTURBANCE (TO BE RESTORED WITH NATIVE PLANTS)	1,187 SF
	TREES TO BE REMOVED WITHIN BUFFERS	5
	TREES TO BE REMOVED OUTSIDE BUFFERS	5

MITIGATION LEGEND

	PROPOSED BUFFER ENHANCEMENT (THROUGH THE INSTALLATION OF NATIVE PLANTS AND REMOVAL OF INVASIVE SPECIES)	1,033 SF
	PROPOSED STEEP SLOPE ENHANCEMENT (THROUGH THE INSTALLATION OF NATIVE PLANTS AND REMOVAL OF INVASIVE SPECIES)	2,713 SF
	RESTORATION OF TEMPORARILY DISTURBED AREAS	1,154 SF
TOTAL:		4,762 SF

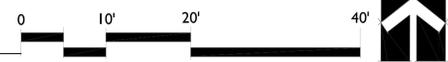
THE GUYETTE RESIDENCE
STEEP SLOPE MITIGATION PLAN
FOR: TRACY AND TODD GUYETTE
SITE ADDRESS: 1219 96TH AVE. SE
BELLEVUE, WA 98004

SUBMITTALS & REVISIONS

NO.	DATE	DESCRIPTION	BY	CL
1	7-9-12	REVIEW SET	CL	CL
2	7-13-12	REVIEW SET	CL	CL
3	8-30-12	CITY COMMENTS	CL	CL

GENERAL NOTES:

IMPACTS AND MITIGATION PLAN
SCALE: 1"=10'-0"



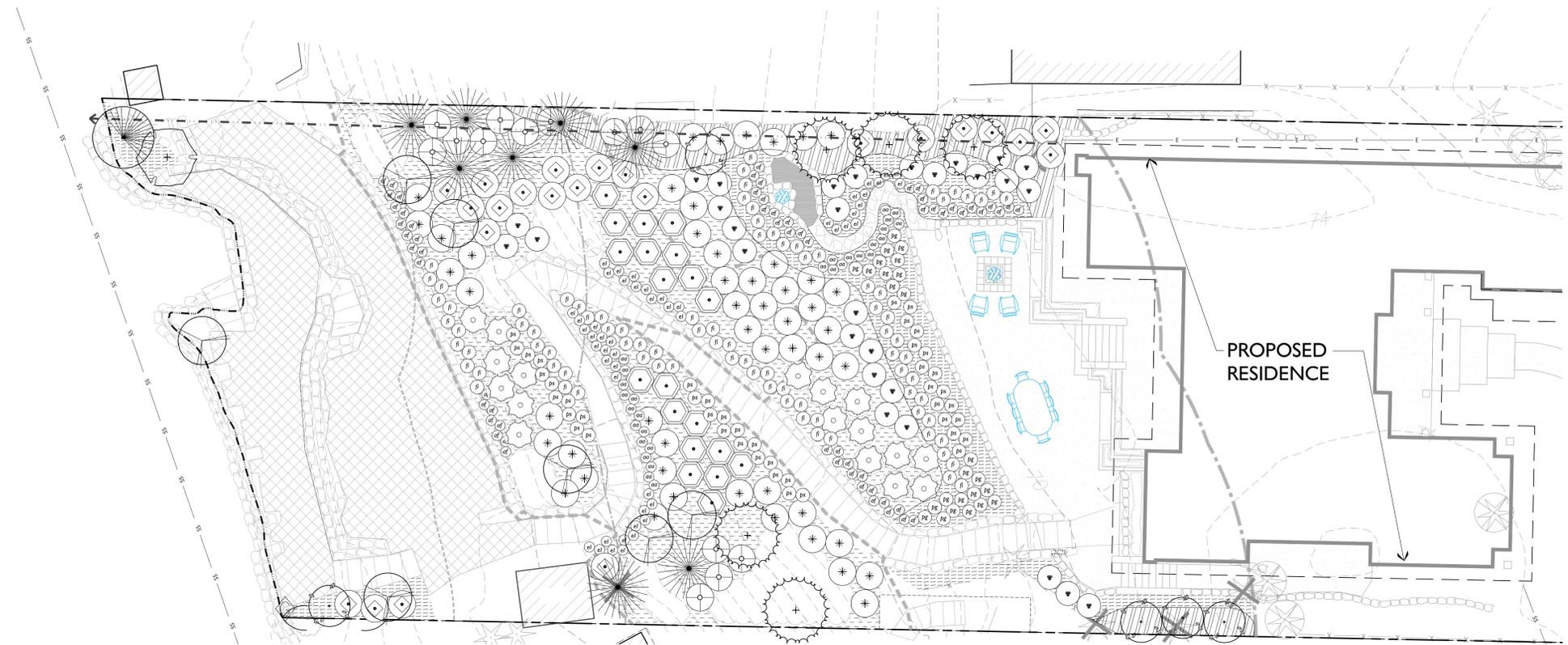
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PROJECT MANAGER: KB
DESIGNED: MG
DRAFTED: CL
CHECKED: MG, KB
JOB NUMBER:
120229
SHEET NUMBER:
2 OF 4

PLANT SCHEDULE

EXISTING VEGETATION TO REMAIN	NAME	QTY	SIZE / REMARKS
TREES - ALL TREES TO BE HEALTHY & WELL BRANCHED			
	BETULA Papyrifera / PAPER BIRCH	1	5 GAL
	PSEUDOTSUGA MENZIESII / DOUGLAS FIR	8	5 GAL
	PINUS CONTORTA / SHORE PINE	1	5 GAL
	THUJA PLICATA / WESTERN RED CEDAR	5	5 GAL
SHRUBS - ALL SHRUBS TO BE HEALTHY, FULL & VIGOROUS			
	ACER CIRCINATUM / VINE MAPLE	5	2 GAL
	AMELANCHIER ALNIFOLIA / SERVICEBERRY	7	2 GAL
	GAULTHERIA SHALLON / SALAL	162	4" POT / 24" O.C.
	PHILADELPHUS LEWISSII / MOCK ORANGE	14	1 GAL
	RIBES SANGUINEUM / RED FLOWERING CURRANT	20	1 GAL
	ROSA GYMNOCARPA / BALDHIP ROSE	20	1 GAL
	ROSA PISOCARPA / CLUSTER ROSE	17	1 GAL
	SYMPHORICARPOS ALBUS / SNOWBERRY	51	1 GAL
	VACCINIUM OVATUM / EVERGREEN HUCKLEBERRY	29	1 GAL
PERENNIALS / GROUNDCOVERS			
	ALLIUM ACUMINATUM / TAPER-TIP ONION	29	4" POT
	AQUILEGIA FORMOSA / WESTERN COLUMBINE	61	4" POT
	ARCTOSTAPHYLOS UVA-URSI / KINNIKINNICK	810	4" POT, 24" O.C.
	ERIOPHYLLUM LANATUM / OREGON SUNSHINE	50	4" POT
	POTENTILLA GRACILIS / GRACEFUL CINQUEFOIL	25	4" POT
	FESTUCA IDAHOENSIS / IDAHO FESCUE	89	4" POT
	PENSTEMON SERRULATUS / CASCADE PENSTEMON	44	4" POT
	FRAGARIA CHILOENSIS / SAND STRAWBERRY	487	4" POT, 18" O.C.



PLAN LEGEND

- LAKE WASHINGTON OHWM (EL. 18.8, NAVD 88)
- 25' SHORELINE BUFFER
- 25' SHORELINE SETBACK
- STEEP SLOPE AREA BOUNDARY
- 50' STEEP BUFFER

PLANTING NOTES

- NATIVE PLANT INSTALLATION SHALL OCCUR DURING FROST-FREE PERIODS ONLY.
- LOCATE ALL EXISTING UTILITIES WITHIN THE LIMIT OF WORK. THE CONTRACTOR IS RESPONSIBLE FOR ANY UTILITY DAMAGE AS A RESULT OF THE LANDSCAPE CONSTRUCTION.
- REMOVE ANY AND ALL INVASIVE WEEDS AND THEIR ROOTS FROM THE PLANTING AREA INCLUDING: ENGLISH IVY, LAUREL, BLACKBERRY, LABURNUM, ENGLISH HOLLY, AND PERIWINKLE.
- SOIL WITHIN THE MITIGATION AREAS NEEDS TO BE AMENDED IN THE FOLLOWING WAYS:
 - PLANTING AREAS OUTSIDE OF STEEP SLOPE AREAS AND AREAS OF EXISTING TREE/SHRUB ROOTS: THESE AREAS ARE TO BE ROTOTILLED/SCARIFIED TO A DEPTH OF 6". ALL LARGE ROCKS AND OTHER DEBRIS IS TO BE REMOVED. 4" DEPTH OF COMPOST IS TO BE INCORPORATED INTO THE SUBGRADE. LIGHTLY COMPACT AND USE REMAINING COMPOST TO ACHIEVE FINISH GRADE.
 - STEEP SLOPE AREAS AND AREAS OF EXISTING TREE AND SHRUB ROOTS: DO NOT ROTOTILL IN THESE AREAS. INCORPORATE COMPOST BY HAND IN THESE AREAS. IN AREAS OF THICK EXISTING TREE ROOTS NOT TO BE DISTURBED, COMPOST WILL BE ADDED ON TOP OF ROOTS.
- LAYOUT PLANT MATERIAL PER PLAN FOR INSPECTION BY THE LANDSCAPE ARCHITECT. PLANT SUBSTITUTIONS WILL NOT BE ALLOWED WITHOUT THE APPROVAL OF THE LANDSCAPE ARCHITECT.
- INSTALL PLANTS PER PLANTING DETAILS.
- WATER EACH PLANT THOROUGHLY TO REMOVE AIR POCKETS.
- INSTALL A 4" DEPTH, COARSE WOOD-CHIP MULCH RING AROUND EACH PLANT.
- INSTALL A TEMPORARY IRRIGATION SYSTEM CAPABLE OF DELIVERING 2" OF WATER PER WEEK TO THE ENTIRE PLANTED AREA. MAINTAIN IRRIGATION SYSTEM IN WORKING CONDITION FOR TWO (2) SUMMERS AFTER INITIAL PLANT INSTALLATION.
- ONE YEAR AFTER INITIAL PLANT INSTALLATION, APPLY ORGANIC, SLOW-RELEASE FERTILIZER SUCH AS OSMOCOTE OR PERFECT BLEND 4-4-4 TO EACH PLANT.
- THE LANDSCAPE CONTRACTOR SHALL MAINTAIN ALL PLANT MATERIAL UNTIL FINAL INSPECTION AND APPROVAL BY THE OWNER OR OWNER'S REPRESENTATIVE. ALL PLANTINGS AND WORKMANSHIP SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING FINAL OWNER ACCEPTANCE.

THE GUYETTE RESIDENCE
STEEP SLOPE MITIGATION PLAN
FOR: TRACY AND TODD GUYETTE
SITE ADDRESS: 1219 96TH AVE. SE
BELLEVUE, WA 98004

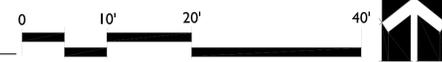
SUBMITTALS & REVISIONS

NO.	DATE	DESCRIPTION	BY	CL
1	7-9-12	REVIEW SET		
2	7-13-12	REVIEW SET		
3	8-30-12	CITY COMMENTS		

GENERAL NOTES:

PLANTING PLAN, SCHEDULE, AND NOTES

SCALE: 1"=10'-0"



NOT FOR CONSTRUCTION
THESE PLANS ARE SUBJECT TO AGENCY APPROVAL. UNTIL APPROVED, THESE PLANS ARE: **SUBJECT TO REVISION**

SHEET SIZE:
ORIGINAL PLAN IS 24" x 36".
SCALE ACCORDINGLY.

PROJECT MANAGER: KB
DESIGNED: MG
DRAFTED: CL
CHECKED: MG, KB
JOB NUMBER: 120229
SHEET NUMBER: 3 OF 4

Critical Areas Report Guyette Residence—Bellevue, WA

July 2012
TWC Reference # 120229

Prepared for:

Todd and Tracy Guyette
1219 96th Ave. SE
Bellevue, WA 98004

Prepared by:



750 Sixth Street South
Kirkland, WA 98033
p 425.822.5242
f 425.827.8136
watershedco.com



CRITICAL AREAS REPORT

Guyette Residence – Bellevue, WA

Prepared for:

Todd and Tracy Guyette
1219 96th Avenue SE
Bellevue, WA 98004

Prepared by:



750 Sixth Street South
Kirkland . WA 98033

p 425.822.5242
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watershedco.com

July 2012

The Watershed Company

Reference Number:

120229

The Watershed Company Contact Person:

Kenny Booth

Cite this document as:

The Watershed Company. July 2012. Critical Areas Report: Guyette Residence, Bellevue, WA. Prepared for Todd and Tracy Guyette, Bellevue, WA.

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Appendix A: Restoration Plan

LIST OF EXHIBITS

Figure 1.	Vicinity Map.....	4
Figure 2.	View of the property (looking east), including the existing rockeries at the shoreline and the sparsely vegetated steep slope – photo taken 3-28-12.	10
Figure 3.	View of the flat area at the top of the slope (looking west) – photo taken 3-28-12.....	10
Figure 4.	View of the existing sparsely vegetated steep slope (looking north) – photo taken 3-28-12.	11
Figure 5.	View of the existing steep slope critical area (looking west). Notice the lack of native vegetation – photo taken 3-28-12.	11
Figure 6.	View of topped western red cedar from the top of the slope, placing it nearly at eye level – photo taken 6-26-12.	12

CRITICAL AREAS REPORT

GUYETTE RESIDENCE – BELLEVUE, WA

1 INTRODUCTION

1.1 Background and Purpose

The purpose of this report is to document potential critical area impacts associated with the proposed residential development project located on the eastern shore of Lake Washington in the City of Bellevue, Washington (Figure 1). The applicant proposes to retain the existing residence (as an accessory structure) and construct a new single-family residence. Portions of the newly constructed residence will be located within the on-site steep slope buffer. Bellevue Land Use Code (LUC) 20.25H.230 requires compliance with specific critical areas report criteria as part of any modification to a critical area. This report fulfills these criteria. Further, pursuant to LUC 20.25H.250(C)(1), this report has been prepared in conjunction with a geotechnical analysis report by Terra Associates, Inc. While Terra Associates, Inc. has contributed to some degree to this report, the majority of technical geological hazard discussion can be found in their report. Conversely, this report presents a detailed discussion of the habitat and vegetation on-site and how the proposed development can be achieved with no net loss of on-site or off-site critical area functions and values.

1.2 Description of Project Area

The subject property is located at 1219 96th Avenue SE (parcel 0624059024) in the City of Bellevue. Lake Washington borders the site to the west, and single family residences are located to the north, south, and east of the site. The parcel is rectangular-shaped and approximately 0.55 acre in size. The property takes access from 96th Avenue SE via a shared tract that provides access for upwards of three separate lots. The lot is relatively flat in the eastern two-thirds but then slopes steeply downward to the lake. The lot presently contains a house (built in 1996), a driveway, a playground structure, a small detached deck facing the lake, a gravel trail and staircase that leads to the shoreline, a shed, a rock bulkhead along the entire length of the shoreline, and a fixed-pile pier with a moorage cover and boatlift.

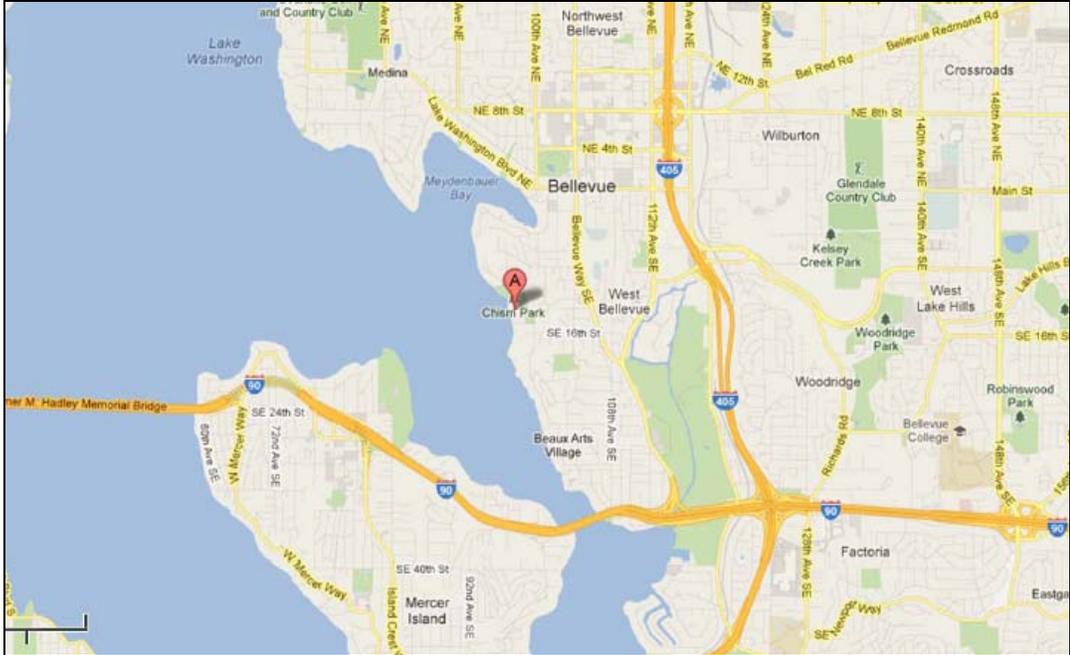


Figure 1. Vicinity Map.

No wetlands or streams were noted on the property, nor do publicly available data indicate the presence of aquatic areas aside from Lake Washington. According to a geotechnical report prepared by Terra Associates, Inc. (dated June 7, 2012), the property contains steep slopes but is not identified as a landslide hazard area. According to the report, no indications of erosion or instability were observed.

Vegetation

The subject parcel consists of a grass lawn, ornamental vegetation, invasive species, and native trees, shrubs, and herbaceous plants. A low grass lawn is maintained adjacent to the existing house. The slope down toward the lake supports grass, sword fern, bracken fern, creeping buttercup, foxglove, common weeds, low Oregon grape, strawberry, small-fruit rose, boxleaf, beaked hazelnut, osoberry, and the invasive species periwinkle, laurel, Himalayan blackberry, English holly, and English ivy.

The north, south, and east parcel edges support the most mature vegetation on the property, some of which is rooted on adjacent parcels. Tree and large shrubs dominating the narrow border areas are western red cedar, mountain ash, Douglas fir, bitter cherry, vine maple, ornamental maple, and laurel. Grass and herbaceous species make up a low understory of most of the site. These species, and all species observed on the site, are presented in Table 1.

Table 1: Vegetative species observed on Guyette property.

	Common name	Scientific name	Native?
Trees	Western red cedar	<i>Thuja plicata</i>	Y
	Douglas-fir	<i>Pseudotsuga menziesii</i>	Y
	Bitter cherry	<i>Prunus emarginata</i>	Y
	Mountain ash	<i>Sorbus stichensis</i>	Y
	Bigleaf maple	<i>Acer macrophyllum</i>	Y
	Red alder	<i>Alnus rubra</i>	Y
Shrubs	Osoberry	<i>Oemleria cerasiformis</i>	Y
	Vine maple	<i>Acer circinatum</i>	Y
	Laurel	<i>Prunus laurocerasus</i>	N
	Beaked hazelnut	<i>Corylus cornuta</i>	Y
	Boxleaf honeysuckle	<i>Linocera nitida</i>	N
	Oceanspray	<i>Holodiscus discolor</i>	Y
	Cluster rose	<i>Rosa pisocarpa</i>	Y
	Chokeberry	<i>Photinia</i> sp.	N
	Salal	<i>Gaultheria shallon</i>	Y
	Kinnikinnick	<i>Arctostaphylos uva-ursi</i>	Y
	Trailing blackberry	<i>Rubus ursunus</i>	Y
	English ivy	<i>Hedera helix</i>	N
	English holly	<i>Ilex opaca</i>	N
	Low Oregon grape	<i>Mahonia nervosa</i>	Y
Herbs	Strawberry	<i>Fragaria</i> sp.	Y
	Periwinkle	<i>Vinca major</i>	N
	St. Johnswort	<i>Hypericum perforatum</i>	N
	Robert's geranium	<i>Geranium robertianum</i>	N
	Foxglove	<i>Digitalis purpurea</i>	N
	Creeping buttercup	<i>Ranunculus repens</i>	N
	Bracken fern	<i>Pteridium aquilinum</i>	Y
	Sword fern	<i>Polystichum munitum</i>	Y

Soils

According to Natural Resources Conservation Service (NRCS) soil maps, the project site is comprised of Kitsap silt loam, 15 to 30 percent slopes. Parent material is described as lacustrine deposits with a minor amount of volcanic ash.

Habitat

Habitat on the property includes the mixed native, non-native, and ornamental vegetated areas on the steep slope and along the property edges, and the Lake Washington shoreline. The shoreline is fully armored with a rock bulkhead and further developed with a pier, including covered moorage and a boatlift. Adjacent to the bulkhead is a terraced brick landing, largely contiguous with the bulkhead except for a small pervious section vegetated with three vine maples, kinnikinnik, and strawberry (Figure 2).

The upper portion of the property is largely developed with the single-family home and associated outdoor structures and lawn. Habitat in this area is restricted to the trees and shrubs on the property boundaries. The steep slope supports mostly low vegetation and is disrupted by the gravel trail to the shore.

Many species using the upland vegetated areas are likely “synanthropic,” species, or those associated with human activity and most typical of developed areas, but the presence of the forested Chism Park approximately 200 feet to the north can be expected to support wildlife, particularly birds that might use the large trees on the upslope areas of the subject property. The conifers on the site do provide quality perching and nesting opportunities for bald eagles and osprey, which prefer to forage and nest next to large open waters such as Lake Washington. However, these resources are not unique to the site or particularly rare along the shoreline. The onsite trees are also large enough to attract canopy-using songbirds that commonly use nearby Chism Park or Lake Washington. However, the trees are unlikely to be used extensively for nesting, as more suitable habitat is close by, although occasional nesting by songbirds is possible. Undergrowth in the boundary areas varies from very simple to complex, but it very limited in extent by the neighboring properties, both of which are developed and vegetated similarly to the subject parcel.

Vegetation on the slope includes some native forage species and provides feeding habitat, but shrubs are widely spaced and structure is simple. The low structural diversity would limit nesting and cover opportunities for most wildlife species. There are a few native and non-native nut- and berry-producing plants present, including beaked hazelnut, osoberry, and Himalayan blackberry, which provide a food source for songbirds and small mammals. However, these plants are present in low quantities and densities.

Special features such as snags and large woody debris, which provide habitat for birds and small mammals, are not present on the site.

Shorebird use cannot be precluded, although shoreline habitat is very limited and beach foraging areas are not present. Shorebirds are not expected to regularly use the site.

Small mammals using the site are probably limited to those acclimated to suburban areas and considered pests. Raccoons, opossums, rats, mice, and coyotes from the nearby forested area may be attracted to garbage, pets, or pet food.

Presently, the property provides very little benefit to aquatic habitat, limited to some overhang by a few shrubs above the bulkhead.

The presence of Lake Washington at the property edge provides the opportunity for species that frequent the lake to be observed from the site. These include the species of significance discussed in the following section, as well as otters, beaver, and birds of shorelines and open water. These may include Vaux's swifts, belted kingfishers, double-crested and Brandt's cormorants, several swallow species, various flycatchers, and other insectivores that seek foraging perches on Lake Washington's shorelines. There is presently little on the property to attract any of these species, and it is unlikely that individuals would use the site except very occasionally.

The site is not part of a habitat corridor.

2 SPECIES OF LOCAL IMPORTANCE

The City of Bellevue designates habitat associated with species of local importance as a critical area (LUC 20.25H.150(B)). Species of local importance (LUC 20.25H.150(A)) commonly found in the study area vicinity are bald eagle, pileated woodpecker, Vaux's swift, merlin, purple martin, great blue heron, osprey, red-tailed hawk, and common loon. Potential fish use of Lake Washington includes Chinook and coho salmon, bull trout, and river lamprey. The likelihood of each of these species utilizing the property in any substantive way is low. As described briefly above, some species may visit the site occasionally.

Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species (PHS) data indicate that a bald eagle breeding territory extends to within about 100 ft of the eastern edge of the study site. The breeding eagles may fly over the property when foraging on Lake Washington and could occasionally perch in one of the mature trees. A western red cedar with a cut top located along the southern site boundary in the steep slope is proposed for removal. A topped conifer might be a potential eagle nest tree under other conditions, but its location near the foot of the steep slope puts the top of

the tree close to the same height as the top of the slope (see Figure 6 for vantage); rendering the tree poorly suited to bald eagle nesting, as the perceived vulnerability and ease of access would be high.

WDFW no longer requires management plans for actions within Bald Eagle Management Zones. However, the U.S. Fish and Wildlife Service (USFWS) recommends the following management actions be taken for construction of a 3-story or higher building within a Management Zone if the nest is not visible from the property:

(1) maintain a buffer of at least 330 feet (100 meters) between construction activities and the nest (including active and alternate nests), or if a similar activity is closer than 330 feet, then maintain a buffer at least as far from the nest as the existing tolerated activity,

(2) within 660 (200 meters) feet of the nest, restrict any clearing, external construction or landscaping activities to outside the nesting season (outside the nesting season is from September through December since the nesting season in the Pacific Northwest is generally from January 1 through August 15), and

(3) maintain established landscape buffers that screen the activity from the nest.

The proposed project appears from PHS online maps to be approximately 750 ft from the nest and thus outside of the maximum buffer referenced in these recommendations and not within view of the nest. Additionally, the proposed structure is 2-stories in height, and therefore the proposal will not impact established landscape buffers.

Pileated woodpeckers commonly use large conifers for drumming and foraging. The species is often spotted in suburban areas in King County. Individuals may occasionally use the large trees on the property, although the species' preferred large snags are not present. Suitable nesting sites for this species do not presently exist on the property, although future recruitment from the large trees is possible. More suitable habitat exists in Chism Park to the north.

Vaux's swifts forage in open skies over forests, lakes, and rivers, where insects are abundant. Lake Washington provides suitable foraging habitat, and the species may be present at times over the study area. Nesting normally takes place in old-growth forest where large, hollow snags are available. The study property does not provide nesting habitat for this species.

Merlins occur throughout western Washington in winter and during migration. Breeding birds are rare in the state. Occurrences are spotty but not uncommon in suburban areas, but the study site does not provide suitable hunting or breeding habitat.

Purple martin is Washington State's least common swallow. The species forages over open water and could potentially use the lake area adjacent to the study property for foraging. There are no suitable standing snags available on the property for cavity-nesting.

Great blue herons are widespread in western Washington. Outside of breeding, which occurs in tall trees, commonly away from human disturbance, the birds are most often observed in and along rivers, lakes, and wetlands. Nearby less developed shoreline of Lake Washington are likely used by foraging and resting herons throughout the year. The species may occasionally perch on the dock, bulkhead, or lower part of the property. No potential breeding area exists on the site.

Osprey are very common over Lake Washington. Osprey typically nest in trees adjacent and above water. A few potential perch trees occur on the property, and they may be occasionally used for perching.

Red-tailed hawk nests are generally located in more extensive woodlands than the site offers. Red-tailed hawks are ubiquitous in this area and may occasionally perch on or fly over the property.

Common loons prefer large, secluded lakes in the eastern part of the state for breeding. In winter, the species is most common on the coast and in saltwater bays and inlets, but can be seen on freshwater lakes near the coast as well. The open waters of Lake Washington are commonly used by wintering loons, but the species is unlikely to enter the study property.

Chinook and coho salmon migrate through Lake Washington. The lake itself does not provide spawning habitat. The lake is used by juveniles for migration, as well as rearing. Lake temperatures are warmer than preferred by these species, particularly in shallow areas, and the study site provides no cover for hiding or cooling. The lake area immediately adjacent to the property is unlikely to be used extensively by these species.

Bull trout are rare or non-existent in Lake Washington. The species has a narrow temperature tolerance range, and is very unlikely to occur near the shallow waters adjacent to the study property.

River lamprey have been identified in Lake Washington. According to the U.S. Fish and Wildlife Service, the species has declined, present status is unknown, and little is known about their biology.



Figure 2. View of the property (looking east), including the existing rockeries at the shoreline and the sparsely vegetated steep slope – photo taken 3-28-12.



Figure 3. View of the flat area at the top of the slope (looking west) – photo taken 3-28-12.



Figure 4. View of the existing sparsely vegetated steep slope (looking north) – photo taken 3-28-12.



Figure 5. View of the existing steep slope critical area (looking west). Notice the lack of native vegetation – photo taken 3-28-12.



Figure 6. View of topped western red cedar from the top of the slope, placing it nearly at eye level – photo taken 6-26-12.

3 LOCAL REGULATIONS

In Bellevue, steep slope critical areas are governed by Critical Areas Ordinance No. 5680. According to LUC 20.25H.120(A)(2), slopes of 40 percent or more that have a rise of at least 10 feet and exceed 1,000 square feet in area are designated as geologic hazard areas and therefore subject to the regulations of LUC 20.25H.120 through 20.25H.125.

According to LUC 20.25H.120(B)(1)(b), steep slope critical areas require a top-of-slope buffer of 50 feet. Further, pursuant to LUC 20.25H.120(C)(2), steep slopes require a toe-of-slope setback of 75 feet. The setback is intended to minimize long-term impacts of development and protect the critical area from adverse impacts during construction. Shorelines are regulated by LUC 20.25H.115 and 20.25E. Developed sites on Lake Washington require a 25-foot critical area buffer [LUC 20.25H.115(B)(1)(a)(ii)] and a 25-foot shoreline critical area structure setback [LUC 20.25H.115(C)(2)(b)].

Steep slope, steep slope buffers, steep slope setbacks, shoreline buffers, and shoreline setbacks can only be modified through an approved critical areas report. The applicant must demonstrate that the modifications to the critical area, buffer, and setback, combined with any restoration efforts, will result in equivalent or better protection of critical area functions and values than would result from adhering to the standard application of the regulations (LUC 20.25H.230). Restoration of the critical area may

involve restoring the shoreline, removing invasive plant species, and/or planting native vegetation within the critical area and/or buffer. An approved restoration plan would require monitoring and maintenance in accordance with LUC 20.25H.220.

4 PROJECT DESCRIPTION

The proposed project includes the retention of the existing on-site residence and the construction of a new residence, just to the west of the existing structure. A covered walkway will link the two structures, with the existing structure continuing to provide garage space for three vehicles, as well as guest space above. The new structure will be two stories in height and will measure approximately 85 feet by 55 feet at its furthest extents. It will be located 125 feet from the lake's ordinary high water mark (OHWM) and 35 feet from the edge of the on-site steep slope critical area. The new structure is to be constructed in an area currently occupied by lawn, several mature trees, a gravel path, and an existing play structure. The building envelope is relatively flat with the exception of a small knoll in the southwest corner. The knoll would be leveled during grading.

In addition to a portion of the structure being placed within the steep slope buffer, grading and hardscape improvements west of the proposed structure will also encroach into the 50-foot steep slope buffer. Hardscape improvements include an approximately 1,500 square foot patio with associated steps, seating walls, planters, and a fire pit. The patio area is to be situated approximately 4 feet lower than the finish floor of the structure in order to provide views of the lake from within the home. A secondary and smaller patio will be situated north and west of the main patio. The patio will measure approximately 50 square feet and will include a seat wall and fire pit.

The proposed residence will be set back further from the OHWM than either immediately adjacent residence. Therefore, shoreline or water views for either neighbor are not expected to be impacted by the proposal. The proposed project includes the removal of ten existing trees, four of which are located within the steep slope buffer, and one which is located within the steep slope. The remainder of the on-site existing trees will be preserved. A summary of the ten trees proposed for removal is presented in Table 2.

Table 2. Tree Removal Summary

Species	Diameter	Location relative to steep slope buffer
Deciduous	8", 10" (twin)	Outside buffer
Deciduous	10", 6" (twin)	Outside buffer
Deciduous	8"	Within buffer

Cedar	10"	Outside buffer
Douglas-fir	36"	Outside buffer
Cedar	18"	Outside buffer
Cedar	8"	Within buffer
Cedar	20"	Within buffer
Cedar	20"	Within buffer
Cedar (topped)	36"	Within steep slope

Project Purpose

The purpose of the proposed project is to construct a new residence on the project site that takes advantage of the shoreline location. Specifically, the existing residence is located in excess of 225 feet from the lake at an elevation approximately 50 feet above the surface of the lake. Immediately adjacent residences to the north and south are each positioned near the top of the steep slope, approximately 100 feet from the OHWM. This condition ‘boxes in’ the subject residence and significantly limits westward views from the home.

The proposal involves construction of a new residence situated approximately 125 feet from the lake’s OHWM. The house will be positioned near the edge of the flat bench of the site, partially within the steep slope buffer. Constructing the home in this location will provide enhanced views of the lake and shoreline and will also partially eliminate the obstruction of views by adjacent residence, as exists under the current condition. The proposal is compatible with existing residences within the same area. Of the closest seven shoreline properties with single-family structures, the average setback from the OHWM is approximately 75 feet. As mentioned, the proposed residence would be set back approximately 125 feet from the OHWM.

Mitigation Sequencing

Pursuant to LUC 20.25H.215, attempts to avoid and minimize impacts to the on-site steep slope, buffer, and setback, as well as the shoreline buffer and setback have been taken.

Avoidance: As previously mentioned, the proposed project will completely avoid impacts to the shoreline buffer, shoreline setback, steep slope, and steep slope setback. However, in order to fulfill the project purpose, impacts will occur within steep slope buffer.

Minimization: Minimization techniques were utilized during the design process in order to limit impacts to the steep slope and steep slope buffer. Minimization measures included:

1. Locating the residence and all associated improvements outside of the steep slope critical area.
2. Utilizing the existing flat bench for construction of the residence. Only a small portion of the house and hardscape improvements are proposed within areas of steep slope buffer.
3. Limiting grading within the steep slope buffer by constructing the residence at the 73' elevation. The existing structure is situated at the 70' elevation and positioning the new structure at the same elevation was preferred. However, significant grading, including within the steep slope buffer, would be necessary and therefore, this alternative was dismissed due to impacts.

Mitigation: As mitigation for placing a portion of the new residence within the steep slope buffer, 4,762 square feet on the property will be enhanced. Enhancement will occur within the steep slope critical area and buffer, and also partially within the shoreline structure setback and buffer (Appendix A). Enhancement will consist of planting native trees, shrubs and groundcover throughout the site. Restoration will occur in areas currently occupied by non-native vegetation or areas void of vegetation. Proposed species for planting include Douglas-fir, western red cedar, vine maple, serviceberry, salal, mock orange, red flowering currant, baldhip rose, cluster rose, snowberry, evergreen huckleberry, taper-tip onion, western columbine, kinnikinnick, Oregon sunshine, graceful cinquefoil, Idaho fescue, cascade penstemon, and sand strawberry. The proposed restoration will provide an additional level of protection for the critical area and will offset the addition of 2,001 square feet of new structural/impervious coverage within the steep slope buffer. Overall, a net improvement in critical area functions is proposed.

5 IMPACT ASSESSMENT / LIFT ANALYSIS

As mentioned in the previous section, portions of the new residence will be located within the 50-foot steep slope top-of-slope buffer. New structures/impervious surfaces within the steep slope buffer will total 2,001 square feet. However, a total of 4,762 square feet of the steep slope, steep slope buffer, shoreline structure setback, and shoreline buffer will be enhanced with native vegetation. A summary of impacts and proposed restoration is presented in the table below.

Table 3. Impact Assessment

	New Structures / Impervious Surfaces (Sq. Ft.)	Restoration Plantings/Enhancement (Sq. Ft.)
--	------------------------------------------------	---------------------------------------------

Steep Slope Critical Area	0	2,713
50' Top of Slope Buffer	2,001	2,049
75' Toe of Slope Setback	0	86
Shoreline Structure Setback	0	1,043
Shoreline Buffer	0	86
Total	2,001	4,762*

*Restoration total is not a cumulative total of all categories, as multiple critical areas overlap.

As can be seen in the above table, a significant increase in on-site native vegetation will result from the proposed project. Proposed native vegetation is intended to improve the overall functions and values of the on-site critical areas. An analysis of the specific functions and values provided by the existing site and the post-project site is provided in Table 4.

Table 4. Functional Lift Analysis

Critical Area/ Buffer Functions	Existing Conditions	Proposed Conditions	Functional Improvement?
Water Quality	Most of the existing steep slope and buffer is relatively devoid of native trees and shrubs. This lack of vegetation results in the inability to adequately filter stormwater before it enters the lake.	Remove invasive species and enhance/restore with native trees and shrubs.	Yes; water Quality will be improved. New native plantings will help to filter storm water prior to it reaching receiving waters.
Slope Stability	The existing steep slope is void of significant vegetation that could provide stability through deep root systems.	Remove invasive species and restore with native trees and shrubs.	Yes; new native plantings will have deeper root systems than the current vegetation, reducing erosion potential and improving slope stability.
Habitat	The existing steep slope and buffer support limited native species and several non-natives, including extensive English ivy. No snags or downed wood are present. Trees are limited to the edges of the property.	Remove 5 trees within the steep slope buffer and 5 trees outside of the buffer. See Table 2 for removal schedule. Remove invasive species and restore with native trees and shrubs.	The site will experience a temporal loss of mature vegetation on its outer edges, amounting to a loss of high perches for songbirds and raptors and possibly occasionally-used nest sites. The proposed plantings will add and enhance habitat on 3,608 sf of steep slope

			and buffer, providing greatly improved foraging opportunities, travel and resting cover, and the addition of potential nest sites for songbirds. Square footage of available wildlife habitat will increase; if permitted to mature, proposed plantings will eventually replace the habitat provided by the trees to be removed.
Net Condition	Degraded steep slope and associated buffer.	Invasive species are removed throughout the steep slope and buffer; native trees, shrubs, and groundcover are planted in the steep slope and buffer.	Slope and shoreline habitat restored with an increase in native vegetation; filtering of stormwater by native plantings; improved slope stability; increased habitat structural and compositional complexity, and an increase in organic material to the food chain.

The site will experience a temporal loss of mid- and upper-stratum habitat after trees are removed. Thirteen trees will be installed and eventually replace lost habitat functions. The proposed habitat enhancement will include the addition of more than 300 native trees and shrubs and 1,300 individual perennials and groundcovers, as well as the removal of all invasive plants in the mitigation area. Given the sparsely vegetated present state of the steep slope and buffer, an immediate gain in habitat function is expected in this area and functional value will increase as the plantings mature.

The footprint of the proposed house will eliminate primarily lawn area (with the exception being a number of the aforementioned trees), and, while it places a residence closer to the vegetated slope, the mitigation plantings will provide better cover and screening from disturbance than presently exists.

The steep slope and buffer will thus be more suitable overall for songbird and small mammal species than it is presently; the mitigation will provide more woody vegetation and a greater structural complexity, which is more attractive to songbirds and small mammals than is lawn and low-growing, homogeneous vegetation. As well, a greater mix of flowering, fruiting, and seeding plants will provide forage over a longer yearly timespan than the relatively uniform existing low vegetation. Wildlife species of the

Pacific Northwest are also better adapted to forage provided by native plants than non-native and ornamental species.

6 CRITICAL AREAS REPORT CRITERIA

As previously mentioned, steep slope buffers may be modified pursuant to LUC 20.25H.230. The Director may approve modifications if it can be shown that, through restoration, the modification will result in equivalent or better protection of critical area functions and values. The existing project site contains areas of low functioning steep slope and buffers. The existing steep slope and buffer are nearly void of vegetation and in some areas contain invasive species. The proposal includes restoration of the steep slope and buffer with 4,762 square feet of native trees, shrubs, and groundcover. These restoration actions will serve as mitigation for the addition of 2,001 square feet of new structural/impermeable coverage within the steep slope buffer. The planting layout incorporates a diversity of native plant species. The restoration plan will provide for substantially improved critical area and buffer functions and values relative to the existing condition. A monitoring and maintenance plan for the proposed mitigation area is also included in this report.

Per the LUC, the critical areas report must meet specific decision criteria in order for the Director to approve a proposal to modify the regulated steep slope buffer. Compliance with the relevant critical areas report criteria listed in LUC 20.25H.250(B) is addressed below.

1. *Identification of each regulation or standard of this code proposed to be modified.*

The subject site contains areas of steep slope, as defined by LUC 20.25H.120(A)(2). Pursuant to LUC 20.25H.120(B)(1)(b), a 50-foot top-of-slope buffer is required. The applicant proposes to construct a new single-family residence within portions of the steep slope buffer. The proposal complies with the remaining regulations and standards of this code.

3. *A habitat assessment consistent with the requirements of LUC 20.25H.165.*

1. *Detailed description of vegetation and habitat on and adjacent to the site;*

See Section 1.2 and 2.

2. *Identification of any species of local importance that have a primary association with habitat on or adjacent to the site and assessment of potential project impacts to the use of the site by the species;*

See Section 2 and Section 5 (Table 2).

3. *A discussion of any federal, state, or local special management recommendations, including Washington Department of Fish and Wildlife habitat management recommendations, that have been developed for species or habitats located on or adjacent to the site;*

Because of the proposed impacts to steep slope buffers, the project is subject to LUC 20.25H.160, which states that a WDFW wildlife management plan be implemented. The only species of local significance potentially using the study site for which such a plan exists is the bald eagle, although recommendations have been established for other species (see following paragraphs). However, WDFW no longer requires or produces bald eagle management plans. Rather, the USFWS recommends specific management procedures for projects that might impact nesting bald eagles. Compliance with these procedures is described in Section 2.

Pileated woodpeckers are highly affected by the loss of remnant forests. Retention of the largest forest patches in urbanizing areas is the most direct approach to managing for this species, and retention of snags and decaying large trees is recommended by WDFW. These features do not presently exist on the subject property.

Vaux's swifts are most likely to use only the adjacent lake area and skies over the study area, as suitable nesting snags and trees are not present on the property. WDFW recommendations include retaining hollow snags and live trees, which are not present on the site. Purple martin recommendations also include only actions not relevant to the project and property. Written WDFW recommendations are not available for other species of local importance that might use the site.

4. *A detailed discussion of the direct and indirect potential impacts on habitat by the project, including potential impacts to water quality;*

See Table 2. The most notable wildlife impact of the residential construction is the loss of perching trees. Songbirds and raptors that might use these trees will be displaced to surrounding areas. Although replacement trees will be planted, there will be an extended temporal loss of eagle perching habitat in particular as the trees mature. Songbird nesting habitat may also be temporarily lost, although the trees to be removed do not provide ideal or extensive nesting opportunities. Offsets to these impacts are provided by the enhancement of the property through the planting of native species. Improvements will increase

native plant structural and compositional diversity and enhance terrestrial songbird and small mammal habitat.

Section 2 further describes habitat impacts and mitigation not specific to critical habitats or species.

5. *A discussion of measures, including avoidance, minimization, and mitigation, proposed to preserve existing habitats and restore any habitat that was degraded prior to the current proposed use or activity and to be conducted in accordance with the mitigation sequence set forth in LUC [20.25H.215](#); and*

See Section 4 for mitigation sequencing and Section 5 for habitat restoration details.

6. *A discussion of ongoing management practices that will protect habitat after the site has been developed, including proposed monitoring and maintenance programs.*

See Sections 7 and 8.

4. *An assessment of the probable cumulative impacts to critical areas resulting from development of the site and the proposed development.*

Indirect and cumulative impacts can be addressed insofar as land use of the surrounding landscape can be expected to change over time. The lots surrounding the property are zoned R-2.5, with each appearing to be built at or near their maximum allowable density. Therefore, additional development is unlikely; although redevelopment (such as the subject proposal) could further impact critical areas. However, pursuant to existing regulations, all impacts would be mitigated and therefore, cumulative impacts are expected to be insignificant. The subject proposal will result in a net increase in on-site critical area functions, further reducing the likelihood of cumulative impacts.

5. *An analysis of the level of protection of critical area functions and values provided by the regulations or standards of this Code, compared with the level of protection provided by the proposal. The analysis shall include:*

a. *A discussion of the functions and values currently provided by the critical area and critical area buffer on the site and their relative importance to the ecosystem in which they exist;*

The existing steep slope is dominated by low-growing groundcover and lacks significant woody vegetation. Some water quality and hydrologic

function is provided by the existing vegetation, but function is limited by the predominance of groundcover and lack of deep rooted vegetation. Hydrologic function of the adjacent Lake Washington shoreline is not critical, as the lake does not have a floodplain. Water quality is more important, and this function is limited by the simple steep slope vegetation. The steep slope buffer also consists of low-growing vegetation and areas of lawn. As for habitat, the steep slope and buffer lack the native vegetation necessary to provide substantial forage and cover opportunities. The proposed mitigation will increase the ability of the steep slope to improve water quality by increasing the filtering area and density of low woody growth. Further, new plantings will provide a net increase in species and structural diversity while providing organic matter and foraging and nesting opportunities for terrestrial wildlife, including several songbird species. See also Table 2.

b. A discussion of the functions and values likely to be provided by the critical area and critical area buffer on the site through application of the regulations and standards of this Code over the anticipated life of the proposed development;

The strict application of the regulations and standards of LUC 20.25H would prevent the project from being constructed in the proposed location. The house and associated hardscapes would instead be located entirely outside of the 50-foot steep slope buffer. This would limit lake views from the home, depriving the property owners with a benefit enjoyed by all immediately adjacent waterfront properties. Further, under strict application of the Code, the existing degraded steep slope and portions of the buffer would remain in their existing degraded condition and no restoration would occur. Other than remaining free of any structure or hardscape, the steep slope buffer and more importantly the steep slope critical area would remain void of any significant native vegetation that would help to improve ecological functions over existing conditions.

Instead, the proposed project will result in the addition of substantial native vegetation within the steep slope critical area and buffer. The native plantings will maintain stormwater infiltration and provide increased species and structural habitat diversity within the steep slope critical area and buffer, and improved slope stability. See also Table 2.

c. A discussion of the functions and values likely to be provided by the critical area and critical area buffer on the site through the modifications and performance standards included in the proposal over the anticipated life of the proposed development; and

By requesting a critical area modification pursuant to LUC 20.25H.230, the applicant is provided the opportunity to restore portions of the on-site steep slope critical area and buffer. A restoration plan has been prepared (see Appendix A) that details the area proposed for restoration. This plan mitigates for the construction of the proposed residence within the steep slope buffer. Restoration will involve the enhancement of 4,762 square feet of the site through the planting of native vegetation within the steep slope critical area and buffer. The planting layout incorporates a diversity of native plant species. Proposed plantings include trees, shrubs, and groundcover. A monitoring and maintenance plan for the proposed restoration is also included in this report. Overall, a net gain in critical area functions is proposed. Therefore, modification of the on-site critical areas, and subsequent restoration, will provide a substantially higher level of protection than provided through the application of the regulations of LUC 20.25H. See also Table 2.

6. *A discussion of the performance standards applicable to the critical area and proposed activity pursuant to LUC 20.25H.160, and recommendation for additional or modified performance standards, if any.*

The proposed project and restoration plan will comply with USFWS recommendations (see Section 2).

7. *A discussion of the mitigation requirements applicable to the proposal pursuant to LUC 20.25H.210, and a recommendation for additional or modified mitigation, if any.*

The proposed restoration plan has been developed in accordance with the standards of LUC 20.25H.210 through 20.25H.225. The project applicant proceeded through the design of the proposed project by first attempting to avoid impacts to the on-site critical areas and buffers. However, because strict application of LUC 20.25H would result in the applicant being unable to construct a residence that fulfills their goals for shoreline views and would be inconsistent with existing homes in the neighborhood, the applicant proceeded with an alternative design and attempted to minimize impacts to the greatest extent possible. Subsequently, the residence has been configured in a location that fulfills the project purpose while limiting buffer impacts to the greatest extent feasible. The applicant has compensated for impacts to the critical area buffer by proposing a restoration plan that will improve the critical area functions and values relative to the existing condition. A monitoring and maintenance plan for the proposed restoration area has also been prepared and is included in this report. The plan includes the components required by LUC 20.25H.220.

To allow a steep slope buffer modification through an approved critical areas report, the Director must also find compliance with the decision criteria established in LUC 20.25H.255(A) and (B). Compliance with the relevant sections listed in LUC 20.25H.255(A) and (B) is addressed below.

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.*

A restoration plan that details the areas proposed for restoration as a result of the critical area buffer modifications has been prepared. The plan mitigates for the proposed construction of a single-family residence within portions of the steep slope critical area buffer. Restoration will involve the planting of native vegetation (trees, shrubs, and groundcover) within the steep slope and steep slope buffer. The overall planting layout incorporates a diversity of native plant species.

Proposed native plantings will increase species diversity, providing a variety of foraging resources for wildlife. An increase in structural diversity over existing conditions will also result, providing more suitable year-round cover conditions for wildlife, particularly songbirds. The proposed native plantings will also maintain stormwater functions within the slope, allowing filtration of stormwater adjacent to the lake and by helping to remove pollutants from stormwater on the slope.

Overall, the restoration plan will provide for substantially improved critical area and buffer functions and values relative to the existing condition. The monitoring and maintenance plan will ensure long-term success of the mitigation. See also Table 2.

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

A comprehensive five-year maintenance and monitoring plan is included in this report (Section 8). The plan specifies appropriate species for planting and planting techniques, describes proper maintenance activities, and sets forth performance standards to be met yearly during monitoring. This will ensure that restoration plantings will be maintained, monitored, and successfully established within the first five years following implementation. Furthermore, to ensure that the proposed plantings are installed and that the five-year maintenance and monitoring plan is implemented, the applicant will post an Installation Assurance Device and a Maintenance Assurance Device prior to building permit issuance.

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 on-site steep slopes (and Lake Washington) continue off-site to the north and south. However, restoration of significant portions of the on-site steep slope will provide improved water quality, erosion control, and slope stability. The steep slope is currently dominated by low-growing vegetation with shallow root systems that do little to increase stability of the slope. The native trees and shrubs included in the restoration plan will provide a more complex and deeper root system, improving slope stabilization. The dense vegetation will also help to reduce storm water velocities and filter associated sediments, improving water quality. Furthermore, restoration of the on-site slope, as well as the shoreline, will increase the overall habitat function of the area, thereby improving habitat functions on adjacent properties.

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

The proposed single-family residence will be compatible with adjacent properties and surrounding development within the same land use district (Single Family R-2.5). Adjacent properties also contain single-family land uses, all of a similar size.

1. *The proposal includes plans for restoration of degraded critical area or critical area buffer functions which demonstrate a net gain in overall critical area or critical area buffer functions.*

See preceding paragraphs and Section 5.

2. *The proposal includes plans for restoration of degraded critical area or critical area buffer functions which demonstrate a net gain in the most important critical area or critical area buffer functions to the ecosystem in which they exist.*

The most significant function provided by the vegetation and condition of steep slope and its associated buffers is the protection of slope stability and reduction of erosion potential. The existing steep slope and much of the associated buffer is currently dominated by low-growing vegetation with shallow root systems that do little to increase stability of the slope. During periods of heavy rain, the saturated soils can become too heavy for the shallow root systems to support, increasing the likelihood of erosion. With the implementation of the proposed restoration plan along the slope, the risks associated with low-growing vegetation will be greatly diminished. A

combination of trees and shrubs on the steep slopes and in the buffer will provide deeper and stronger root systems, increasing slope stability.

3. *The proposal includes a net gain in stormwater water quality function by the critical area buffer or by elements of the development proposal outside of the reduced regulated critical area buffer.*

It is proposed that all roof stormwater from the new residence be connected to a downspout tight line and routed to an onsite drainage structure or catch basin /yard drain. A storm water drain line will be buried and routed from the structure west, down the slope and drain to the lake. Combined with native restoration of significant portions of the degraded steep slope and steep slope buffer these stormwater management techniques will ensure a net gain in stormwater quality function.

Modification of a critical area buffer requires the applicant to apply for and receive a Critical Areas Land Use Permit. Before issuing a Critical Areas Land Use Permit, the Director must find that the project meets specific decision criteria. Compliance with the applicable Critical Areas Land Use Permit decision criteria listed in LUC 20.30P.140 is addressed below.

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

The project applicant has applied for a Critical Areas Land Use Permit (LO) to modify the on-site steep slope critical area buffer. An application for a Shoreline Substantial Development Permit (WG) has also been submitted. No other City of Bellevue land use permits will be required of the project at this time. A Building Permit will be applied for after approval of the LO and WG .

- B. *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.*

As mitigation for impacts of the proposed residence, the existing degraded steep slope critical area and buffer will be restored. The applicant has used the best available design and development techniques to design the new residence. The design constitutes the minimum necessary impact on the critical area buffer while still fulfilling the project purpose. Steep slope impacts have been avoided and structural encroachment into the buffer has been minimized. These development techniques, coupled with the planting of native vegetation on the steep slope and buffer, will result in the least possible impact on the critical area and critical area buffer.

- C. *The proposal incorporates the performance standards of Part 20.25H LUC to the maximum extent applicable.*

See below for steep slope performance standard compliance (per LUC 20.25H.125).

- D. *The proposal will be served by adequate public facilities including streets, fire protection, and utilities.*

The proposed project will be served by adequate public facilities. No new streets will be needed to serve the site and the project site will utilize existing utilities available to the site. Additionally, fire and police protection are currently available at the site.

- E. *The proposal includes a mitigation or restoration plan consistent with the requirements of LUC 20.25H.210; except that a proposal to modify or remove vegetation pursuant to an approved Vegetation Management Plan under LUC 20.25H.055.C.3.i shall not require a mitigation or restoration plan.*

A mitigation and restoration plan has been prepared in accordance with the requirements of LUC 20.25H.210. See Section 8 and Appendix A.

- F. *The proposal complies with other applicable requirements of this code.*

The proposed project complies with all other applicable City of Bellevue Land Use Codes.

Modification of a geologic hazard area requires the applicant to show compliance with the specific performance standards for landslide hazards and steep slopes as set forth in LUC 20.25H.125. Compliance with the applicable criteria listed in LUC 20.25H.125 is addressed below.

- 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;*

See Terra Associates, Inc. geotechnical report.

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

A minimal intrusion into the steep slope buffer is proposed. Otherwise, development has been concentrated outside of the buffer. No encroachment into areas of the steep slope is proposed. Vegetative impacts are limited to

lawn and nine existing trees, four of which are located within the steep slope buffer.

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

See Terra Associates, Inc. geotechnical report.

- 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;*

No grading or walls are proposed within steep slope areas.

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

No new impervious surfaces are proposed within the steep slope. Minor hardscape improvements are planned within the steep slope buffer, including a patio with seating wall and fire pit.

- 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;*

The change in grade outside of the new building footprint is very minimal and the proposed improvements are designed to minimize site topographic modifications. No improvements are proposed on slopes in excess of 40 percent.

- 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;*

The proposed residence is to be located entirely outside areas of steep slope. Retaining walls and rockeries are not needed to support the foundation of the home.

- H. *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 on slopes in excess of 40 percent is proposed.

- I. *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 on slopes in excess of 40 percent is proposed.

- 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](#).*

A restoration plan has been developed, pursuant to LUC 20.25H.120, and is included in Appendix A. The plan will mitigate for areas of permanent disturbance within the steep slope buffer and will restore areas of temporary disturbance.

Finally, modifications to steep slope buffers can only be approved if the Director determines that compliance with LUC 20.25H.145 has occurred. Compliance with the applicable decision criteria listed in LUC 20.25H.145 is addressed below.

- 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;*

See Terra Associates, Inc. geotechnical report.

- B. *Will not adversely impact other critical areas;*

In addition the on-site steep slope, the only other identified critical area found on the property is Lake Washington. Proposed improvements are planned in excess of 80 feet from the lake's OHWM, while the new structure will be positioned approximately 125 feet from the OHWM. Therefore, modifications to the steep slope buffer are not expected to adversely impact Lake Washington.

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

See Terra Associates, Inc. geotechnical report.

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

See Terra Associates, Inc. geotechnical report.

- 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;*

See Terra Associates, Inc. geotechnical report.

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

See Terra Associates, Inc. geotechnical report.

- G. *The proposed modification to the critical area or critical area buffer with any associated mitigation does not significantly impact habitat associated with species of local importance, or such habitat that could reasonably be expected to exist during the anticipated life of the development proposal if the area were regulated under this part.*

Vegetation on the steep slope and within the steep slope buffer consists of invasive and ornamental species, with some native shrubs. Few trees are present, with those present found along the southern and northern boundaries of the parcel.

In the no-action scenario, the steep slope and buffer would likely remain largely void of significant native vegetation. While sparse low vegetation would remain, the presence of non-native and invasive vegetation could lead to infestation if not controlled. The likelihood of additional native trees reaching maturity is low, and the understory would be unlikely to improve in terms of community composition and foliage height diversity.

7 VEGETATION MANAGEMENT OBJECTIVES

The management objective is to replace functions and values provided by removed native trees. A total of ten significant trees are proposed for removal from the site, five of which are located within the steep slope buffer. Removed trees include three <10" diameter deciduous trees, two 8"-10"-diamater cedars, three 18"-20"-diameter cedars, one 36"-diameter cedar, and one 36"-diameter Douglas-fir (see Table 1 for additional info). As mitigation for tree removal, a total of eight Douglas-fir and five western red cedar trees

will be planted within the restoration area for the site. In addition to the replacement trees, the restoration area also includes 322 native shrubs and numerous groundcover species as mitigation for steep slope buffer impacts associated with construction of the new residence.

7.1 Short-term Objectives

1. Establish new, native sapling trees on the steep slope and buffer.
2. Reduce invasive weed cover, specifically remove non-native English ivy and Himalayan blackberry from the restoration area.
3. Increase native plant density as per the planting plan (see Appendix A).
4. Maintain existing habitat features, specifically preserve and protect existing native vegetation to the greatest extent feasible.
5. Properly mulch and irrigate installed plants to help them become established (see Appendix A).
6. 100 percent survival of all installed plants in the first year.

7.2 Long-term Objectives

Establish native trees along the steep slope to help maintain stability and provide increased habitat opportunities. Long-term, the planting plan and general maintenance practices are intended to improve the ecologic services provided by the restoration area.

The long-term objectives should be substantially achieved when the following performance standards are met:

1. Establish and retain at least four western red cedar trees and at least 7 Douglas-fir trees or other suitable native volunteer tree species.

7.3 Project Initiation

1. Remove invasive weeds from the restoration area. Cut English ivy and Himalayan blackberry vines back and grub out the roots. (Take care not to damage existing native vegetation in that area.)
2. Prepare the site for planting and install the planting plan per the planting notes, including mulch and temporary irrigation (see Appendix A).
3. Provide as-built documentation to the City of Bellevue.

7.4 Year One

1. Check the irrigation system in the late spring to ensure proper operation over the dry season (June 1 to September 30).

2. Remove any sprouting weeds in the early spring to reduce weed competition going into the growing season and keep weed cover below 10 percent.
3. Conduct a survival plant count in the late summer/early fall and replace any dead plants to achieve 100 percent survival.
4. Replenish wood chip mulch as needed.

7.5 Years Two through Five

1. Check the irrigation system in the late spring to ensure proper operation over the dry season (June 1 to September 30).
2. Remove any sprouting weeds in the early spring to reduce weed competition going into the growing season and keep weed cover below 10 percent.
3. Apply a slow-release granular fertilizer to the drip-line of each plant.
4. Conduct a survival plant count in the late summer/early fall to ensure that the management area is on-track to achieve a minimum of 85 percent survival by year five. Replace dead plants as needed.
5. Replenish wood chip mulch as needed.

8 RESTORATION PLAN

8.1 Overview

The proposed restoration plan fulfills the requirements of LUC 20.25H.220(B). The plan seeks to restore and enhance substantial portions of the on-site steep slope critical area buffer. The steep slope has a high potential for enhancement to increase several important functions, as it presently contains lacks significant native vegetation. To achieve this, the plan calls for the enhancement of 4,762 square feet of the slope through the planting of native trees, shrubs and groundcover. The restoration plan can be found in Appendix A. Species include Douglas-fir, western red cedar, vine maple, serviceberry, salal, mock orange, red flowering currant, baldhip rose, cluster rose, snowberry, evergreen huckleberry, taper-tip onion, western columbine, kinnikinnick, Oregon sunshine, graceful cinquefoil, Idaho fescue, cascade penstemon, and sand strawberry.

8.2 Maintenance and Monitoring Plan

Appendix A includes details of the 5-year maintenance and monitoring plan, also detailed below.

8.2.1 Goals

- 1) Within the proposed restoration area, establish dense native vegetation that is appropriate to the eco-region and site.
- 2) Where indicated on the plan, areas within the restoration area will remain substantially vegetated with a preponderance of native plants and will contain little invasive or noxious weed cover.
- 3) Increase habitat cover and refuge for amphibians, small mammals, and invertebrates. Provide perching habitat for native birds.

8.2.2 Performance Standards

The standards listed below will be used to judge the success of the installation over time. If performance standards are met at the end of Year 5, the site will then be deemed successful and the performance security bond will be eligible for release by the City of Bellevue.

- 1) Survival: Achieve 100% survival of installed plants by the end of Year 1. This standard can be met through plant establishment or through replanting as necessary to achieve the required numbers.
- 2) Native cover:
 - a. Achieve 40% understory cover of native shrubs and sapling trees by Year 2. Native volunteer species may count towards this cover standard.
 - b. Achieve 60% understory cover of native shrubs and sapling trees by Year 3. Native volunteer species may count towards this cover standard.
 - c. Achieve 80% understory cover of native shrubs and sapling trees by Year 3. Native volunteer species may count towards this cover standard.
- 3) Species diversity: Establish at least three native shrub species by Year 3 and maintain this diversity through Year 5. Native volunteer species may count towards this standard. Establish at least four western red cedar trees and at least 7 Douglas-fir trees or other suitable native volunteer tree species.
- 4) Invasive cover: Aerial cover for all non-native, invasive and noxious weeds will not exceed 10% at any year during the monitoring period. Invasive plants include Himalayan blackberry (*Rubus armeniacus*), cut leaf blackberry (*Rubus laciniatus*), reed canarygrass (*Phalaris arundinacea*), cherry (hedge) laurel (*Prunus laurocerasus*), English holly (*Ilex aquifolium*), and ivy species (*Hedera* spp.).

8.2.3 Monitoring Methods

This monitoring program is designed to track the success of the mitigation site over time and to measure the degree to which it is meeting the performance standards outlined in the preceding section.

An as-built plan will be prepared by the **restoration professional** (Watershed Company [(425) 822-5242] personnel, or other persons qualified to evaluate environmental restoration projects) prior to the beginning of the monitoring period. The as-built plan will be a mark-up of the planting plans included in this plan set. The as-built plan will document any departures in plant placement or other components from the proposed plan.

Monitoring will take place once annually in the fall for five years. Year-1 monitoring will commence in the first fall subsequent to installation.

The formal monitoring visit shall record and report the following in an annual report submitted to the City of Bellevue:

- 1) Visual assessment of the overall site.
- 2) Year-1 counts of live and dead plants by species. Year-2 through Year-5 counts of established native trees by species.
- 3) Counts of dead plants where mortality is significant in any monitoring year.
- 4) Estimate of native shrub cover.
- 5) Estimate of non-native, invasive weed cover.
- 6) Tabulation of established native species, including both planted and volunteer species.
- 7) Photographic documentation from at least three fixed reference points.
- 8) Any intrusions into or clearing of the planting areas, vandalism, or other actions that impair the intended functions of the mitigation area.
- 9) Recommendations for maintenance or repair of any portion of the mitigation area.

8.2.4 Construction Notes and Specifications

Note: specifications for items in **bold** can be found below under “Material Specifications and Definitions.”

Note: The Watershed Company [(425) 822-5242] personnel, or other persons qualified to evaluate environmental restoration projects, will monitor:

1. All site preparation

- a. Soil preparation.
- b. Mulch placement.
2. Plant material inspection
 - a. Plant material delivery inspection.
 - b. 100% plant installation inspection.

8.2.5 General Work Sequence

1. All plant installation is to take place during the dormant season (October 15th – March 1st), for best survival.
2. Prepare a planting pit for each plant and install per the planting details.
3. Mulch the entire planted area with **wood chip mulch**, four inches thick.
4. Install a temporary, above ground **irrigation system** to provide full coverage to all plants within the restoration area.

8.2.6 Material Specifications and Definitions

1. **Fertilizer:** Slow release, granular PHOSPHOROUS-FREE fertilizer. Follow manufacturer's instructions for application. Keep fertilizer in a weather-tight container while on site. Note that fertilizer is to be applied only in Years 2 through 5 and not in the first year.
2. **Irrigation system:** Automated system capable of delivering at least one inches of water per week from June 1 through September 30 for the first two years following installation.
3. **Restoration Professional:** Watershed Company [(425) 822-5242] personnel, or other persons qualified to evaluate environmental restoration projects.
4. **Wood chip mulch:** Arborist chips (chipped woody material) approximately 1 to 3 inches in maximum dimension (not sawdust or coarse hog fuel). This material is commonly available in large quantities from arborists or tree-pruning companies. This material is sold as "Animal Friendly Hog Fuel" at Pacific Topsoils [(800) 884-7645]. Mulch must not contain appreciable quantities of garbage, plastic, metal, soil, and dimensional lumber or construction/demolition debris.

8.2.7 Contingencies

If there is a significant problem with the restoration areas meeting performance standards, a contingency plan will be developed and implemented. Contingency plans can include, but are not limited to: soil amendment; additional plant installation; and plant substitutions of type, size, quantity, and location.

8.2.8 Maintenance

The site will be maintained in accordance with the following instructions for five years following completion of the construction.

- 1) Follow the recommendations noted in the previous monitoring site visit.
- 2) General weeding for all planted areas:
 - a. At least twice yearly, remove all competing weeds and weed roots from beneath each installed plant and any desirable volunteer vegetation to a distance of 18 inches from the main plant stem. Weeding should occur at least twice during the spring and summer. Frequent weeding will result in lower mortality, lower plant replacement costs, and increased likelihood that the plan meets performance standards by Year 5.
 - b. More frequent weeding may be necessary depending on weed conditions that develop after plan installation.
 - c. Do not weed the area near the plant bases with string trimmer (weed whacker/weed eater). Native plants are easily damaged or killed, and weeds easily recover after trimming.
 - d. Selective applications of herbicide may be needed to control invasive weeds, especially when intermixed with native species. Herbicide application, when necessary, shall be conducted only by a state-licensed applicator.
- 3) Apply slow release granular fertilizer to each installed plant annually in the spring (by June 1) of Years 2 through 5.
- 4) Replace mulch as necessary to maintain a 4-inch-thick layer, retain soil moisture, and limit weeds.
- 5) Replace each plant found dead in the summer monitoring visits during the upcoming fall dormant season (October 15 to March 1).
- 6) The homeowner will ensure that water is provided for the entire planted area with a minimum of 1 inch of water provided per week from June 1 through September 30 for the first two years following installation through the operation of a temporary irrigation system. Less water is needed during March, April, May and October.

9 SUMMARY

Construction of a new single-family residence within a steep slope buffer is proposed. The proposal includes the addition of 2,001 square feet of new structural/impervious coverage within the steep slope buffer. As mitigation for the new residence, the existing degraded steep slope will be restored with native vegetation. A total of 4,762 square feet of steep slope enhancement is proposed. Native species include Douglas-fir, western red cedar, vine maple, serviceberry, salal, mock orange, red flowering currant, baldhip rose, cluster rose, snowberry, evergreen huckleberry, taper-tip onion, western columbine, kinnikinnick, Oregon sunshine, graceful cinquefoil, Idaho fescue, cascade penstemon, and sand strawberry.

The planting layout incorporates a diversity of native plant species. The restoration plan will provide significantly better protection of those critical area functions and values than would be provided by the standard application of the geologic hazard area regulations. Therefore, an overall net gain in critical area buffer functions and values is proposed.

APPENDIX A

Restoration Plan

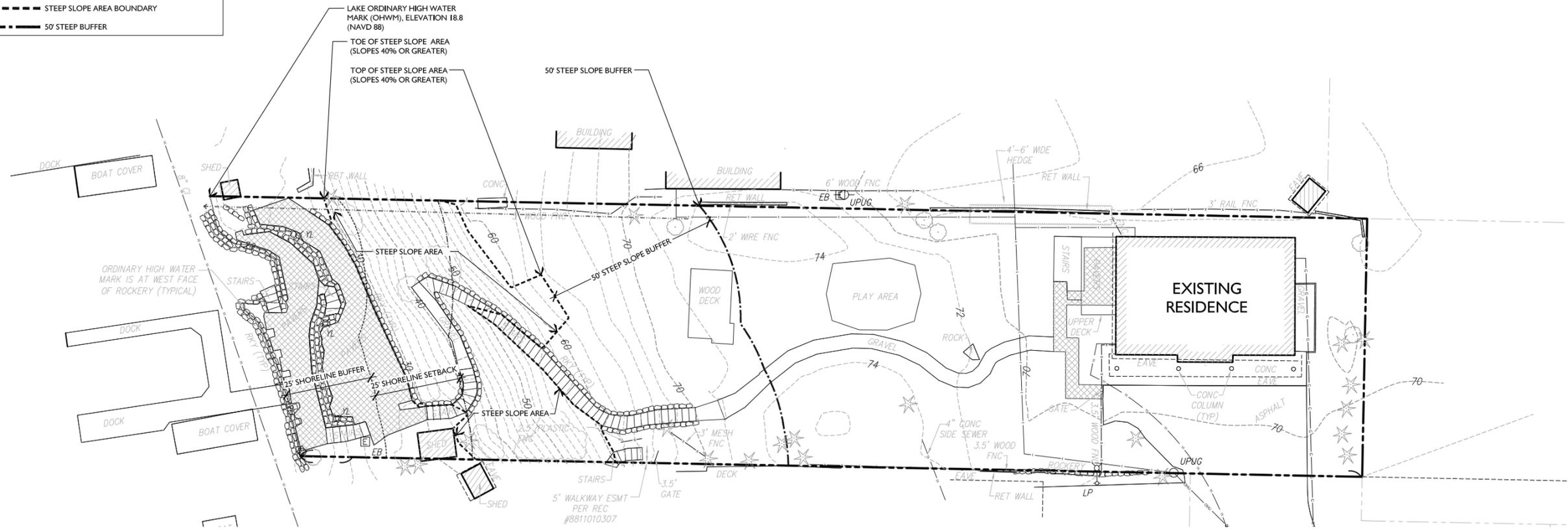
THE GUYETTE RESIDENCE

STEEP SLOPE MITIGATION PLAN



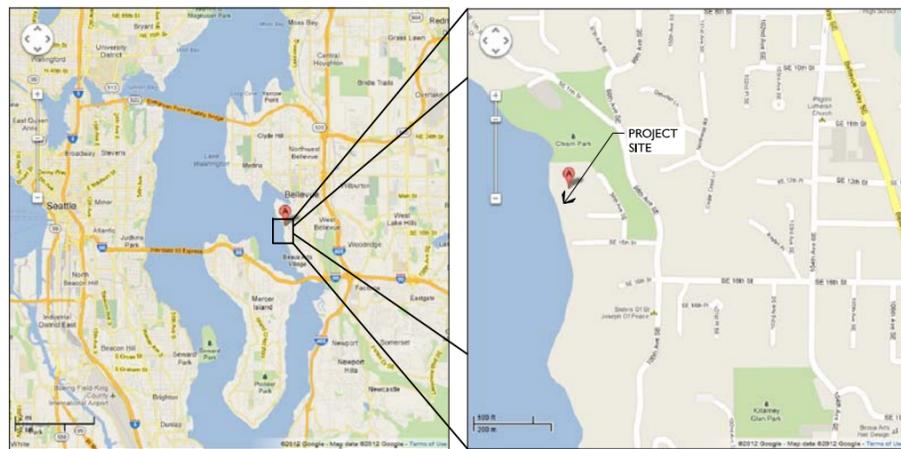
750 Sixth Street South
Kirkland WA 98033
p 425.822.5242 f 425.827.8136
www.watershedco.com
Science & Design

PLAN LEGEND	
	LAKE WASHINGTON OHWM (EL. 18.8, NAVD 88)
	25' SHORELINE BUFFER
	25' SHORELINE SETBACK
	STEEP SLOPE AREA BOUNDARY
	50' STEEP BUFFER



EXISTING CONDITIONS

SCALE: 1/8" = 1'-0"



VICINITY MAPS

SHEET INDEX	
1	EXISTING CONDITIONS
2	IMPACTS AND MITIGATION PLAN
3	PLANTING PLAN, SCHEDULE & NOTES
4	PLANTING NOTES & DETAILS; MITIGATION PLAN NOTES

THE GUYETTE RESIDENCE
STEEP SLOPE MITIGATION PLAN
FOR: TRACY AND TODD GUYETTE
SITE ADDRESS: 1219 96TH AVE. SE
BELLEVUE, WA 98004

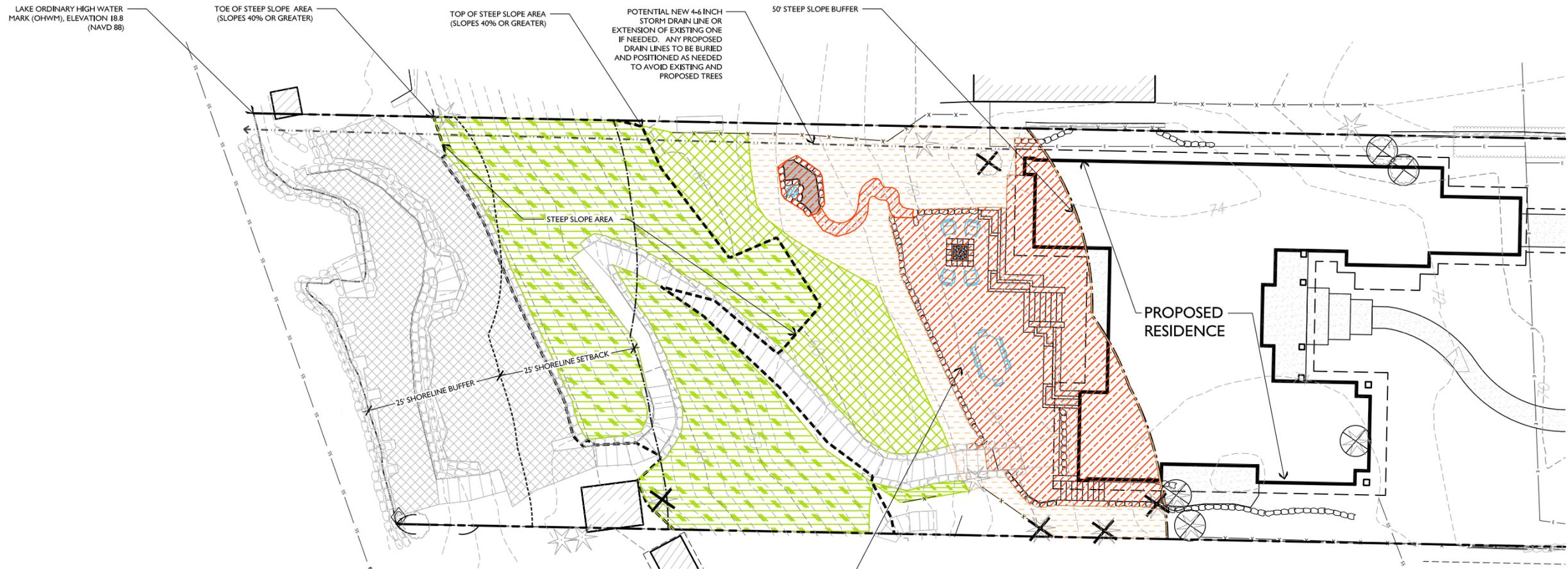
SUBMITTALS & REVISIONS				
NO.	DATE	DESCRIPTION	BY	CL
1	7-24-12	REVIEW SET		CL
2	7-13-12	REVIEW SET		CL

GENERAL NOTES:

NOT FOR CONSTRUCTION
THESE PLANS ARE SUBJECT TO AGENCY APPROVAL. UNTIL APPROVED, THESE PLANS ARE:
SUBJECT TO REVISION

SHEET SIZE:
ORIGINAL PLAN IS 24" x 36".
SCALE ACCORDINGLY.

PROJECT MANAGER: KB
DESIGNED: MG
DRAFTED: CL
CHECKED: MG, KB
JOB NUMBER: 120229
SHEET NUMBER: 1 OF 4



PLAN LEGEND

- LAKE WASHINGTON OHWM (EL. 18.8, NAVD 88)
- 25' SHORELINE BUFFER
- 25' SHORELINE SETBACK
- STEEP SLOPE AREA BOUNDARY
- 50' STEEP BUFFER

IMPACTS LEGEND

	PERMANENT IMPACTS WITHIN BUFFERS	2,001 SF
	TEMPORARY DISTURBANCE (TO BE RESTORED WITH NATIVE PLANTS)	1,187 SF
	TREES TO BE REMOVED WITHIN BUFFERS	5
	TREES TO BE REMOVED OUTSIDE BUFFERS	5

MITIGATION LEGEND

	PROPOSED BUFFER ENHANCEMENT (THROUGH THE INSTALLATION OF NATIVE PLANTS AND REMOVAL OF INVASIVE SPECIES)	895 SF
	PROPOSED STEEP SLOPE ENHANCEMENT (THROUGH THE INSTALLATION OF NATIVE PLANTS AND REMOVAL OF INVASIVE SPECIES)	2,713 SF
	RESTORATION OF TEMPORARILY DISTURBED AREAS	1,154 SF
TOTAL:		4,762 SF

THE GUYETTE RESIDENCE
STEEP SLOPE MITIGATION PLAN
FOR: TRACY AND TODD GUYETTE
SITE ADDRESS: 1219 96TH AVE. SE
BELLEVUE, WA 98004

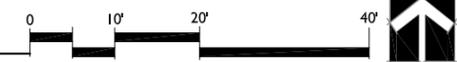
SUBMITTALS & REVISIONS

NO.	DATE	DESCRIPTION	BY	CL
1	7/4/12	REVIEW SET	CL	CL
2	7/13/12	REVIEW SET	CL	CL

GENERAL NOTES:

IMPACTS AND MITIGATION PLAN

SCALE: 1"=10'-0"



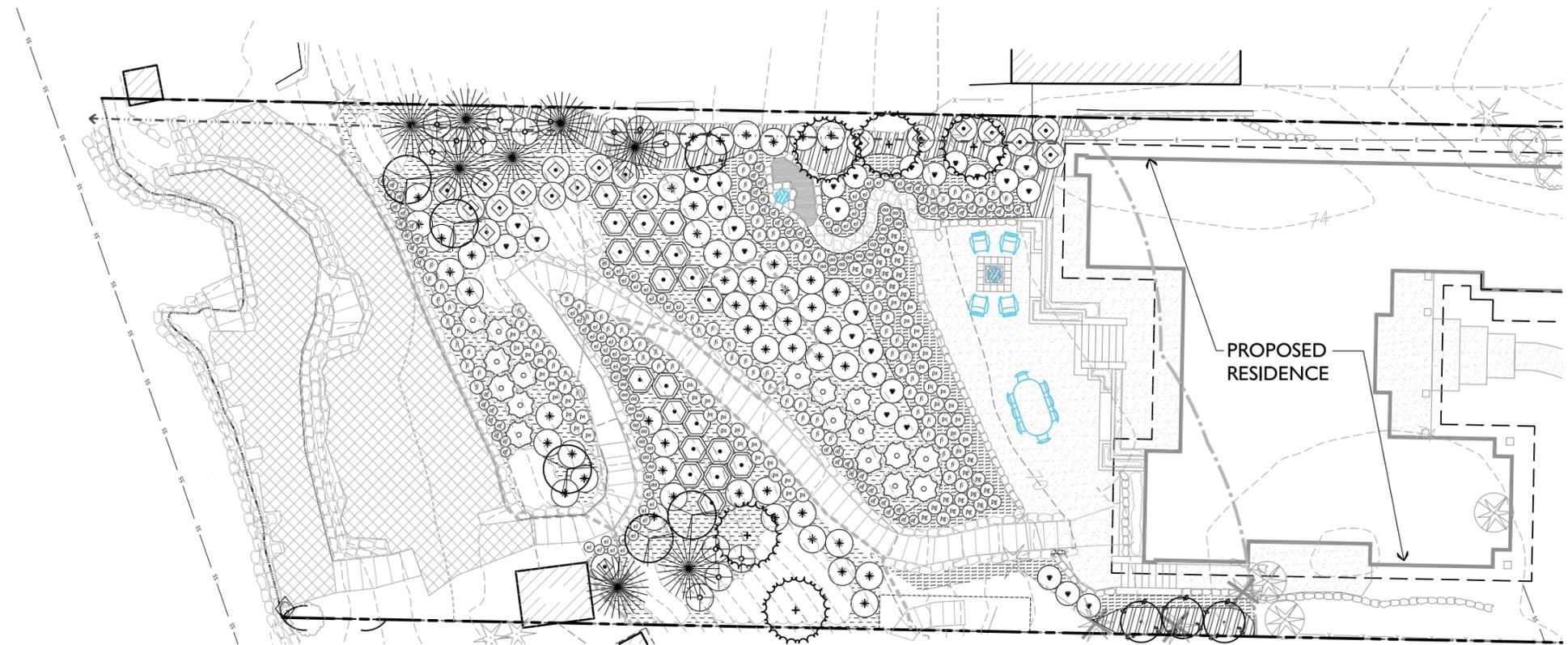
NOT FOR CONSTRUCTION
THESE PLANS ARE SUBJECT TO AGENCY APPROVAL. UNTIL APPROVED, THESE PLANS ARE:
SUBJECT TO REVISION

SHEET SIZE:
ORIGINAL PLAN IS 24" x 36".
SCALE ACCORDINGLY.

PROJECT MANAGER: KB
DESIGNED: MG
DRAFTED: CL
CHECKED: MG, KB
JOB NUMBER: 120229
SHEET NUMBER: 2 OF 4

PLANT SCHEDULE

NAME	QTY	SIZE / REMARKS
EXISTING VEGETATION TO REMAIN		
TREES - ALL TREES TO BE HEALTHY & WELL BRANCHED		
PSEUDOTSUGA MENZIESII / DOUGLAS FIR	8	5 GAL
THUJA PLICATA / WESTERN RED CEDAR	5	5 GAL
SHRUBS - ALL SHRUBS TO BE HEALTHY, FULL & VIGOROUS		
ACER CIRCINATUM / VINE MAPLE	4	2 GAL
AMELANCHIER ALNIFOLIA / SERVICEBERRY	5	2 GAL
GAULTHERIA SHALLON / SALAL	162	4" POT / 24" O.C.
PHILADELPHUS LEWISSII / MOCK ORANGE	14	1 GAL
RIBES SANGUINEUM / RED FLOWERING CURRANT	20	1 GAL
ROSA GYMNOCARPA / BALDHIP ROSE	20	1 GAL
ROSA PISOCARPA / CLUSTER ROSE	17	1 GAL
SYMPHORICARPOS ALBUS / SNOWBERRY	51	1 GAL
VACCINIUM OVATUM / EVERGREEN HUCKLEBERRY	29	1 GAL
PERENNIALS / GROUNDCOVERS		
ALLIUM ACUMINATUM / TAPER-TIP ONION	29	4" POT
AQUILEGIA FORMOSA / WESTERN COLUMBINE	61	4" POT
ARCTOSTAPHYLOS UVA-URSI / KINIKININICK	810	4" POT, 24" O.C.
ERIOPHYLLUM LANATUM / OREGON SUNSHINE	50	4" POT
POTENTILLA GRACILIS / GRACEFUL CINQUEFOIL	25	4" POT
FESTUCA IDAHOENSIS / IDAHO FESCUE	89	4" POT
PENSTEMON SERRULATUS / CASCADE PENSTEMON	44	4" POT
FRAGARIA CHILOENSIS / SAND STRAWBERRY	415	4" POT, 18" O.C.



PLAN LEGEND

- LAKE WASHINGTON OHWM (EL. 18.8, NAVD 88)
- 25' SHORELINE BUFFER
- 25' SHORELINE SETBACK
- STEEP SLOPE AREA BOUNDARY
- 50' STEEP BUFFER

PLANTING NOTES

- NATIVE PLANT INSTALLATION SHALL OCCUR DURING FROST-FREE PERIODS ONLY.
- LOCATE ALL EXISTING UTILITIES WITHIN THE LIMIT OF WORK. THE CONTRACTOR IS RESPONSIBLE FOR ANY UTILITY DAMAGE AS A RESULT OF THE LANDSCAPE CONSTRUCTION.
- REMOVE ANY AND ALL INVASIVE WEEDS AND THEIR ROOTS FROM THE PLANTING AREA INCLUDING: ENGLISH IVY, LAUREL, BLACKBERRY, LABURNUM, ENGLISH HOLLY, AND PERIWINKLE.
- SOIL WITHIN THE MITIGATION AREAS NEEDS TO BE AMENDED IN THE FOLLOWING WAYS:
 - PLANTING AREAS OUTSIDE OF STEEP SLOPE AREAS AND AREAS OF EXISTING TREE/SHRUB ROOTS: THESE AREAS ARE TO BE ROTOTILLED/SCARIFIED TO A DEPTH OF 6". ALL LARGE ROCKS AND OTHER DEBRIS IS TO BE REMOVED. 4" DEPTH OF COMPOST IS TO BE INCORPORATED INTO THE SUBGRADE. LIGHTLY COMPACT AND USE REMAINING COMPOST TO ACHIEVE FINISH GRADE.
 - STEEP SLOPE AREAS AND AREAS OF EXISTING TREE AND SHRUB ROOTS: DO NOT ROTOTILL IN THESE AREAS. INCORPORATE COMPOST BY HAND IN THESE AREAS. IN AREAS OF THICK EXISTING TREE ROOTS NOT TO BE DISTURBED, COMPOST WILL BE ADDED ON TOP OF ROOTS.
- LAYOUT PLANT MATERIAL PER PLAN FOR INSPECTION BY THE LANDSCAPE ARCHITECT. PLANT SUBSTITUTIONS WILL NOT BE ALLOWED WITHOUT THE APPROVAL OF THE LANDSCAPE ARCHITECT.
- INSTALL PLANTS PER PLANTING DETAILS.
- WATER EACH PLANT THOROUGHLY TO REMOVE AIR POCKETS.
- INSTALL A 4" DEPTH, COARSE WOOD-CHIP MULCH RING AROUND EACH PLANT.
- INSTALL A TEMPORARY IRRIGATION SYSTEM CAPABLE OF DELIVERING 2" OF WATER PER WEEK TO THE ENTIRE PLANTED AREA. MAINTAIN IRRIGATION SYSTEM IN WORKING CONDITION FOR TWO (2) SUMMERS AFTER INITIAL PLANT INSTALLATION.
- ONE YEAR AFTER INITIAL PLANT INSTALLATION, APPLY ORGANIC, SLOW-RELEASE FERTILIZER SUCH AS OSMOCOTE OR PERFECT BLEND 4-4-4 TO EACH PLANT.
- THE LANDSCAPE CONTRACTOR SHALL MAINTAIN ALL PLANT MATERIAL UNTIL FINAL INSPECTION AND APPROVAL BY THE OWNER OR OWNER'S REPRESENTATIVE. ALL PLANTINGS AND WORKMANSHIP SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING FINAL OWNER ACCEPTANCE.

THE GUYETTE RESIDENCE
STEEP SLOPE MITIGATION PLAN

FOR: TRACY AND TODD GUYETTE
SITE ADDRESS: 1219 96TH AVE. SE
BELLEVUE, WA 98004

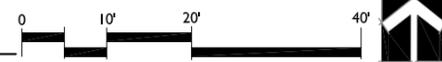
SUBMITTALS & REVISIONS

NO.	DATE	DESCRIPTION	BY	CL
1	7-6-12	REVIEW SET		CL
2	7-13-12	REVIEW SET		CL

GENERAL NOTES:

PLANTING PLAN, SCHEDULE, AND NOTES

SCALE: 1"=10'-0"



NOT FOR CONSTRUCTION

THESE PLANS ARE SUBJECT TO AGENCY APPROVAL UNTIL APPROVED, THESE PLANS ARE: **SUBJECT TO REVISION**

SHEET SIZE:
ORIGINAL PLAN IS 24" x 36".
SCALE ACCORDINGLY.

PROJECT MANAGER: KB
DESIGNED: MG
DRAFTED: CL
CHECKED: MG, KB
JOB NUMBER:

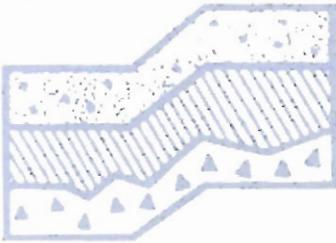
120229
SHEET NUMBER:
3 OF 4

DATE: 7-13-12
FILENAME: 120229 MIT PLAN.DWG
COUNTRY: LANDOLL

GEOTECHNICAL REPORT

**Guyette Residence
1219 – 96th Avenue SE
Bellevue, Washington**

Project No. T-4245-1



Terra Associates, Inc.

Prepared for:

**Dr. Todd Guyette
Bellevue, Washington**

June 7, 2012



TERRA ASSOCIATES, Inc.

Consultants in Geotechnical Engineering, Geology
and
Environmental Earth Sciences

June 7, 2012
Project No. T-4245-1

Dr. Todd Guyette
1219 – 96th Avenue SE
Bellevue, Washington 98004

Subject: Geotechnical Report
Guyette Residence
1219 – 96th Avenue SE
Bellevue, Washington

Dear Dr. Guyette:

As requested, we have conducted a geotechnical engineering study for the subject project. The attached report presents our findings and recommendations for the geotechnical aspects of project design and construction.

Based on information presented in this report, it is our opinion that the buffer from the top of the steep slope on-site may be reduced to 25 feet provided the geotechnical recommendations in the attached report are incorporated into site development plans.

We trust the information provided in the attached report is sufficient for your current needs. If you have any questions or need additional information, please call.

Sincerely yours,
TERRA ASSOCIATES, INC.

Steven Needles, P.E.
Project Engineer

Charles R. ...
Project Manager
Theodore Schepfer, P.E.
Principal

6-7-12

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Appendix

Field Exploration and Laboratory Testing	Appendix A
Slope Stability Analysis	Appendix B

**Geotechnical Report
Guyette Residence
1219 – 96th Avenue SE
Bellevue, Washington**

1.0 PROJECT DESCRIPTION

The proposed project consists of constructing a new residence with a minimum setback of 35 feet from the top of a steep slope area. We understand that the new house will be a two-story, wood-framed building. We expect the main floor level will be framed over a crawl space. Foundation loads should be light, in the range of 2 to 3 kips per foot for bearing walls and 5 to 15 kips for isolated columns. Grading plans indicate that cuts of one to three feet will be required for the majority of the new house's footprint, with a small area of up to 4 feet of fill on the northeast corner of the new building.

The recommendations contained in the following sections of this report are based on the above design features. We should review any changes in the grading, utility, and drainage plans as they are developed to verify that our recommendations are valid for the proposed construction and to amend or modify our report, as necessary.

2.0 SCOPE OF WORK

We previously had prepared a geotechnical report for this site for a different house plan dated January 28, 1999. To supplement the existing soils data, on May 9, 2012, we observed and sampled soil conditions at 2 test borings advanced to depths of 21 and 56 feet below existing site grades. Using the information obtained from this recent subsurface exploration along with our previous data, we performed analyses to develop geotechnical recommendations for development at the site.

Specifically, this report addresses the following:

- Soil and groundwater conditions
- Geologic hazards including buffers and setbacks for critical steep slope areas
- Site preparation and grading
- Excavations
- Foundations
- Lateral earth pressures for below-grade walls
- Drainage

It should be noted that the recommendations outlined in this report regarding drainage are associated with soil strength, erosion, and stability. Design and performance issues with respect to moisture as it relates to the structure environment (i.e., humidity, mildew, mold) are beyond Terra Associates' purview. A building envelope specialist or contactor should be consulted to address these issues, as needed.

3.0 SITE CONDITIONS

3.1 Surface

The site is located at 1219 – 96th Avenue SE in Bellevue, Washington. The approximate site location is shown on the attached Figure 1.

The project site is bordered by single-family residences to the north, east, and south, and by Lake Washington to the west. Access to the site is currently gained from the east off of 96th Avenue SE.

The site covers 0.5 acres. The site is currently developed with a two-story residence located in the eastern portion of the lot, and a wood-frame shed located in western portion of the lot. The site was previously occupied by a single-family residence located in the central portion of the property, which has since been demolished.

In general, the site is relatively flat in the central and eastern portions of the site; however, the central portion is at a slightly higher elevation than the eastern portion. The general elevation within the proposed house footprint is about Elev. 74. The beach along the toe of the slope has an elevation of about Elev. 20. The western portion of the lot slopes steeply to moderately down to the west. Topographic information shown on a site plan produced by Goldsmith Development Services indicates the overall slope is about 50 feet high with an inclination steeper of about 90 percent for a height of about 30 feet. The ground surface flattens to about 15 to 20 percent between the toe of the steep slope and the shore of Lake Washington.

We did not observe indications of erosion or instability on the slope. Nor did we observe indications of emergent groundwater seepage or saturated surface conditions. Ground cover consists primarily of grass with medium growth and mature trees around the perimeter of the lot.

3.2 Soils

Soil conditions we observed at the recent test borings were consistent with those encountered during our 1999 study. In general, native soils we observed consisted of alternating layers of very stiff and hard sandy silt and medium dense to very dense layers of silty sand and sand with silt. At Test Boring B-101 that was advanced to a depth of 56 feet, relatively clean very dense sand (Advance outwash) was observed below a depth of 45 feet. Fill material was found overlying these native soils at previous Test Boring B-2 and recent Test Boring B-102 to depths of 5 to 7 feet, respectively. At Boring B-2 the fill consisted of loose wet silty sand. The fill at Boring B-102 consisted of gravel with sand and was noted to be in a medium dense/compact condition.

More detailed descriptions of the subsurface conditions we encountered are summarized on the Logs of Borings in Appendix A. The approximate locations of the borings are shown on Figure 2.

The *Generalized Geologic Map of Seattle and Suburban Areas*, by R.W. Galster and W.T. Laprade (1991) maps the soils at the site as Advance outwash deposits consisting primarily of fine to medium sand, and locally containing silt beds and gravel. The medium dense to very dense (and very stiff to hard) soils we observed at the site are consistent with the mapped geology.

3.3 Groundwater

We encountered groundwater at a depth of 50 feet in Boring B-2. Groundwater at this level coincides with the elevation of the surface water in Lake Washington.

4.0 GEOLOGIC HAZARDS

4.1 Erosion

The Natural Resources Conservation Service (NRCS) mapped the on-site soils as Kitsap silt loam, 15 to 30 percent slopes (KpD); however, based on our observations of soil conditions at the site, it is our opinion that the site soils better correlate with the description for Indianola loamy fine sand, 15 to 30 percent slopes (InD).

The erosion hazard for InD soils is considered moderate to severe. While we did not observe indications of significant active erosion on the slope at the site, the soils on the slope will have a high potential for erosion if exposed. We understand that no development will occur on the slope, and that the planned house location will be 35 feet or more from the top of the steep slope. Regardless, erosion-protection measures, as required by the City of Bellevue, will need to be in place prior to and during construction. These erosion protection measures will mitigate the erosion hazard during construction. Continuous vegetation should be maintained on the slope area to mitigate long-term erosion hazards. All surface runoff from above the top of the slope should be collected and tight lined to the toe of the slope. Concentrated runoff should not be directed to the top of the slope.

4.2 Landslide Hazard Area

Section 20.25H.120 (A) (1) of the City of Bellevue Land Use Code (LUC) classifies landslide hazard areas as, "...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.
- b. Areas that have shown movement during the Holocene Epoch (past 13,500 years) or that are underlain by landslide deposits.
- c. Slopes that are parallel or subparallel to planes of weakness in subsurface materials.
- d. Slopes exhibiting geomorphological features indicative of past failures, such as hummocky ground and back-rotated benches on slopes.
- e. Areas with seeps indicating a shallow groundwater table on or adjacent to the slope face.
- f. Areas of potential instability because of rapid stream incision, stream bank erosion, and undercutting by wave action."

We did not observe indications of recent or potential significant instability, emergent groundwater seepage, geomorphological features of past failures, or significant erosion. Our test borings and available geologic information indicate that soils on the steep slope consist of dense to very dense advance outwash sand, silty sands, and very stiff to hard sandy silts. Therefore, it is our opinion that the slope is not a landslide hazard area.

4.3 Steep Slope Area

Section 20.25H.120 (A) (2) of the LUC classifies steep slopes as, "Slopes of 40 percent or more that have a rise of at least 10 feet and exceed 1,000 square feet in area." The slope on the west side of the site is steeper than 40 percent, and is therefore classified as a steep slope.

Section 20.25H.035 (A) of the LUC specifies the critical area buffers and structure setbacks for various critical areas. For steep slopes the LUC specifies a 50-foot buffer from the top of steep slope and no structure setback. Section 20.25H.230 specifies a mechanism for modifying buffer requirements when it can be shown that the modified buffer provides "equivalent or better protection of critical area functions."

We completed a numerical stability analysis of a critical slope section using the WINSTABL computer program. The section analyzed is shown in plain view on Figure 2. Soil parameters used in our analysis are based on standard penetration resistance (N) values obtained during field sampling, laboratory testing and our experience. The results of our stability analysis including cross sectional profile and input parameters are attached in Appendix B.

Stability analysis indicates a minimum safety factor against slope failure of 1.7 under current static conditions. Dynamic loading on the slope was simulated in a pseudostatic analysis using a ground acceleration of .2g. This acceleration represents an earthquake having a 25 percent probability of exceedence in a 50-year exposure time (200-year return period). Under this dynamic loading, the minimum safety factor against deep seated movement reduces to 1.2. As shown on the analysis results in Appendix B, the failure surfaces with the lowest safety factors intercept the surface within a setback distance of 25 feet from the steep slope crest. We completed additional analysis by modeling the home construction as a uniform surcharge equivalent to 400 pounds per square foot (psf) setback a distance of 25 feet from the slope crest. Results of this analysis demonstrate the surcharge loading has no impact on the current stability of the slope with post development safety factors the same as the current condition.

Based on our observations of surface and subsurface conditions, and our stability analysis, in our opinion the steep slope buffer can be reduced from 50 feet to a minimum of 25 feet without adverse impact provided the recommendations contained in this report are followed. It is also our opinion that development of the site as proposed will not increase the potential for slope instability on-site or on adjacent properties, and the risk for such an occurrence would be minimal.

4.4 Seismic

Liquefaction is a phenomenon where there is a reduction or complete loss of soil strength due to an increase in water pressure induced by vibrations. Liquefaction mainly affects geologically recent deposits of fine-grained sands underlying the groundwater table. Soils of this nature derive their strength from intergranular friction. The generated water pressure or pore pressure essentially separates the soil grains and eliminates this intergranular friction; thus, eliminating the soil's strength. Based on the very dense, cohesive nature of the native site soils and the small amounts of groundwater in our explorations, it is our opinion that the risk for liquefaction to occur at this site during an earthquake is negligible.

IBC Seismic Soil Site Class

Based on the soil conditions encountered and the local geology, the 2009 International Building Code (IBC) indicates that site class “D” should be used in structural design.

Seismic Design Parameters (IBC 2009)

Spectral response acceleration (Short Period), S_{MS}	1.418
Spectral response acceleration (1 – Second Period), S_{M1}	0.729
Five percent damped 0.2-second period, S_{DS}	0.946
Five percent damped 1-second period, S_{D1}	0.486

Values based on Latitude 47.599N and Longitude -122.210W. Values obtained from United States Geologic Service (USGS) Ground Motion Parameter Calculator accessed May 29, 2012 on the web site <http://earthquake.usgs.gov/research/hazmaps/design/index.php>

5.0 DISCUSSION AND RECOMMENDATIONS

5.1 General

Based on our study, there are no geotechnical conditions that would preclude development of the site as planned. As discussed in section 4.3, it is our opinion that the buffer from the crest of the west facing steep slope may be reduced to 25 feet. The residence can be supported on conventional spread footings bearing on competent native soils or on structural fill placed on competent native soils.

The native glacial deposits encountered at the site contain a sufficient amount of fines (silt- and clay-sized particles) that will make compaction to structural fill requirements difficult or impossible when the soils are too wet. Accordingly, the ability to use soils from site excavations as structural fill will depend on their moisture content and the prevailing weather conditions at the time of construction.

Detailed recommendations regarding these issues and other geotechnical design considerations are provided in the following sections of this report. These recommendations should be incorporated into the final design drawings and construction specifications.

5.2 Site Preparation and Grading

To prepare the site for construction, building elements associated with the previous structures on-site that may not have been removed such as foundations, floor slabs, abandoned utility pipes, and buried vaults should be removed from below areas of new construction. Abandoned utilities that are outside the limits of the new building construction can be left in place, provided they are sealed to prevent intrusion of groundwater seepage and soils. In the remaining portions of the site, vegetation, organic surface soils, and other deleterious materials should be stripped and removed from below areas of new construction. Vegetation debris from clearing operations should be removed from the site. Organic topsoil will not be suitable for use as structural fill, but may be used for limited depths in nonstructural areas or for landscaping purposes. Soils excavated from the planned building area should not be placed over or adjacent to the top of the steep slope.

Prior to placing fill or constructing footings, all exposed bearing surfaces should be observed by a representative of Terra Associates, Inc. to verify that soil conditions are as expected and suitable for support of new fill or building elements. If unstable soils are observed and cannot be stabilized in place by compaction, the affected soils should be excavated and removed to firm bearing and grade restored with new structural fill.

Our study indicates that the native soils contain a sufficient percentage of fines (silt and clay size particles) that will make them difficult to compact as structural fill if they are too wet or too dry. Accordingly, the ability to use these native soils from site excavations as structural fill will depend on their moisture content and the prevailing weather conditions when site grading activities take place. At the time of our investigation, the near-surface native soils were wet of optimum and the deeper unweathered soils were at or near optimum moisture content. If native soils become too wet to properly compact, they could be dried by aeration during dry weather conditions or mixed with an additive such as cement or lime to stabilize the soil and facilitate compaction. If an additive is used, additional Best Management Practices (BMPs) for its use will need to be incorporated into the Temporary Erosion and Sedimentation Control plan (TESC) for the project.

If grading activities are planned during the wet winter months, or if they are initiated during the summer and extend into fall and winter, the contractor should be prepared to import wet weather structural fill. For this purpose, we recommend importing a granular soil that meets the following grading requirements:

U.S. Sieve Size	Percent Passing
6 inches	100
No. 4	75 maximum
No. 200	5 maximum*

*Based on the 3/4-inch fraction.

Prior to use, a qualified geotechnical engineer should examine and test all materials imported to the site for use as structural fill.

Structural fill should be placed in uniform loose layers not exceeding 12 inches and compacted to a minimum of 95 percent of the soil's maximum dry density, as determined by American Society for Testing and Materials (ASTM) Test Designation D-698 (Standard Proctor). The moisture content of the soil at the time of compaction should be within two percent of its optimum, as determined by this ASTM standard. In nonstructural areas, the degree of compaction can be reduced to 90 percent.

5.3 Excavation

Excavation

All excavations at the site associated with confined spaces, such as utility trenches, must be completed in accordance with local, state, or federal requirements. Based on current Washington Industrial Safety and Health Act (WISHA) regulations, the near-surface medium dense soils would be classified as Type C soils. The native dense to very dense unweathered glacial deposits would be classified as Type A soils.

Accordingly, for temporary excavations of less than 20 feet in depth, the side slopes in Type C soils should be laid back at a slope inclination of 1.5H:1V (Horizontal:Vertical) or flatter from the toe to the crest of the slope. Similarly, excavations in Type A soils can be laid back at a slope inclination of 0.75H:1V or flatter. All temporary exposed slopes on excavations that will remain open for an extended time period should be covered with a durable reinforced plastic membrane during construction to prevent slope raveling and rutting during periods of precipitation.

This information is provided solely for the benefit of the owner and other design consultants, and should not be construed to imply that Terra Associates, Inc. assumes responsibility for job site safety. It is understood that job site safety is the sole responsibility of the project contractor.

5.4 Foundations

The planned residential structure may be supported on conventional spread footing foundations bearing on competent native soils or on structural fill placed above competent native soils. Perimeter foundations exposed to the weather should bear at a minimum depth of 18 inches below final exterior grades for frost protection. Interior foundations can be constructed at any convenient depth below the floor slab.

We recommend designing foundations for a net allowable bearing capacity of 2,500 pounds per square foot (psf). For short-term loads, such as wind and seismic, a one-third increase in this allowable capacity can be used. With structural loading as anticipated and these bearing stresses applied, we estimate total foundation settlement would be less than one-half inch.

For designing foundations to resist lateral loads, a base friction coefficient of 0.35 can be used. Passive earth pressures acting on the sides of the footings can also be considered. We recommend calculating this lateral resistance using an equivalent fluid weight of 350 pounds per cubic foot (pcf). We recommend not including the upper 12 inches of soil in this computation because it can be affected by weather or disturbed by future grading activity. This value assumes the foundations will be constructed neat against competent soil and backfilled with structural fill, as described in Section 5.2 of this report. The values recommended include a safety factor of 1.5.

5.5 Lateral Earth Pressures for Below-Grade Walls

The magnitude of earth pressure development on below-grade walls, such as basement or retaining walls, will partly depend on the quality of the wall backfill. We recommend placing and compacting wall backfill as structural fill as described in Section 5.2 of this report. To guard against hydrostatic pressure development, drainage must be installed behind the wall. A typical wall drainage detail is shown on Figure 3.

With wall backfill placed and compacted as recommended and drainage properly installed, unrestrained walls can be designed for an active earth pressure equivalent to a fluid weighing 35 pcf. For restrained walls, an additional uniform lateral pressure of 100 psf should be included. For evaluating the walls under seismic loading, a uniform earth pressure equivalent to $8H$ psf, where H is the height of the retained earth in feet, can be used. These values assume a horizontal backfill condition and that no other surcharge loading, such as traffic, sloping embankments, or adjacent buildings, will act on the wall. If such conditions exist, then the imposed loading must be included in the wall design. Friction at the base of the wall foundation and passive earth pressure will provide resistance to these lateral loads. Values for these parameters are provided in Section 5.4 of this report.

5.6 Drainage

Surface

Final exterior grades should promote free and positive drainage away from the building areas and away from the top of the steep slope. We recommend providing a gradient of at least three percent for a minimum distance of ten feet from the building perimeter, except in paved locations. In paved locations, a minimum gradient of two percent should be provided, unless provisions are included for collection and disposal of surface water adjacent to the structure.

Subsurface

We recommend installing a continuous drain along the outside lower edge of shallow perimeter building foundations. The drains can be laid to grade at an invert elevation equivalent to the bottom of footing grade. The drains can consist of four-inch diameter perforated PVC pipe that is enveloped in washed pea gravel-sized drainage aggregate. The aggregate should extend six inches above and to the sides of the pipe. The foundation drains should be tightlined to an approved point of controlled discharge independent of the roof drain system. All drains should be provided with cleanouts at easily accessible locations. These cleanouts should be serviced at least once every year.

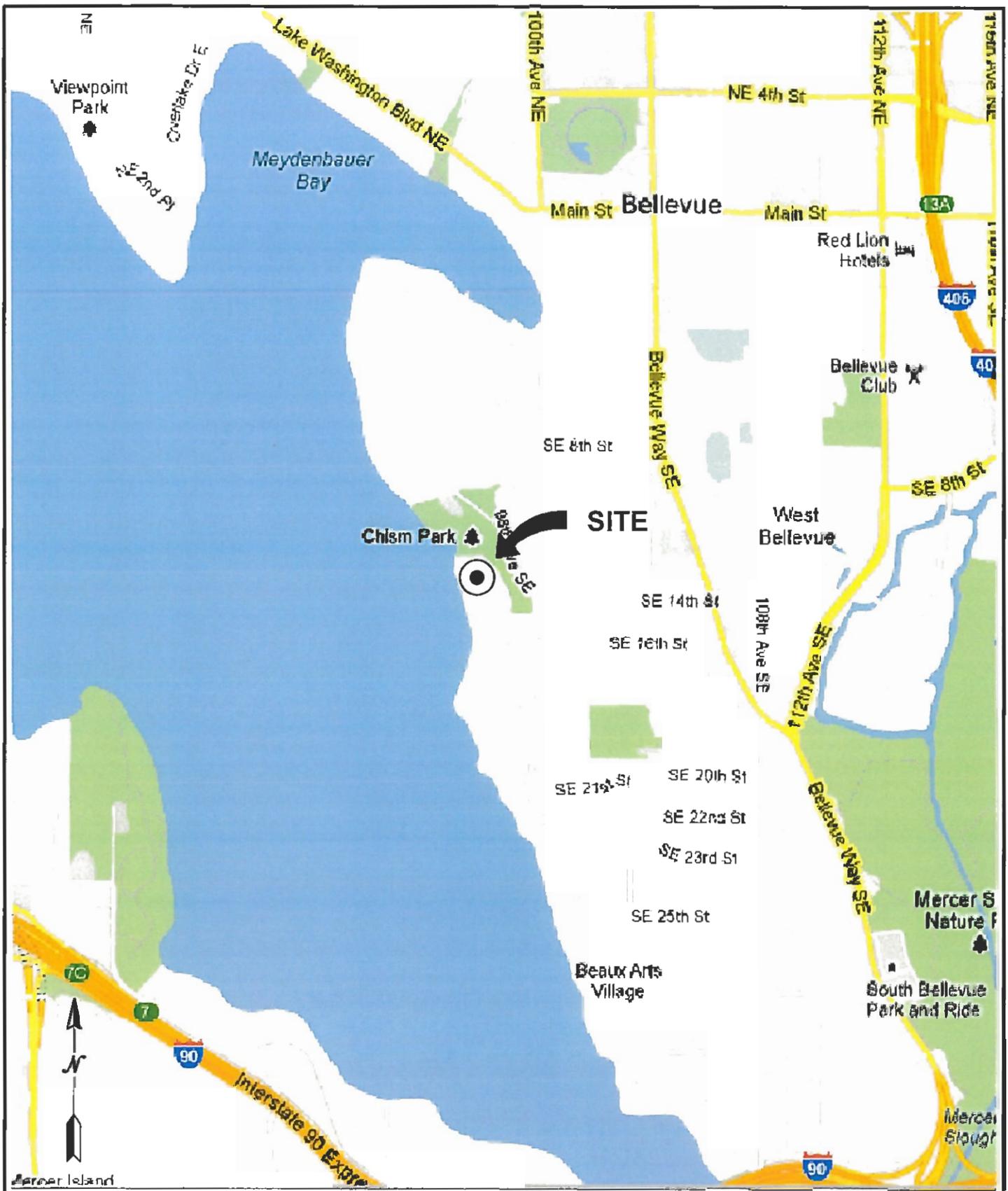
6.0 ADDITIONAL SERVICES

Terra Associates, Inc. should review project designs and specifications in order to verify that earthwork and foundation recommendations have been properly interpreted and incorporated into project design. We should also provide geotechnical services during construction to observe compliance with our design concepts, specifications, and recommendations. This will allow for expedient design changes if subsurface conditions differ from those anticipated prior to the start of construction.

7.0 LIMITATIONS

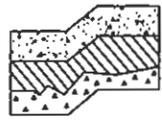
We prepared this report in accordance with generally accepted geotechnical engineering practices. No other warranty, expressed or implied, is made. This report is the copyrighted property of Terra Associates, Inc. and is intended for specific application to the Guyette Residence project in Bellevue, Washington. This report is for the exclusive use of Dr. Todd Guyette and his authorized representatives.

The analyses and recommendations presented in this report are based on data obtained from the on-site soil borings. Variations in soil conditions can occur, the nature and extent of which may not become evident until construction. If variations appear evident, Terra Associates, Inc. should be requested to reevaluate the recommendations in this report prior to proceeding with construction.



REFERENCE: GOOGLE MAPS, WWW.GOOGLE.COM, ACCESSED 5-29-2012

NOT TO SCALE



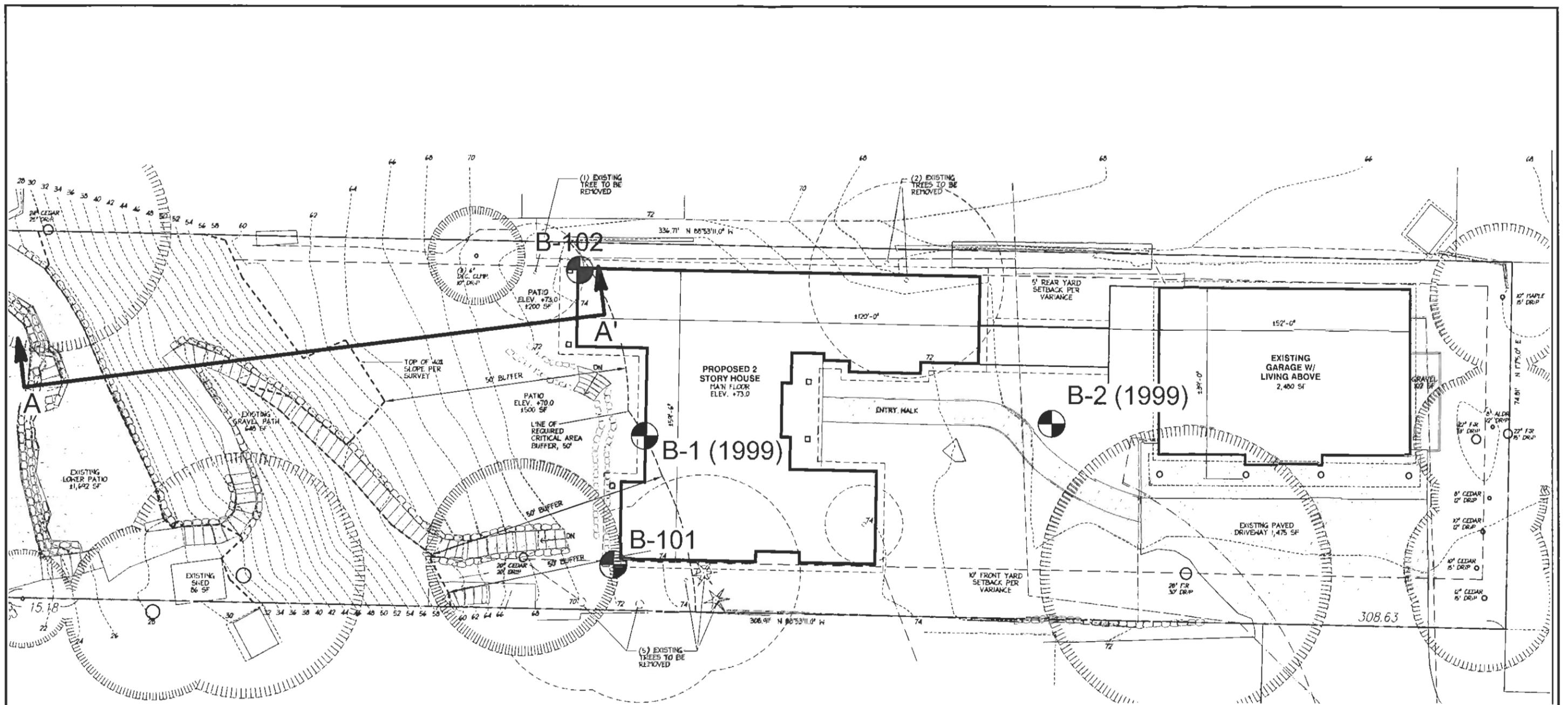
Terra Associates, Inc.
 Consultants in Geotechnical Engineering
 Geology and Environmental Earth Sciences

VICINITY MAP
 GUYETTE RESIDENCE
 BELLEVUE, WASHINGTON

Proj. No. T-4245-1

Date JUNE 2012

Figure 1



NOTE:

THIS SITE PLAN IS SCHEMATIC. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE. IT IS INTENDED FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR DESIGN OR CONSTRUCTION PURPOSES.

REFERENCE:

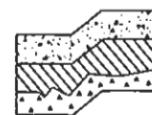
PRELIMINARY SITE PLAN OF GUYETTE NEW RESIDENCE, PREPARED BY PETER D. SWINDLEY, ARCHITECTS AND INTERIORS, INC, DATED APRIL 2, 2012



APPROXIMATE SCALE IN FEET

LEGEND:

APPROXIMATE BORING LOCATION



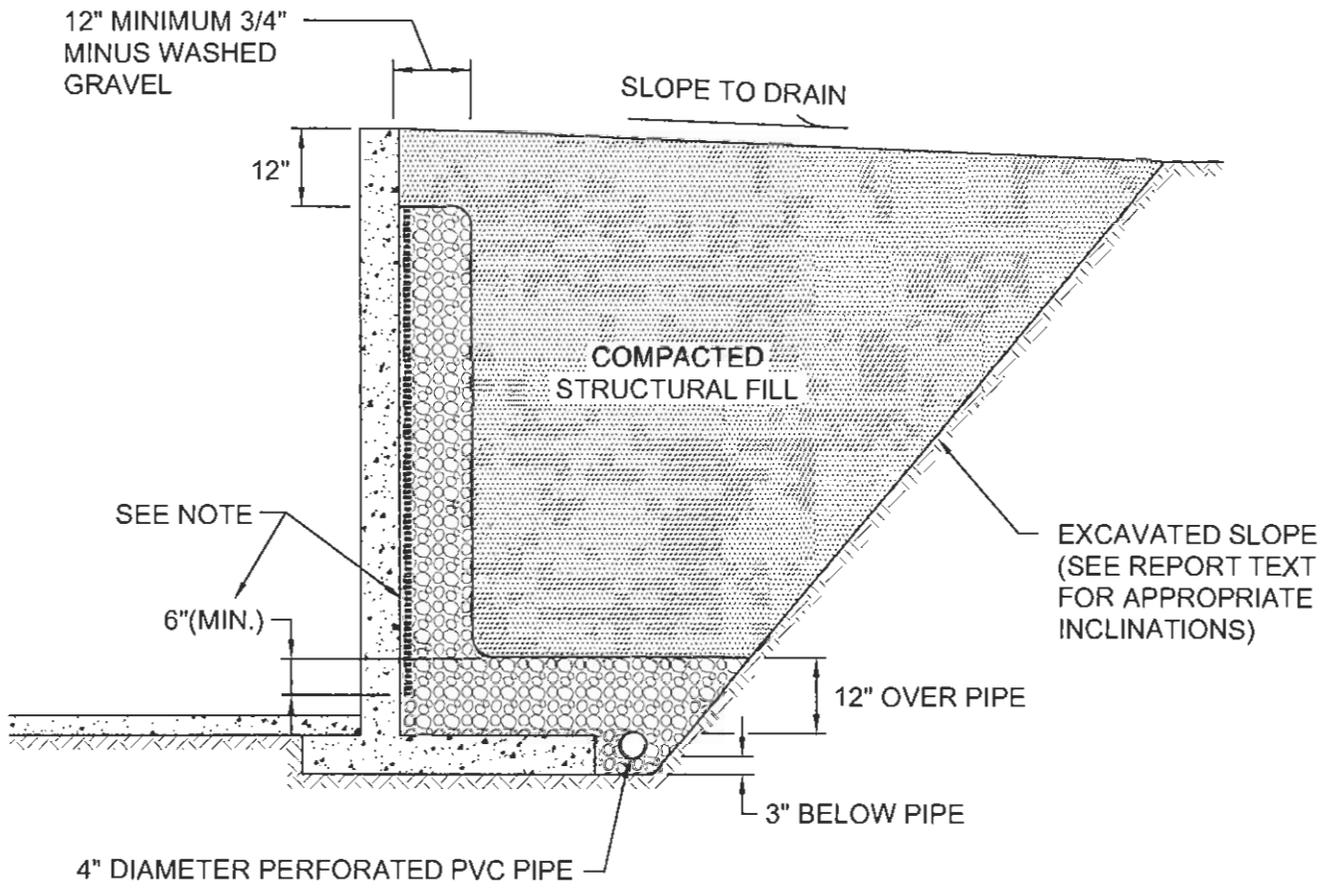
Terra Associates, Inc.
 Consultants in Geotechnical Engineering
 Geology and
 Environmental Earth Sciences

**EXPLORATION LOCATION PLAN
 GUYETTE RESIDENCE
 BELLEVUE, WASHINGTON**

Proj. No. T-4245-1

Date JUNE 2012

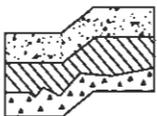
Figure 2



NOT TO SCALE

NOTE:

MIRADRAIN G100N PREFABRICATED DRAINAGE PANELS OR SIMILAR PRODUCT CAN BE SUBSTITUTED FOR THE 12-INCH WIDE GRAVEL DRAIN BEHIND WALL. DRAINAGE PANELS SHOULD EXTEND A MINIMUM OF SIX INCHES INTO 12-INCH THICK DRAINAGE GRAVEL LAYER OVER PERFORATED DRAIN PIPE.



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TYPICAL WALL DRAINAGE DETAIL
GUYETTE RESIDENCE
BELLEVUE, WASHINGTON

Proj. No.T-4245-1

Date JUNE 2012

Figure 3

**APPENDIX A
FIELD EXPLORATION AND LABORATORY TESTING**

**Guyette Residence
Bellevue, Washington**

On May 9, 2012, we observed the drilling of 2 borings to a maximum depth of 56 feet below existing site grades. The borings were drilled using a mini-tracked drill. The current boring locations and locations of previous borings are shown on Figure 2. The locations were approximately determined by measuring from existing site features. Boring Logs for this investigation are presented on Figures A-2 through A-3, and Boring Logs for our previous investigation on December 29, 1998 are attached as well.

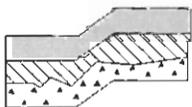
A geotechnical engineer from our office conducted the field exploration, maintained a log of each boring, classified the soils encountered, collected representative soil samples, and observed pertinent site features. All soil samples were visually classified in accordance with the Unified Soil Classification System (USCS) described on Figure A-1.

Representative soil samples obtained from the test pits were placed in sealed plastic bags and taken to our laboratory for further examination and testing. The moisture content of each sample was measured and is reported on the corresponding Boring Logs. Three grain size analyses were run and the results are shown on Figure A-4.

MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTION
COARSE GRAINED SOILS More than 50% material larger than No. 200 sieve size	GRAVELS More than 50% of coarse fraction is larger than No. 4 sieve	Clean Gravels (less than 5% fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines.
		Gravels with fines	GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines.
			GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines.
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines.
	SANDS More than 50% of coarse fraction is smaller than No. 4 sieve	Clean Sands (less than 5% fines)	SW	Well-graded sands, gravelly sands, little or no fines.
		Sands with fines	SP	Poorly-graded sands or gravelly sands, little or no fines.
			SM	Silty sands, sand-silt mixtures, non-plastic fines.
			SC	Clayey sands, sand-clay mixtures, plastic fines.
FINE GRAINED SOILS More than 50% material smaller than No. 200 sieve size	SILTS AND CLAYS Liquid limit is less than 50%	ML	Inorganic silts, rock flour, clayey silts with slight plasticity.	
		CL	Inorganic clays of low to medium plasticity, (lean clay).	
		OL	Organic silts and organic clays of low plasticity.	
	SILTS AND CLAYS Liquid limit is greater than 50%	MH	Inorganic silts, elastic.	
		CH	Inorganic clays of high plasticity, fat clays.	
		OH	Organic clays of high plasticity.	
HIGHLY ORGANIC SOILS			PT	Peat.

DEFINITION OF TERMS AND SYMBOLS

COHESIONLESS	<u>Density</u>	<u>Standard Penetration Resistance in Blows/Foot</u>	I	2" OUTSIDE DIAMETER SPLIT SPOON SAMPLER
	Very loose Loose Medium dense Dense Very dense	0-4 4-10 10-30 30-50 >50	I	2.4" INSIDE DIAMETER RING SAMPLER OR SHELBY TUBE SAMPLER
COHESIVE	<u>Consistency</u>	<u>Standard Penetration Resistance in Blows/Foot</u>	▼	WATER LEVEL (DATE)
	Very soft Soft Medium stiff Stiff Very stiff Hard	0-2 2-4 4-8 8-16 16-32 >32	Tr	TORVANE READINGS, tsf
			Pp	PENETROMETER READING, tsf
			DD	DRY DENSITY, pounds per cubic foot
			LL	LIQUID LIMIT, percent
			PI	PLASTIC INDEX
			N	STANDARD PENETRATION, blows per foot



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UNIFIED SOIL CLASSIFICATION SYSTEM
GUYETTE RESIDENCE
BELLEVUE, WASHINGTON

Proj. No. T-4245-1

Date JUN 2012

Figure A-1

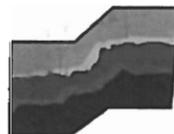
LOG OF BORING NO. B-101

Figure No. A-2

Project: Guyette Residence Project No: T-4245-1 Date Drilled: 5/9/12
 Client: Dr. Todd Guyette Driller: Geologic Drill Logged By: SN
 Location: Bellevue, Washington Approx. Elev: 72 Feet

Depth (ft)	Sample Interval	Soil Description	Consistency/ Relative Density	Moisture Content % Wp -----x----- Wl 10 20 30 40	Pocket Penetrometer	
					Δ TSF Δ 1 2 3 4 SPT (N) Blows/ft	•
1		Brown SILT with sand, fine sand, trace fine roots and fine gravel, moist. (ML)	Very Stiff			
2						
3						
4						
5		Grayish-brown		20.9 *	21 •	
6						
8		Grayish-brown silty SAND, fine to medium grained, moist. (SM)	Dense	8.0 *		47 •
9						
10						
11						
15		Trace iron oxide staining.		16.3 *		40 •
16						
20		Boring terminated at 21.5 feet. No groundwater encountered.	Very Dense	8.1 *		64 •
21						
22						
23						
24						
25						

Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location and should not be interpreted as being indicative of other areas of the site.



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LOG OF BORING NO. B-102

Figure No. A-3

Project: Guyette Residence Project No: T-4245-1 Date Drilled: 5/9/12
 Client: Mr. Todd Guyette Driller: Geologic Drill Logged By: SN
 Location: Bellevue, Washington Approx. Elev: 74 Feet

Depth (ft)	Sample Interval	Soil Description	Consistency/ Relative Density	Moisture Content % Wp ----x---- Wl 10 20 30 40	Pocket Penetrometer				
					Δ	TSF		Δ	
					1	2	3	4	
					SPT (N) Blows/ft				
					•	•	•	•	
					10	20	30	40	
1		FILL: gray gravel with silt and sand, fine to coarse gravel, fine to coarse sand, moist.	Medium Dense	6.1 *					
2									
3									
4									
5									
6		Light brown silty SAND, fine sand, trace fine gravel, damp. (SM)	Very Dense	9.2 *					
7									
8									
9									
10									
11		Gray sandy SILT, fine sand, trace to fine gravel and coarse sand, damp. (ML)	Hard	4.7 *					
12									
13									
14									
15									
16		Light brown SAND with silt, fine to medium grained, trace fine gravel, damp. (SP-SM)	Very Dense	7.5 *					
17									
18									
19									
20									
21		Silt pockets at 21 to 21.5 feet. Less gravel.	Dense	4.8 *					
22									
23									
24									
25									
26		*Continued on Next Page.							
27									
28									
29									
30									

Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location and should not be interpreted as being indicative of other areas of the site.



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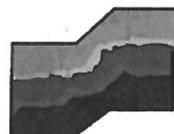
LOG OF BORING NO. B-102

Figure No. A-3

Project: Guyette Residence Project No: T-4245-1 Date Drilled: 5/9/12
 Client: Mr. Todd Guyette Driller: Geologic Drill Logged By: SN
 Location: Bellevue, Washington Approx. Elev: 74 Feet

Depth (ft)	Sample Interval	Soil Description	Consistency/ Relative Density	Moisture Content % W _p [---x---] W _I 10 20 30 40	Pocket Penetrometer				
					Δ	TSF		Δ	
					1	2	3	4	
					SPT (N) ● Blows/ft ●				
					10	20	30	40	
31		Light grayish-brown sandy SILT, fine sand, trace fine gravel, trace iron oxide staining, damp. (ML)	Hard	27.5 x					49
32									
33									
34									
35		Trace fine to coarse gravel, moist.		13.7 x					49
36									
37									
38									
39									
40				10.1 x					55
41									
42									
43									
44									
45				3.6 x					50/6"
46		Grayish-brown SAND, fine to medium grained, trace silt, damp. (SP)	Very Dense						
47									
48									
49									
50		Wet		11.4 x					50/6"
51									
52									
53									
54									
55				16.2 x					50/5"
56									
57		Boring terminated at 56 feet.							
58		Groundwater encountered at 50 feet.							
59									
60									

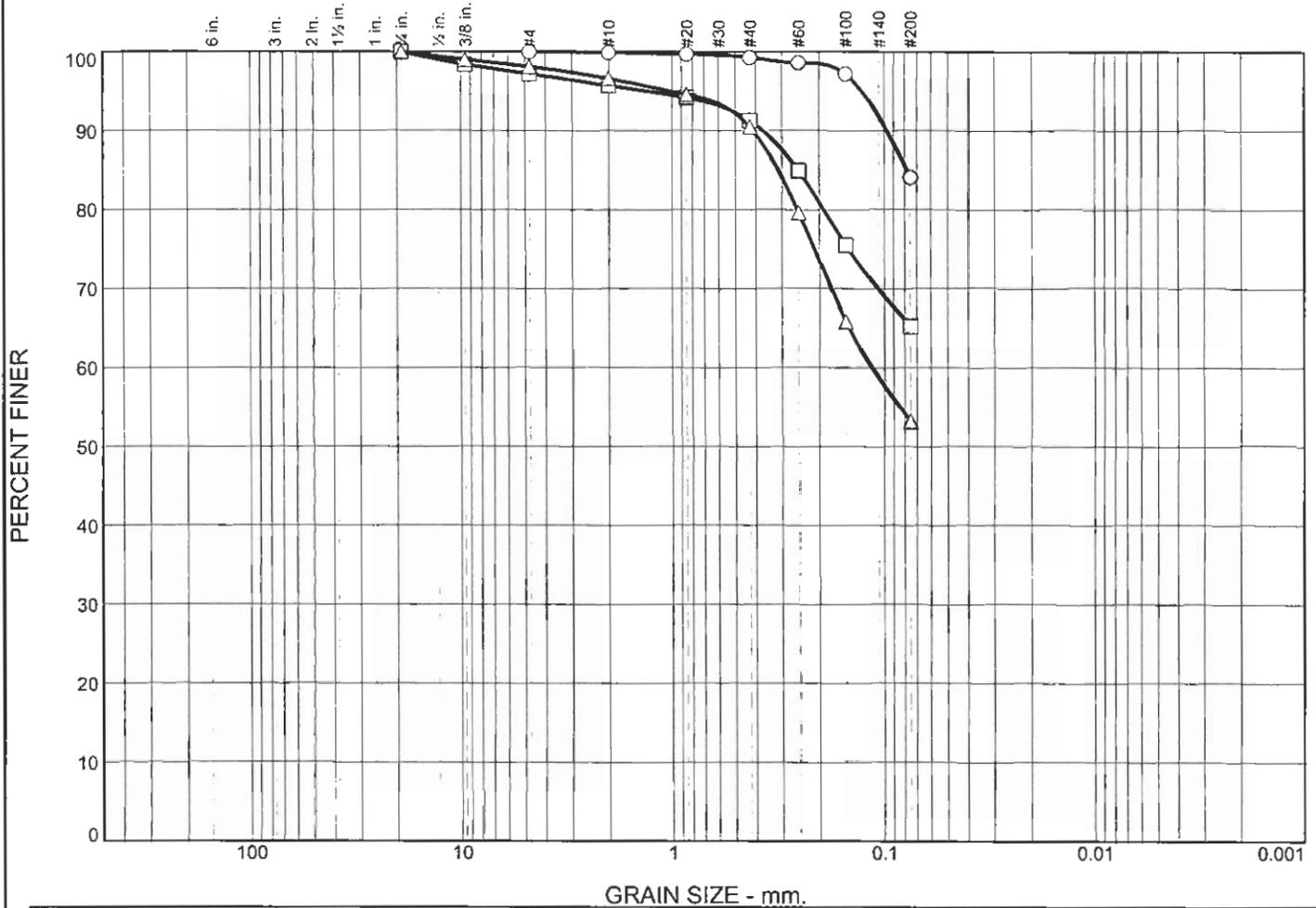
Note: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location and should not be interpreted as being indicative of other areas of the site.



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Geology

Particle Size Distribution Report



	% +3"		% Gravel		% Sand			% Fines		
			Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
○	0.0		0.0	0.0	0.1	0.6	15.2	84.1		
□	0.0		0.0	2.8	1.5	4.4	26.1	65.2		
△	0.0		0.0	1.9	1.5	6.1	37.3	53.2		
⊗	LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
○			0.0779							
□			0.2515							
△			0.3123	0.1138						

Material Description								USCS	AASHTO
○ SILT with sand								ML	
□ Sandy SILT								ML	
△ Sandy SILT								ML	

Project No. T-4245-1 Project: Guyette Residence Bellevue, Washington	Client: Dr. Todd Guyette Depth: -5' Sample Number: 1 Depth: -15' Sample Number: 3 Depth: -30' Sample Number: 6	Remarks: ○ Tested on 5/16/2012 □ Tested on 5/16/2012 △ Tested on 5/16/2012
Terra Associates, Inc. Kirkland, WA		

Figure A-4

Tested By: JDE

Boring No. B-1

Logged by: JCS

Date: 12/29/98

Approximate Elev. 54'

Soil Description	Consistency/ Relative Density	Depth (ft.)	Sample	(N) Blows/ ft.	Moisture Content (%)		
Mottled gray silty SAND to sandy SILT, fine grained, wet. (becomes moist at 5.5 feet.) (SM/ML)	Dense	5	I	45			
	Dense	10	I	41			
Gray silty SAND to SAND with silt, fine grained, moist. (SM/SP-SM) (Gravelly at 18 feet)	Very Dense	15	I	50			
Blue-gray silty SAND to sandy SILT, fine grained, moist. (SM/ML) With a trace of fine gravel.	Dense	20	I	40			
	Dense	25	I	39			
	Dense	30	I	41			

Boring terminated at 31.5 feet.
No groundwater.



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Geotechnical Consultants

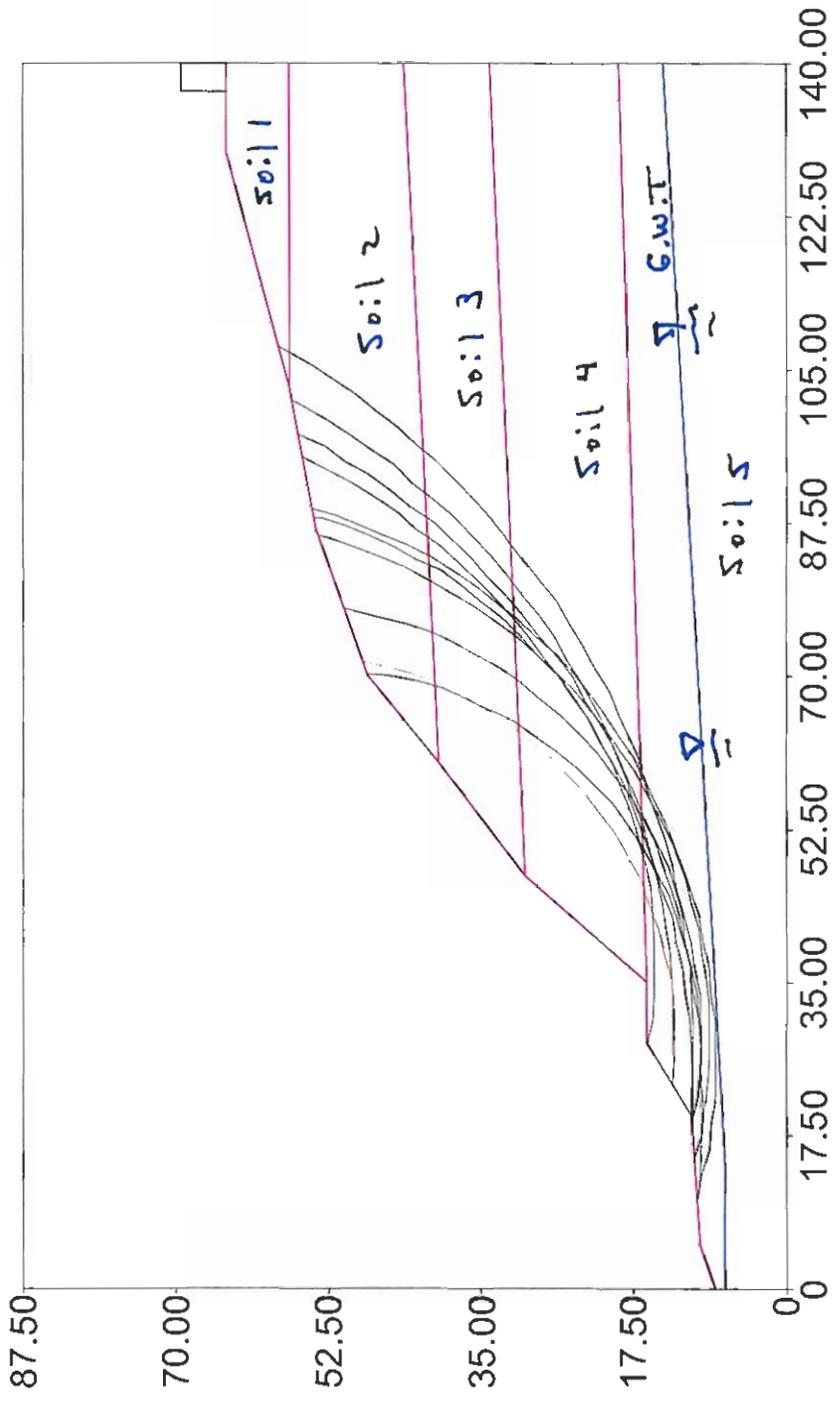
**BORING LOG
MCLEOD RESIDENCE
BELLEVUE, WASHINGTON**

Proj. No. T-4245	Date JAN 1999	Figure A-2
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APPENDIX B

SLOPE STABILITY ANALYSIS

Guyette Slope Stability Section A-A' *stable*

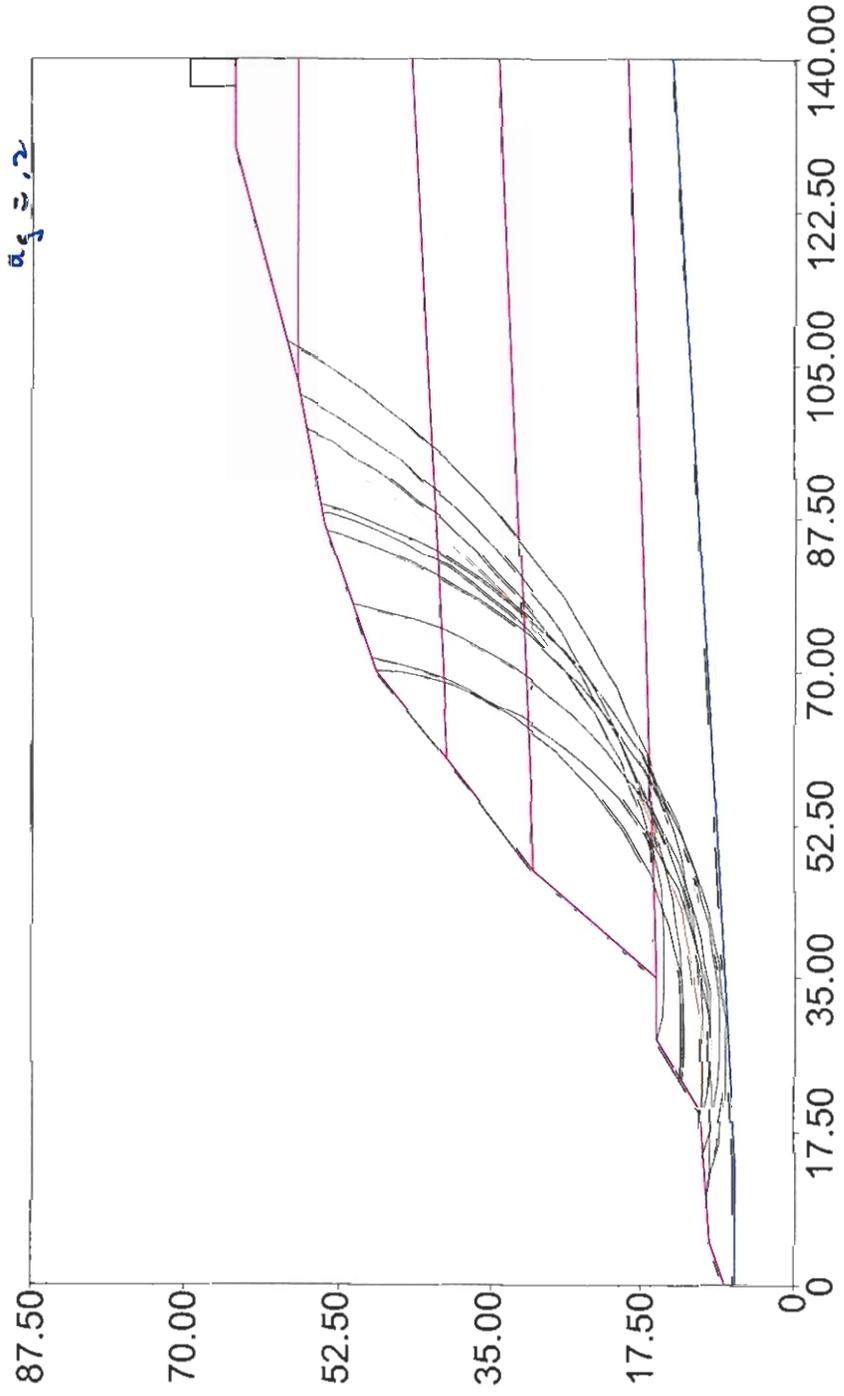


Safety Factors

1.72
1.73
1.76
1.77
1.78
1.79
1.81
1.81
1.81
1.86

Guyette Slope Stability Section A-A'

Σ σ σ_m : σ
 $\sigma_s = 1.2$



Safety Factors

1.23
1.24
1.28
1.28
1.29
1.30
1.30
1.31
1.31
1.32

Profile.out
 ** PCSTABL6 **

by
 Purdue University

modified by
 Peter J. Bosscher
 University of Wisconsin-Madison

--Slope Stability Analysis--
 Simplified Janbu, Simplified Bishop
 or Spencer's Method of Slices

PROBLEM DESCRIPTION Guyette Slope Stability Section A-A'

BOUNDARY COORDINATES

11 Top Boundaries
 15 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	0.00	8.00	5.00	10.00	5
2	5.00	10.00	20.00	11.00	5
3	20.00	11.00	28.00	16.00	5
4	28.00	16.00	35.00	16.00	5
5	35.00	16.00	47.00	30.00	4
6	47.00	30.00	60.00	40.00	3
7	60.00	40.00	70.00	48.00	2
8	70.00	48.00	87.00	54.00	2
9	87.00	54.00	103.00	57.00	2
10	103.00	57.00	130.00	64.00	1
11	130.00	64.00	140.00	64.00	1
12	103.00	57.00	140.00	57.00	2
13	60.00	40.00	140.00	44.00	3
14	47.00	30.00	140.00	34.00	4
15	35.00	16.00	140.00	19.00	5

ISOTROPIC SOIL PARAMETERS

5 Type(s) of Soil

Soil Total Saturated Cohesion Friction Pore Pressure Piez.
 Page 1

Type No.	Unit wt. (pcf)	Unit wt. (pcf)	Intercept (psf)	Angle (deg)	Pressure Param.	Constant (psf)	Surface No.
1	120.0	125.0	50.0	32.0	0.00	0.0	1
2	120.0	125.0	500.0	32.0	0.00	0.0	2
3	130.0	135.0	50.0	40.0	0.00	0.0	3
4	120.0	125.0	500.0	32.0	0.00	0.0	4
5	130.0	135.0	0.0	42.0	0.00	0.0	5

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit weight of water = 62.40

Piezometric Surface No. 1 Specified by 3 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	0.00	7.00
2	14.00	7.00
3	140.00	14.00

BOUNDARY LOAD(S)

1 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (lb/sqft)	Deflection (deg)
1	137.00	140.00	400.0	0.0

NOTE - Intensity Is Specified As A Uniformly Distributed Force Acting On A Horizontally Projected Surface.

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.

100 Trial Surfaces Have Been Generated.

10 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 10.00 ft.
and X = 50.00 ft.

Each Surface Terminates Between X = 70.00 ft.
and X = 110.00 ft.

Profile.out

Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is Y = 0.00 ft.

3.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial
Failure Surfaces Examined. They Are Ordered - Most Critical
First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Failure surface Specified By 23 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	23.33	13.08
2	26.32	12.85
3	29.32	12.81
4	32.32	12.98
5	35.30	13.35
6	38.24	13.93
7	41.14	14.70
8	43.98	15.67
9	46.75	16.83
10	49.43	18.17
11	52.01	19.70
12	54.49	21.39
13	56.84	23.26
14	59.06	25.27
15	61.14	27.43
16	63.07	29.73
17	64.83	32.16
18	66.43	34.70
19	67.85	37.34
20	69.09	40.07
21	70.14	42.88
22	71.00	45.76
23	71.63	48.58

Circle Center At X = 28.3 ; Y = 56.9 and Radius, 44.1

*** 1.719 ***

Failure surface Specified By 33 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	18.89	10.93
2	21.89	10.84
3	24.89	10.87

		Profile.out
4	27.88	11.01
5	30.87	11.25
6	33.85	11.61
7	36.82	12.08
8	39.76	12.66
9	42.68	13.34
10	45.57	14.13
11	48.44	15.03
12	51.26	16.04
13	54.05	17.14
14	56.80	18.35
15	59.50	19.66
16	62.14	21.07
17	64.74	22.58
18	67.28	24.18
19	69.75	25.87
20	72.17	27.66
21	74.51	29.53
22	76.78	31.48
23	78.98	33.52
24	81.11	35.64
25	83.15	37.84
26	85.11	40.11
27	86.99	42.45
28	88.78	44.86
29	90.48	47.33
30	92.08	49.86
31	93.59	52.46
32	95.01	55.10
33	95.22	55.54

Circle Center At X = 22.7 ; Y = 92.1 and Radius, 81.2

*** 1.728 ***

Failure Surface Specified By 37 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	10.00	10.33
2	12.98	10.01
3	15.97	9.79
4	18.97	9.67
5	21.97	9.65
6	24.97	9.74
7	27.96	9.93
8	30.95	10.23
9	33.92	10.62
10	36.88	11.12
11	39.82	11.72
12	42.74	12.43
13	45.63	13.23
14	48.49	14.13
15	51.32	15.13
16	54.11	16.22
17	56.86	17.42
18	59.57	18.70
19	62.24	20.08

		Profile.out
20	64.85	21.55
21	67.42	23.11
22	69.92	24.76
23	72.37	26.49
24	74.76	28.30
25	77.09	30.20
26	79.34	32.18
27	81.53	34.23
28	83.65	36.36
29	85.69	38.55
30	87.65	40.82
31	89.54	43.16
32	91.34	45.55
33	93.06	48.01
34	94.70	50.53
35	96.24	53.10
36	97.70	55.72
37	97.86	56.04

Circle Center At X = 20.9 ; Y = 96.7 and Radius, 87.0

*** 1.761 ***

Failure Surface Specified By 28 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	18.89	10.93
2	21.84	10.39
3	24.82	10.03
4	27.81	9.85
5	30.81	9.86
6	33.81	10.05
7	36.78	10.42
8	39.73	10.97
9	42.64	11.70
10	45.50	12.61
11	48.30	13.69
12	51.03	14.94
13	53.68	16.35
14	56.23	17.92
15	58.69	19.64
16	61.04	21.51
17	63.26	23.52
18	65.37	25.66
19	67.33	27.92
20	69.16	30.31
21	70.84	32.79
22	72.36	35.38
23	73.72	38.05
24	74.92	40.80
25	75.94	43.62
26	76.80	46.50
27	77.47	49.42
28	77.69	50.71

Circle Center At X = 29.2 ; Y = 59.0 and Radius, 49.2

Profile.out

*** 1.769 ***

Failure Surface Specified By 28 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	27.78	15.86
2	30.74	15.39
3	33.73	15.09
4	36.72	14.97
5	39.72	15.01
6	42.72	15.23
7	45.69	15.61
8	48.64	16.17
9	51.55	16.90
10	54.42	17.78
11	57.22	18.84
12	59.97	20.05
13	62.64	21.41
14	65.23	22.93
15	67.73	24.59
16	70.13	26.39
17	72.42	28.33
18	74.59	30.39
19	76.65	32.58
20	78.58	34.88
21	80.37	37.28
22	82.02	39.79
23	83.53	42.38
24	84.88	45.06
25	86.08	47.81
26	87.12	50.62
27	88.00	53.49
28	88.18	54.22

Circle Center At X = 37.4 ; Y = 67.4 and Radius, 52.4

*** 1.776 ***

Failure Surface Specified By 25 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	18.89	10.93
2	21.84	10.41
3	24.83	10.09
4	27.83	9.99
5	30.82	10.10
6	33.81	10.41
7	36.76	10.93
8	39.67	11.66
9	42.52	12.59
10	45.30	13.72

		Profile.out
11	48.00	15.04
12	50.59	16.54
13	53.08	18.23
14	55.44	20.08
15	57.66	22.09
16	59.74	24.25
17	61.67	26.55
18	63.42	28.99
19	65.01	31.53
20	66.41	34.19
21	67.62	36.93
22	68.64	39.75
23	69.46	42.64
24	70.07	45.57
25	70.42	48.15

Circle Center At X = 27.8 ; Y = 52.9 and Radius, 42.9

*** 1.789 ***

Failure Surface Specified By 33 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	14.44	10.63
2	17.38	10.00
3	20.34	9.52
4	23.32	9.18
5	26.31	8.98
6	29.31	8.92
7	32.31	9.01
8	35.30	9.24
9	38.28	9.62
10	41.23	10.13
11	44.16	10.79
12	47.05	11.59
13	49.90	12.52
14	52.71	13.60
15	55.45	14.80
16	58.14	16.13
17	60.76	17.59
18	63.31	19.18
19	65.78	20.88
20	68.16	22.71
21	70.45	24.64
22	72.65	26.68
23	74.75	28.83
24	76.74	31.07
25	78.63	33.40
26	80.40	35.83
27	82.05	38.33
28	83.58	40.91
29	84.98	43.56
30	86.26	46.28
31	87.40	49.05
32	88.41	51.88
33	89.18	54.41

Profile.out
Circle Center At X = 29.0 ; Y = 71.5 and Radius, 62.6

*** 1.809 ***

Failure Surface Specified By 34 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	10.00	10.33
2	12.91	9.60
3	15.85	9.01
4	18.82	8.56
5	21.80	8.26
6	24.80	8.10
7	27.80	8.09
8	30.80	8.23
9	33.78	8.51
10	36.75	8.93
11	39.70	9.50
12	42.61	10.21
13	45.49	11.07
14	48.32	12.06
15	51.10	13.19
16	53.82	14.45
17	56.48	15.84
18	59.07	17.36
19	61.58	19.00
20	64.00	20.77
21	66.34	22.65
22	68.58	24.64
23	70.73	26.73
24	72.77	28.93
25	74.70	31.23
26	76.52	33.62
27	78.22	36.09
28	79.79	38.64
29	81.25	41.27
30	82.57	43.96
31	83.76	46.71
32	84.81	49.52
33	85.73	52.38
34	86.07	53.67

Circle Center At X = 26.5 ; Y = 69.8 and Radius, 61.7

*** 1.811 ***

Failure Surface Specified By 33 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	23.33	13.08
2	26.33	12.94

		Profile.out
3	29.33	12.90
4	32.33	12.97
5	35.32	13.15
6	38.31	13.44
7	41.28	13.84
8	44.24	14.35
9	47.18	14.96
10	50.09	15.68
11	52.97	16.51
12	55.82	17.44
13	58.64	18.48
14	61.41	19.62
15	64.15	20.86
16	66.83	22.19
17	69.47	23.63
18	72.05	25.16
19	74.57	26.78
20	77.03	28.50
21	79.43	30.30
22	81.76	32.19
23	84.02	34.16
24	86.21	36.22
25	88.32	38.35
26	90.35	40.56
27	92.30	42.84
28	94.16	45.19
29	95.94	47.61
30	97.62	50.09
31	99.22	52.63
32	100.72	55.22
33	101.52	56.72

Circle Center At X = 28.9 ; Y = 95.0 and Radius, 82.1

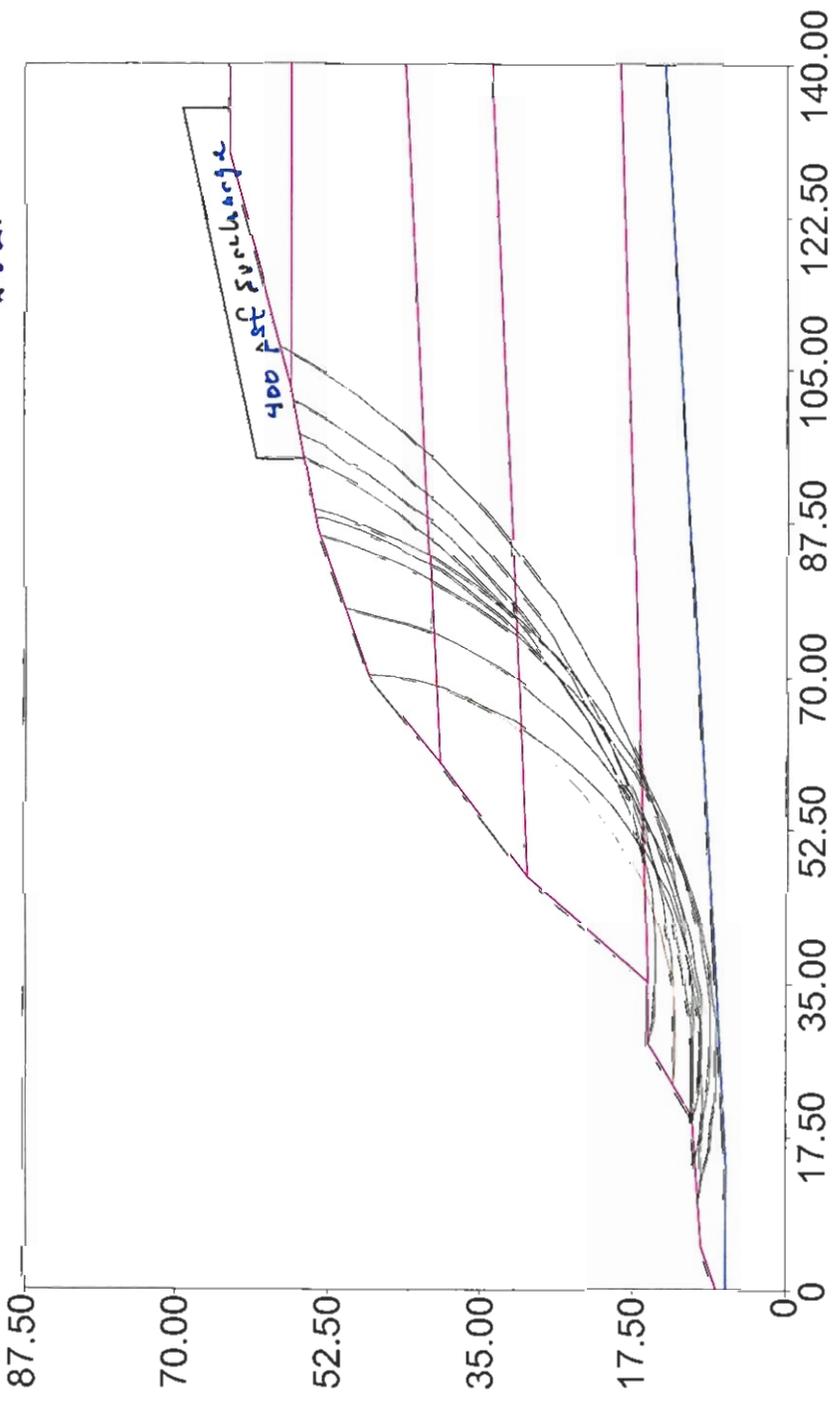
*** 1.811 ***

Failure Surface Specified By 37 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	18.89	10.93
2	21.88	10.73
3	24.88	10.63
4	27.88	10.62
5	30.88	10.72
6	33.87	10.91
7	36.86	11.19
8	39.84	11.57
9	42.80	12.05
10	45.74	12.62
11	48.67	13.29
12	51.57	14.05
13	54.45	14.90
14	57.29	15.85
15	60.11	16.89
16	62.89	18.01
17	65.63	19.23
18	68.33	20.53

Post Development
25' ASBL

Guyette Slope Stability Section A-A' *Static*

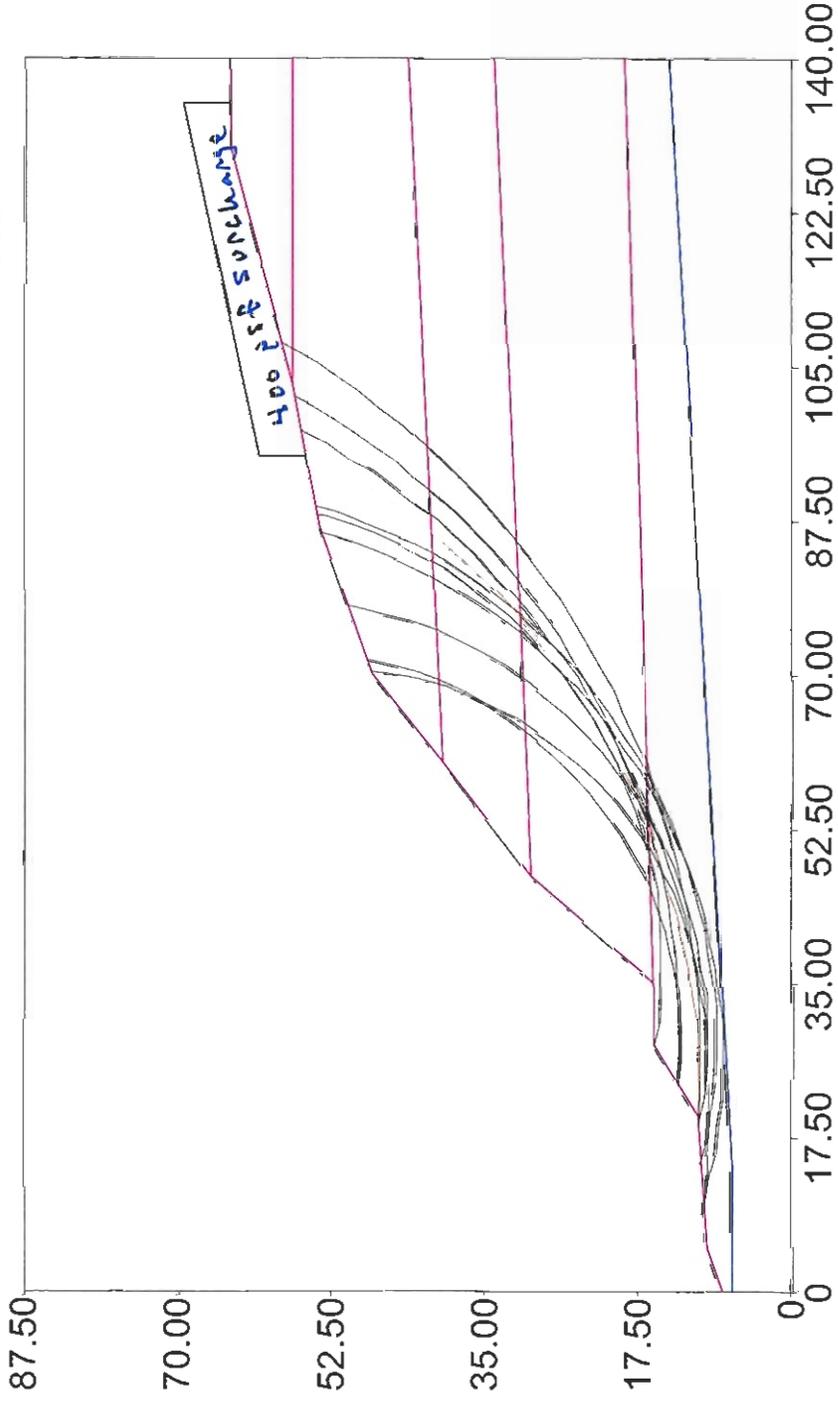


Safety Factors

1.72
1.73
1.75
1.77
1.77
1.78
1.79
1.80
1.81
1.81

Post Development
25' BSBL

Guyette Slope Stability Section A-A' seismic



Safety Factors

- 1.23
- 1.24
- 1.26
- 1.27
- 1.28
- 1.30
- 1.30
- 1.31
- 1.31
- 1.32



TERRA ASSOCIATES, Inc.

Consultants in Geotechnical Engineering, Geology
and
Environmental Earth Sciences

November 28, 2012
Project No. T-4245-1

Dr. Todd Guyette
1219 – 96th Avenue SE
Bellevue, Washington 98004

Subject: Plan Review and Response to City Comments
Guyette Residence
1219 – 96th Avenue SE
Bellevue, Washington

Reference: Geotechnical Report, Guyette Residence, 1219 – 96th Avenue SE, Bellevue, Washington,
Project No. T-4245-1, prepared by Terra Associates, Inc., dated June 7, 2012

Dear Dr. Guyette:

As requested by your project architect, Peter D. Swindley Architects and Interiors, Inc. we have reviewed the Steep Slope Mitigation Plan and the latest site plan for your project located at the subject address. The Steep Slope Mitigation Plan was prepared by The Watershed Company and includes four plan sheets with a latest plan date of July 13, 2012. The site plan was prepared by your architect with a plan date of November 9, 2012. The purpose of our review was to provide the necessary information for us to respond to comments received from the City of Bellevue planning department. We received the comments from your architect in an e-mail communication dated November 2, 2012. The following is our response to the comments in the order received.

Comment 1

The Geotechnical Report only recommends a buffer reduction of down to 25 feet. While this is not a problem for the proposed home location, which is further than 25 feet from the top of slope, it is a problem for the proposed patio which is located consistently closer than 25 feet to the top of the slope (at its closest it appears to be approximately 16 feet from the indicated top of slope).

To rectify this there are two options:

- A. Have the Geotech update their recommendation and any construction recommendations as appropriate to achieve the necessary minimum buffer to build the patio as shown on the plans; or*
- B. Re-design the patio to be further than 25 feet from the top of slope.*

Response:

The revised plan shows a patio area off the west side of the residence. The patio grade will be established by placement of a minor depth of fill that will be faced with a landscape rockery with a height of less than two feet. As noted by the city reviewer the face of rockery is within 16 feet of the top of slope. A smaller patio area constructed using pervious landscape pavers with perimeter low height (about one-foot) landscape rockery walls is also planned a short distance northwest of the main patio. This smaller patio is setback about seven feet from the top of slope.

In our referenced report, we had opined that the required steep slope buffer could be reduced from 50 feet to 25 feet without adverse impact. The main residence complies with this recommendation and is setback about 40 feet from the top of slope. In our opinion, construction of the western patio beyond the 25-foot setback as shown on the site plan would have no impact on the slope stability provided runoff from the patio surface is collected and discharged in a controlled manner and not allowed to sheet flow towards the slope crest. The use of pervious pavers for this large of patio area should be avoided as the underlying soils are not suitable for this application. The smaller patio area would also not adversely affect the slope stability and in our opinion could be constructed as shown on the site plan. For this small area pervious pavers could be used.

Comment 2

Similarly, the small patio area north west of the home also located approximately 6 feet from the top of slope, and there is a stormwater pipe shown along the north boundary of the property intended to convey stormwater down the hill to the lake. These items need to be addressed by the Geotech as well, please make sure they include this patio in their revised analysis.

Response:

See response above for small patio area. With respect to the discharge pipe that will descend to the west-facing steep slope, we recommend that HDPE pipe be used and be placed on the slope surface between the slope crest and toe as opposed to being installed in a trench condition. HDPE pipe is flexible and can be placed on the slope to avoid existing and new trees and shrubs without disturbance to the shallow soil horizon on the slope face. Beyond the slope toe the pipe can be installed in a trench and taken to discharge in Lake Washington.

Dr. Todd Guyette
November 28, 2012

Comment 3

In addition to the two items listed above, there will be development activity on the slope to “restore” the vegetation. It is unclear how this will happen given the extreme slope aspect in some areas (how will you amend soils and stop erosion to retain the proposed plantings?) and it is not addressed in the Geotechnical Report. This does also need to be addressed by the Geotechnical Engineer of record.

Response:

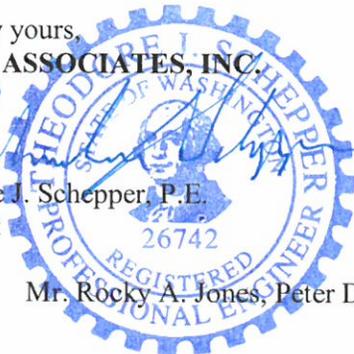
The Steep Slope Mitigation Plan indicates that planting on the steep slope will be completed in a manner so as to not disturb the upper soil horizon and/or established thick tree roots outside of the new planting areas. We concur with this requirement. In addition, we would recommend that a long-term temporary erosion control mat such as North American Green C125 or equal be used to cover new compost and bark areas or areas on the slope that are disturbed during the planting process. The matting should be staked/secured to the slope using 12-inch landscape pins in accordance with the manufacturer’s recommendations for the slope gradient. We also recommend that planting on the slope only occur during the dry summer months typically June through September. We also noted that Note 10 on Sheet 3 indicates irrigation capable of delivery 2 inches of water per week while on Sheet 4 Note 2 under material specifications and definitions indicates 1-inch per week. Over irrigation must be avoided. One-inch per week should be the maximum allowed.

We trust the information provided is sufficient for you current needs. If you have any questions or require additional information, please call.

Sincerely yours,

TERRA ASSOCIATES, INC.


Theodore J. Schepper, P.E.
President



11-28-12

cc: Mr. Rocky A. Jones, Peter D. Swindley Architects

City of Bellevue Submittal Requirements

ENVIRONMENTAL

SEPA Checklist Reviewed By:
David Pyle, Land Use Planner
425-452-2973 - dpyle@bellevuewa.gov

Thank you in advance for your cooperation and adherence to these procedures. If you need assistance in completing the checklist or have any questions regarding the environmental review process, please visit or call the Permit Center (425-452-6864) between 8 a.m. and 4 p.m., Monday through Friday (Wednesday, 10 to 4). Our TTY number is 425-452-4636.

INTRODUCTION

Purpose of the Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21c RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the City of Bellevue identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the City decide whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Answer the questions briefly, with the most precise information known, or give the best description you can. You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the Planner in the Permit Center can assist you. The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. Include references to any reports or studies that you are aware of which are relevant to the answers you provide. The City may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impacts.

Use of a Checklist for Nonproject Proposals: *A nonproject proposal includes plans, policies, and programs where actions are different or broader than a single site-specific proposal.*

For nonproject proposals, complete the Environmental Checklist even though you may answer "does not apply" to most questions. In addition, complete the Supplemental Sheet for Nonproject Actions available from Permit Processing.

For nonproject actions, the references in the checklist to the words *project*, *applicant*, and *property* or *site* should be read as *proposal*, *proposer*, and *affected geographic area*, respectively.

Attach an 8½" x 11" vicinity map which accurately locates the proposed site.

City of Bellevue Submittal Requirements	27a
ENVIRONMENTAL CHECKLIST	
12/21/00	
If you need assistance in completing the checklist or have any questions regarding the environmental review process, please visit or call the Permit Center (425-452-6864) between 8 a.m. and 4 p.m., Monday through Friday (Wednesday, 10 to 4). Our TTY number is 425-452-4636.	
BACKGROUND INFORMATION	
Property Owner: Todd and Tracy Guyette	
Proponent: Todd and Tracy Guyette 1219 96th Avenue SE Bellevue, WA 98004	
Contact Person: Kenny Booth, The Watershed Company (If different from the owner. All questions and correspondence will be directed to the individual listed.)	
Address: 750 Sixth Street South, Kirkland, WA 98033	
Phone: (425) 822-5242	
Proposal Title: Guyette Residence	
Proposal Location (Street address and nearest cross street or intersection) Provide a legal description if available:	
Street Address: 1219 96th Avenue SE Bellevue, WA 98004	
Parcel: 0624059024	
Legal Description: BEG 529 FT N & 300 FT W OF SE COR OF GL 3 TH N 30-00-00 W 231 FT TO TRUE BEG TH N 30-00-00 W 86.5 FT TH W TO SHORE LN OF LAKE WASHINGTON TH SLY ALG SHORE LN TO PT W OF TRUE BEG TH E TO TRUE BEG & SH LDS ADJ LESS POR BEG N 30-00-00 W 231 FT SD SUBD TH N 30-00-00 W 86.5 FT TH W 132.42 FT TH S 72.96 FT TH E TO BEG TGW UND 1/3 INT IN FOLG BAAP 529 FT N & 300 FT W FR SE COR GL 3 TH N 30-00-00 W 192.87 FT TO TPOB TH W 194.53 FT TH S 17.27 FT TH W 49.96 FT TH N 50 FT TH E 49.96 FT TH S 12.73 FT TH E 183 FT TH S 30-00-00 E TO TPOB	
Please attach an 8½" X 11" vicinity map that accurately locates the proposal site. See last page.	
Give an accurate, brief description of the proposal's scope and nature:	
General description: The proposed project includes the retention of the existing on-site residence and the construction of a new residence, just to the west of the existing structure. A covered walkway will link the two structures, with the existing structure continuing to provide garage space for three vehicles, as well as guest space above. The new structure will be two stories in height and will measure approximately 85 feet by 55 feet at its furthest extents. It will be located 125 feet from the lake's ordinary	

high water mark (OHWM) and 35 feet from the edge of the on-site steep slope critical area. The new structure is to be constructed in an area currently occupied by lawn, several mature trees, a gravel path, and an existing play structure. The building envelope is relatively flat with the exception of a small knoll in the southwest corner. The knoll would be leveled during grading.

In addition to a portion of the structure being placed within the steep slope buffer, grading and hardscape improvements west of the proposed structure will also encroach into the 50-foot steep slope buffer. Hardscape improvements include an approximately 1,500 square foot patio with associated steps, seating walls, planters, and a fire pit. The patio area is to be situated approximately 4 feet lower than the finish floor of the structure in order to provide views of the lake from within the home. A secondary and smaller patio will be situated north and west of the main patio. The patio will measure approximately 50 square feet and will include a seat wall and fire pit.

The proposed residence will be set back further from the OHWM than either immediately adjacent residence. Therefore, shoreline or water views for either neighbor are not expected to be impacted by the proposal. The proposed project includes the removal of ten existing trees, four of which are located within the steep slope buffer and one of which is located on the steep slope. The remainder of the on-site existing trees will be preserved.

1. Acreage of site: **The entire parcel is 23,610 square feet (0.54 acre).**
2. Number of dwelling units/buildings to be demolished: **No dwelling unit will be demolished.**
3. Number of dwelling units/buildings to be constructed: **One single-family residence will be constructed.**
4. Square footage of buildings to be demolished: **N/A**
5. Square footage of buildings to be constructed: **The footprint of the new structure will total approximately 2,986 square feet. Total conditioned floor space on-site following construction will be approximately 7,635 square feet.**
6. Quantity of earth movement (in cubic yards): **Cut: Approximately 490 CY /Fill: Approximately 148 CY**
7. Proposed land use: **No changes are proposed to the existing land use.**
8. Design features, including building height, number of stories, and proposed exterior materials: **The new residence will be two stories with a maximum building height of 35 feet. Exterior materials are anticipated to be stone and wood.**
10. Other

Estimated date of completion of the proposal or timing of phasing:

It is anticipated that an application for a building permit will be submitted to the City sometime late in 2012. Construction of the new residence would begin shortly after issuance of the building permit.

Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal?
If yes, explain.

None at this time.

List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Critical Areas Report – Guyette Residence, Bellevue, WA. The Watershed Company. July 2012.

Geotechnical Report. Guyette Residence, 1219 96th Avenue SE, Bellevue, Washington. Terra Associates, Inc. June 7, 2012.

Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. List dates applied for and file numbers, if known.

No other applications are pending for government approvals of other proposals directly affecting the subject property.

List any government approvals or permits that will be needed for your proposal, if known. If permits have been applied for, list application date and file numbers, if known.

- 1. Critical Areas Land Use Permit (City of Bellevue) – submitted concurrently with this SEPA Checklist**
- 2. Shoreline Substantial Development Permit – submitted concurrently with this SEPA Checklist**
- 3. Building Permit (City of Bellevue) – not yet applied**

Please provide one or more of the following exhibits, if applicable to your proposal.
(Please check appropriate box(es) for exhibits submitted with your proposal):

- Land Use Reclassification (rezone)
Map of existing and proposed zoning
- Preliminary Plat or Planned Unit Development
Preliminary plat map
- Clearing & Grading Permit
Plan of existing and proposed grading
Development plans
- Building Permit (or Design Review)
Site plan
Clearing & grading plan
- Shoreline Management Permit
Site plan

A. ENVIRONMENTAL ELEMENTS

1. EARTH

a. General description of the site (circle one): Flat Rolling Hilly **Steep slopes** Mountains Other:

b. What is the steepest slope on the site (approximate percent slope)?

Slopes on site are greater than 40%.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

According to Natural Resources Conservation Service (NRCS) soil maps, the project site is comprised of Kitsap silt loam, 15 to 30 percent slopes. However, according to Terra Associates, Inc., "the site soils better correlate with the description for Indianola loamy fine sand, 15 to 30 percent slopes (InD)."

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

According to Terra Associates, Inc. there are no surface indications of unstable soils on the project site.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

All proposed cut and fill activities are associated with construction of a new single-family residence. Approximately 490 cubic yards of excavation will occur. An additional 148 cubic yards of fill will take place. Excavated soils will be reused on-site to the maximum extent feasible, as dictated by the project geotechnical consultant (Terra Associates, Inc.).

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Erosion could occur if exposed soils are mobilized by rainfall. Short-term erosion may occur in areas cleared of vegetation. However, any impacts would be short-term and the measures described below would help minimize erosion.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

The proposed project would include approximately 11,947 square feet of impervious surfaces. This equates to approximately 49.9 percent of the total site area.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

All clearing and grading construction would be in accordance with City of Bellevue Clearing & Grading Code (Chapter 23.76), permit conditions, and all other applicable codes, ordinances, and standards. As needed, the applicant will install temporary erosion and sedimentation control measures such as silt fencing. A silt fence would be installed around exposed soils as necessary to prevent slope instability or silt-laden water from leaving the site during rainfall events.

Further, erosion control will be conducted as recommended by Terra Associates, Inc. Recommendations include, "All temporary exposed slopes on excavations that will remain open for an extended time period should be covered with a durable reinforced plastic membrane during construction to prevent slope raveling and rutting during periods of precipitation" and "All surface runoff from above the top of the slope should be collected and tight lined to the toe of the slope. Concentrated runoff should not be directed to the top of the slope."

2. AIR

- a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Minimal emissions from vehicle trips and construction equipment would occur during site construction. After project completion, emissions to the air would occur from vehicle trips associated with a single-family residence.

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No off-site sources of emissions or odor would affect the proposal.

- c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Vehicles and construction equipment would be kept in good working order.

3. WATER

- a. Surface:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

The project site is located adjacent to Lake Washington. No other waterbodies are on or in the immediate vicinity of the site.

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

The entirety of the proposed project will occur within 200 feet of Lake Washington. However, no grading will occur closer than approximately 80 feet from the ordinary high water mark of the lake.

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None.

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

The proposal would not require surface water withdrawals or diversions.

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

The proposal does not lie within a 100-year floodplain.

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

The proposal does not involve any discharges of waste materials to surface waters.

b. Ground

1. Will ground water be withdrawn, or will water be discharged to ground water? Give a general description, purpose, and approximate quantities if known.

No withdrawal of ground water or discharge of water to ground water would occur as part of this project.

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

No waste material from septic tanks or other sources would be discharged into the ground as part of this project.

c. Water runoff (including stormwater):

1. Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

An increase in on-site impervious surfaces will result in an increase in storm water runoff. It is proposed that all roof stormwater from the new residence be connected to a downspout tight line and routed to an onsite drainage structure or catch basin /yard drain. A storm water drain line will be buried and routed from the structure west, down the slope and drain to the lake.

- 2) Could waste materials enter ground or surface waters? If so, generally describe.

Waste materials would not enter ground or surface waters.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

The erosion control measures described under question 1h would be implemented as necessary.

4. PLANTS

a. Check or circle types of vegetation found on the site:

- deciduous tree: alder, maple, aspen, other
 evergreen tree: fir, cedar, pine, other
 shrub

- pasture
- crop or grain
- wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
- water plants: water lily, eelgrass, milfoil, other
- other types of vegetation

For a detailed list of vegetation found on the site, please see the Critical Areas Report – Guyette Residence, Bellevue, WA prepared by The Watershed Company (June 2012).

- b. What kind and amount of vegetation will be removed or altered?

A total of ten existing trees will be removed from the site. Removed trees include three <10” diameter deciduous trees, two 8”-10”-diamater cedars, three 18”-20”-diameter cedars, and one 36”-diameter Douglas-fir, and one 36”-diameter cedar. The remainder of the on-site existing trees will be preserved. In addition to the trees, areas of lawn will be removed and non-native vegetation will be removed from the steep slope and steep slope buffer.

- c. List threatened or endangered species known to be on or near the site.

No threatened or endangered plant species are known to be on or near the site.

- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

The proposal involves the planting of 4,762 square feet of native vegetation on the property. Proposed plantings include Douglas-fir, western red cedar, vine maple, serviceberry, salal, mock orange, red flowering currant, baldhip rose, cluster rose, snowberry, evergreen huckleberry, taper-tip onion, western columbine, kinnikinnick, Oregon sunshine, graceful cinquefoil, Idaho fescue, cascade penstemon, and sand strawberry.

5. ANIMALS

- a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

birds: hawk, heron, eagle, songbirds, other:
mammals: deer, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other

- b. List any threatened or endangered species known to be on or near the site.

Adult and juvenile chinook salmon and steelhead trout (listed as Threatened under the Federal Endangered Species Act) migrate through Lake Washington. Adults migrate upstream to reach spawning grounds; juveniles migrate downstream from their natal streams to reach the ocean. Lake Washington also contains coho salmon (Species of Concern under the Federal Endangered Species Act). Lake Washington potentially contains bull trout, a salmonid listed as Threatened under the Federal Endangered Species Act.

- c. Is the site part of a migration route? If so, explain.

As described above, adult and juvenile salmon migrate up and downstream, respectively, through Lake Washington. Migrating waterfowl may use the lake as resting and foraging areas during spring and fall migrations.

- d. Proposed measures to preserve or enhance wildlife, if any:

The proposed project will enhance wildlife habitat through the removal of invasive species and the planting of native species within the project area.

6. ENERGY AND NATURAL RESOURCES

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

The forms of energy currently used for the existing residence will also be used for the proposed residence. Otherwise, no additional forms of energy will be necessary for the new residence.

- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

The project would not affect the potential use of solar energy by adjacent properties.

- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Those types of energy conservation measures common to a new residence will most likely be incorporated.

7. ENVIRONMENTAL HEALTH

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Typical hazards related to heavy equipment fuels and fires are associated with construction of the proposed project. After project completion, hazards would consist of those related to a single-family residence.

- 1) Describe special emergency services that might be required.

Emergency services are not anticipated at the site. In the unlikely event that an accident (spill, fire, other exposure) occurs involving toxic chemicals or hazardous wastes, the local Fire Department's Hazardous Materials Team would respond. If necessary, local medical services might also be required. The full range of safety and accident response supplies would be on-site to treat any emergency during construction. After project completion, emergency services would not be required, beyond those typical of a single-family residence.

- 2) Proposed measures to reduce or control environmental health hazards, if any:

Standard precautions would be taken to ensure the safety of the work crew. The construction manager would be contacted by a crew member immediately upon discovery of a spill. The construction manager would then ensure that the spill is cleaned up in the

manner dictated by the chemical use instructions and would contact the appropriate authorities.

b. Noise

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

The type of noise in the area is that typical of a single-family neighborhood, and would not affect the project.

- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Noise associated with project construction would be restricted to use of excavating and grading equipment and house construction. Construction noise would be limited to normal daytime working hours. There would be no long-term noise associated with the completed project, other than that associated with typical residential waterfront use.

- 3) Proposed measures to reduce or control noise impacts, if any:

As mentioned above, construction noise would be limited to daylight weekday hours. No other noise-control measures are necessary.

8. LAND AND SHORELINE USE

- a. What is the current use of the site and adjacent properties?

The current use of the site is single-family residential. The current use of properties immediately adjacent to the north, south, and east is also single-family residential. Lake Washington is located immediately west of the site.

- b. Has the site been used for agriculture? If so, describe.

The site has not been used for agriculture.

- c. Describe any structures on the site.

A single-family house, a playground structure, a small detached deck, a shed, and fixed pile pier are currently located on the site.

- d. Will any structures be demolished? If so, what?

The playground structure and detached deck will be relocated or removed from the site.

- e. What is the current zoning classification of the site?

The current zoning classification is R-2.5 (Single-Family Residential).

- f. What is the current comprehensive plan designation of the site?

The current comprehensive plan designation is SF-M (Single Family, Medium Density).

- g. If applicable, what is the current shoreline master program designation of the site?

Residential.

- h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

Steep slopes on the property have been classified as "environmentally sensitive" areas. Further, Lake Washington is also considered an "environmentally sensitive" area.

- i. Approximately how many people would reside or work in the completed project?

The new residence will be home to one family.

- j. Approximately how many people would the completed project displace?

No people would be displaced as a result of this project.

- k. Proposed measures to avoid or reduce displacement impacts, if any:

No measures are necessary.

- l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

This project does not affect existing land use.

9. HOUSING

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

A single-family residence will be constructed. However, the site already includes a residence; therefore, there will be no net increase in housing units.

- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None.

- c. Proposed measures to reduce or control housing impacts, if any:

No measures are necessary.

10. AESTHETICS

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The top height of the proposed residence will be no greater than 35 feet above average finished or existing grade elevation, in keeping with City of Bellevue height requirements. The residence's principle exterior materials will be stone and wood.

- b. What views in the immediate vicinity would be altered or obstructed?

The proposed project calls for a newly constructed residence on a site with an existing residence. The new residence will be positioned approximately 90 feet further waterward than the existing home. The new residence will be positioned near the top of the steep slope, providing improved lake views from inside the home. Adjacent residences to the north and south are positioned further waterward than the proposed home and therefore, their views of the lake will not be impacted. Views from the lake may change slightly, as the new home will now be visible from the water.

- c. Proposed measures to reduce or control aesthetic impacts, if any:

No such measures are necessary.

11. LIGHT AND GLARE

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Light or glare may slightly increase as a result of the construction of a larger residence.

- b. Could light or glare from the finished project be a safety hazard or interfere with views?

No.

- c. What existing off-site sources of light or glare may affect your proposal?

The only potential off-site source of glare is the lake itself. Lake Washington may reflect the sun during late afternoon and evening hours.

- d. Proposed measures to reduce or control light and glare impacts, if any:

The potential reflections of glare off Lake Washington are natural and potential increases in glare from the new residence would be insignificant. Therefore, no reduction measures will be necessary

12. RECREATION

- a. What designated and informal recreational opportunities are in the immediate vicinity?

Lake Washington provides boating, swimming, fishing and wildlife viewing opportunities. Chism Beach Park is located less than 200 feet to the north and east of the project site.

- b. Would the proposed project displace any existing recreational uses? If so, describe.

The proposed project would not displace any existing recreational uses.

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

No such measures are necessary.

13. HISTORIC AND CULTURAL PRESERVATION

- a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

No such places or objects are known to be on or next to the site.

- b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

No such landmarks or evidence is known to be on or next to the site.

- c. Proposed measures to reduce or control impacts, if any:

Should historic, archeological, scientific or culturally significant items be encountered during implementation of this project, work would be temporarily stopped while the appropriate agencies are notified.

14. TRANSPORTATION

- a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

The property takes access from 96th Avenue SE via a shared tract that provides access for upwards of three separate lots. Site access would not be changed as a result of the proposed project.

- b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

The nearest King County Metro transit stop is located at the corner of 104th Avenue SE and SE 16th Street, approximately one-half mile away.

- c. How many parking spaces would the completed project have? How many would the project eliminate?

This project will retain the existing three car garage. No spaces would be eliminated or created.

- d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

The proposal would not require any new roads or streets, or improvements to existing roads or streets.

- e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

Water, rail, or air transportation would not be utilized by the completed project.

- f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

The proposed project would not create any additional vehicle trips above those already generated by the existing residence. No increase in traffic generation is expected.

- g. Proposed measures to reduce or control transportation impacts, if any:

No such measures are necessary.

15. PUBLIC SERVICES

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No increase in public service needs would result from this project.

- b. Proposed measures to reduce or control direct impacts on public services, if any.

No such measures are necessary.

16. UTILITIES

- a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

No new utilities are proposed as part of the project.

Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature



Kenny Booth, AICP
Associate Planner

Date Submitted: _____ July 19, 2012

Vicinity Map from iMAP (top) Google Maps (below)

