

EIS - Preliminary Arborist Memorandum

To: Devin Byrd, University President, Bastyr University
Site: Bastyr University Campus, 14500 Juanita Dr NE, Kenmore, WA 98028
Re: EIS – Preliminary Arborist Memorandum
Date: April 7, 2025
Project Arborist: Katherine Taylor
ISA Certified Arborist PN-8022A
ISA Qualified Tree Risk Assessor
Reviewed By: Connor McDermott-Grossman
ISA Certified Arborist PN-8704A
ISA Qualified Tree Risk Assessor

Tree Solutions Inc. (TSI) visited the Bastyr Campus site on three occasions this year on February 12th, February 26th, and March 23rd, to assess the forested portion of the site and provide a preliminary arborist report for an EIS application. I conducted a visual assessment to gather information on the forest's characteristics and condition. I have not conducted an inventory of the trees at this time.

The property owners are proposing a development project onsite that would include multi-family dwellings, site amenities, and neighborhood services, as well as recreational areas that would result in a net buildable area of approximately 12.3 acres across the site. This requires a minimum tree density of 369 tree units which is equal to 30 tree units per acre as defined in Kenmore Municipal Code (KMC) 18.57.060. A portion of the development would occur on a forested part of the site outside of any critical areas. The project is proposing to retain a large portion of this forest and the edge forest buffering St. Edward State Park that would exceed the minimum tree density requirements for the site in addition to retaining all the forested areas within the wetlands.

In total, 22.2 acres of the site are covered in a forested landscape, 13.8 acres of which are designated as wetlands A, B, and C. This leaves 8.4 acres of forest outside of the critical areas and their buffers. This portion of the forest is mixed conifers with some broadleaf species present. The dominant species on site is Douglas-fir (*Pseudotsuga menziesii*), there are also some western hemlocks (*Tsuga heterophylla*) and western redcedars (*Thuja plicata*) throughout. There are individual broadleaf trees sporadically throughout the forest including pacific madrones (*Arbutus menziesii*) and bigleaf maples (*Acer macrophyllum*). On the east side of the site toward wetland B there are mature black cottonwood (*Populus trichocarpa*) present.

There are also edge trees connected to St. Edward State Park along the east and south side of what is currently a large open play field (Photo 1). These trees are mostly Douglas-fir and mixed broadleaf species including bigleaf maple and red alder (*Alnus rubra*).

The understory of the forest is very healthy with mostly salal (*Gaultheria shallon*), western sword fern (*Polystichum munitum*), red huckleberry (*Vaccinium parviflorum*), trailing blackberry (*Rubus ursinus*), osoberry (*Oemleria cerasiformis*), Oregon grape (*Mahonia nervosa* and *Mahonia aquifolium*), and salmonberry (*Rubus spectabilis*). There were minimal invasive weed species present. Some invasive ivy (*Hedera spp.*) and Himalayan blackberry (*Rubus bifrons*) were present in the southern portion of the forest near the parking area.

I found the largest specimens of trees on the west and northwest sides of the site (Photo 2). Many of the Douglas-fir trees in this area qualify as exceptional according to the KMC 18.57.063. Overall, the trees in this area were in good to excellent health and good structural condition. These trees would be excellent candidates for retention.

Toward the southwest corner of the forested area toward wetland A there is a broadleaf forest predominantly made up of bigleaf maple (Photo 3). Most of these maples are in mature form with crown breaks and many have decay organisms (Photo 4) that are native to this species and region including brittle cinder fungus (*Kretzschmaria deusta*) and artist's conk (*Ganoderma applanatum*). These conditions are normal for trees of this species and maturity. However, it does affect their suitability for retention during development.

In the south portion of the site, the Douglas-fir trees were smaller on average than in the more northerly and westerly portions of the forest with a lower density of exceptional trees. The trees in this area appear to have also been disturbed by previous construction activities to install an adjacent parking surface and dorms several years ago. Several Douglas-fir trees in this area had failed at the roots (Photo 5, Photo 6) and had a decay pattern consistent with laminated root rot (*Coniferiporia sulphurascens*) (Photo 7). There were also several trees showing symptoms of stress including thinning and dieback in their crowns (Photo 8) and some standing dead trees which are consistent with a laminated root rot (LRR) disease center.

LRR is a fungal decay that affects the root systems of Douglas-fir and western hemlock trees among others. The disease primarily spreads by root grafting creating disease centers in forests where many trees become infected in one area. The crowns of trees typically display symptoms of stress as the root system decays and can no longer efficiently pump water up into the crowns. However, infected trees sometimes show no symptoms of stress. No fungal fruiting bodies are visible on trees with LRR because they grow on the undersides of the roots so they are not visible until they fail. This disease cannot be controlled or eradicated. Therefore, the trees must be managed for risk to surrounding targets like buildings or people.

TSI has collected data on tree counts per acre based on inventories we have completed determining there are approximately 88 to 95 trees per acre in a mixed conifer forest. Tree spacing can vary greatly depending on the age and species of a forest, however, we use this to provide a base level estimate of the number of trees in a given forest prior to inventory. Using this data, I estimate there are roughly 740 to 800 trees on the forested part of the site outside of the wetlands. These figures would need to be confirmed by an inventory.

The project proposes to retain 5.7 acres of the forest and build on 2.7 acres of the forest all outside of the critical areas. The development area is proposed toward the southern portion of the forest affected by laminated root rot and the southwest portion of the forest with the bigleaf maple trees in decline. The portion of the forest in the best health with the largest number of exceptionally sized trees is being

targeted for retention. The forest edge trees to the east and south of the existing play field are also being targeted for retention. All of the trees proposed for retention are part of a significant grove.

Exceptional trees would likely be removed as part of this proposal within the 2.7-acre portion of forest proposed for development. The removal of these trees would be replaced for at the required rate of 3 to 1 by planting, per KMC 18.57.063.1.g, on the site that is proposed in open areas between and around buildings as well as along the boulevard. I also recommend that conifer trees are planted at the new forest edge to help the forest buffer exposure to new weather patterns over time.

I estimate that roughly 500 to 540 trees would be retained and roughly 240 to 260 trees would be removed as part of the proposed development. Again, these figures would need to be confirmed by an inventory and plan development.

I believe the proposed retention would more than satisfy the required minimum tree density of 369 tree units for the net buildable area. For example, to satisfy 369 tree units the site would have to retain 87 20-inch diameter at standard height (DSH) trees which are worth 4.2 credits or 45 30-inch DSH trees which are worth 8.2 credits. This would be easily achievable in the size of forest proposed for retention.

Respectfully,

A handwritten signature in black ink, appearing to read 'K 781' followed by a horizontal line.

Katherine Taylor,
Senior Consulting Arborist

Appendix A Site Map

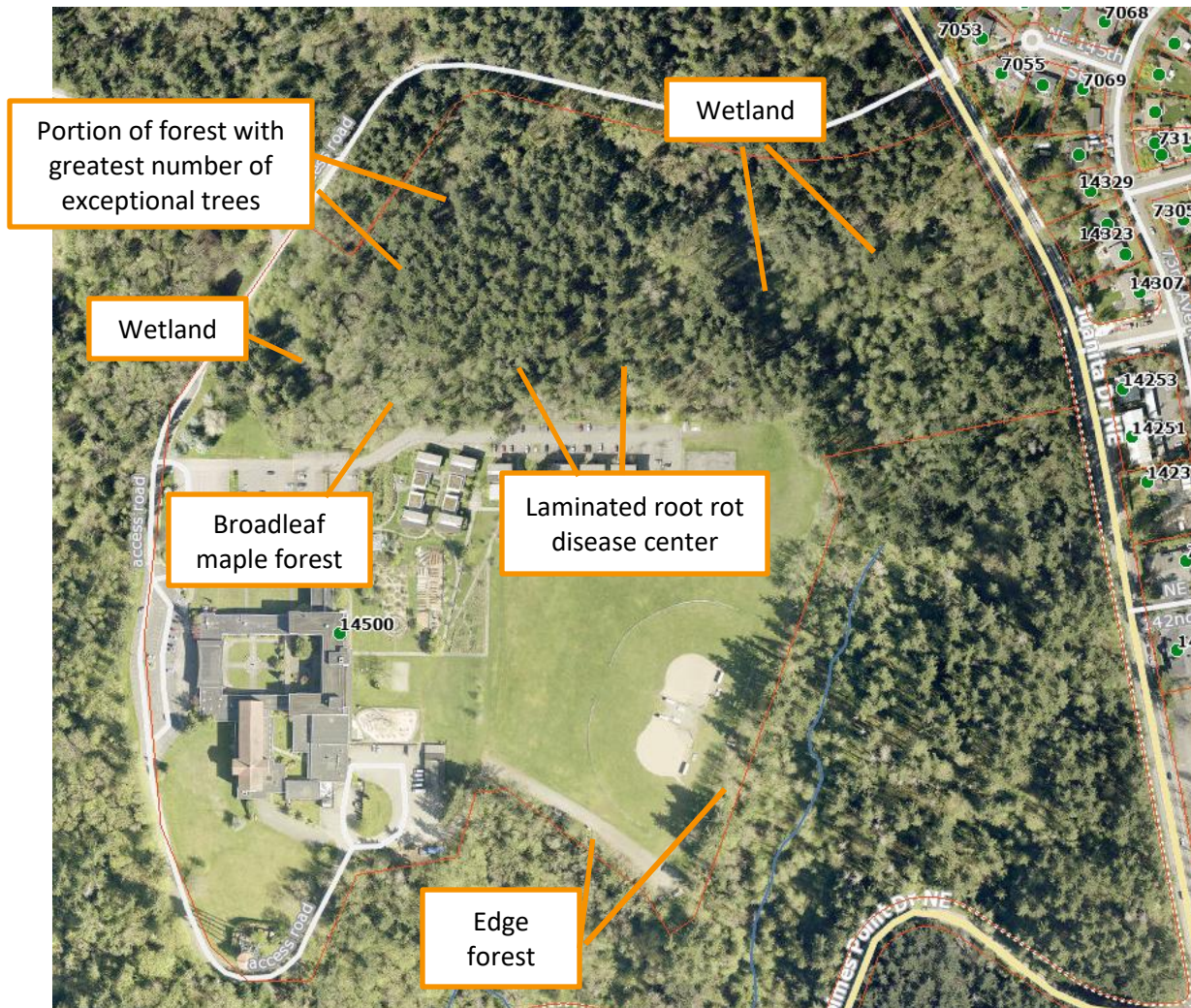


Figure 1. Site Map. Aerial image from King County iMap 2023. Map shows approximate locations of the forested areas onsite.

Appendix B Photographs



Photo 1. The trees along the east edge of the existing play field. These trees would be retained as part of the proposed development. Photo taken February 12, 2025.



Photo 2. The forest from the interior looking west toward wetland A being prioritized for retention. The three Douglas-fir trees in the foreground are exceptional by size, several others in this area appear to be exceptionally sized as well.



Photo 3. The southwest portion of the forest primarily made up of bigleaf maple in mature condition. These trees did not appear to reach exceptional size and had decay organisms and crown failure present.



Photo 4. An example of brittle cinder fungus, a decay organism at the base of a bigleaf maple.



Photo 5. A recent tree failure at the roots from laminated root rot caught up in another tree.



Photo 6. Another example of three trees that had failed as a result of root decay.



Photo 7. Decay patterns consistent with laminated root rot.



Photo 8. An example of a standing dead tree and an adjacent tree with crown symptoms of thinning and weak shoot extension consistent with root decay.

Appendix C Assumptions & Limiting Conditions

- 1 Consultant assumes that the site and its use do not violate, and is in compliance with, all applicable codes, ordinances, statutes or regulations.
- 2 The consultant may provide a report or recommendation based on published municipal regulations. The consultant assumes that the municipal regulations published on the date of the report are current municipal regulations and assumes no obligation related to unpublished city regulation information.
- 3 Any report by the consultant and any values expressed therein represent the opinion of the consultant, and the consultant's fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event, or upon any finding to be reported.
- 4 All photographs included in this report were taken by Tree Solutions, Inc. during the documented site visit, unless otherwise noted. Sketches, drawings and photographs (included in, and attached to, this report) are intended as visual aids and are not necessarily to scale. They should not be construed as engineering drawings, architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by the consultant as to the sufficiency or accuracy of the information.
- 5 Unless otherwise agreed, (1) information contained in any report by consultant covers only the items examined and reflects the condition of those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, climbing, or coring.
- 6 These findings are based on the observations and opinions of the authoring arborist, and do not provide guarantees regarding the future performance, health, vigor, structural stability or safety of the plants described and assessed.
- 7 Measurements are subject to typical margins of error, considering the oval or asymmetrical cross-section of most trunks and canopies.
- 8 Tree Solutions did not review any reports or perform any tests related to the soil located on the subject property unless outlined in the scope of services. Tree Solutions staff are not and do not claim to be soils experts. An independent inventory and evaluation of the site's soil should be obtained by a qualified professional if an additional understanding of the site's characteristics is needed to make an informed decision.
- 9 Our assessments are made in conformity with acceptable evaluation/diagnostic reporting techniques and procedures, as recommended by the International Society of Arboriculture.