

Arborist Response – Comment #1

To: Absher Construction c/o Blaine Wolfe and Integrus Architects c/o Sara Wilder
Site: 1601 39th Ave SE Puyallup, WA 98374
Re: Supplement to Initial Arborist Report
Date: July 21, 2022
Project Arborists: Sean Dugan, Registered Consulting Arborist # 475
ISA Board Certified Master Arborist #PN-5459B
ISA Qualified Tree Risk Assessor
Referenced Documents: Draft Arborist Report (dated January 28, 2022)
Survey Existing Conditions A100 (Integrus, 1/20/2022)
Overall Site Plan L1.00 (Integrus, March, 2022)
TESC and Demolition Plan C2.1, C2.2 (AHBL, March 2022)

This is a response to the city's Correction #1 – "Miscellaneous Planning Correction" dated June 23, 2022 requesting that the "project arborist reassess trees near the new development area and provide a supplement memo and tree protection recommendations"

Response

I have worked closely with the project team throughout the Phase 1 design to review plans, address tree retention feasibility, and provide protection directives. Based on Tree Solutions Inc.'s input, tree retention selections were made to reduce risk to life and property, support the design elements, and provide trees that will remain viable during and beyond project development.

Significant trees within the overall site were evaluated for retention potential based on proposed development plans. Specific areas of focused design review included:

The North Parking Lot near College Way

- Limits of disturbance were adjusted along the west end of the proposed parking area to retain trees providing important forest stand characteristics, reducing the negative impacts on the remaining trees in the stand.
- The parking area was adjusted to provide sufficient tree root protection zones.

The New STEM Building

- Limits of disturbance and design elements were adjusted along the northwest side of the building to safely integrate with the forest stand, reducing the negative impacts on the remaining trees.
- We provided extensive guidance on the feasibility of preserving trees 408 and 422, specifically addressing each tree's safe useful life expectancy following development. Tree 408 was not safely able to be retained but 422 will be preserved.

- Significant consideration and adjustments were made at the west corner of the building to address grade changes and tree retention.
- Multiple locations for utility routing near trees were considered and adjustments were made to preserve trees.

Recommendations

- Trees proposed for retention within and at the edge of the limits of work should be protected as outlined in Appendix A – Tree Protection Specification.
- Tree protection fencing and reference to the protection specification should be shown on plans including but not limited to demolition, grading, and construction.
- Tree protection measures should be installed prior to the commencement of site work activities, including the delivery of materials and staging.

If you have any additional questions, please feel free to contact me at (206) 528-4670 or at sean@treesolutions.net.

Respectfully,



Sean Dugan, Principal
Tree Solutions Inc.

Appendix A Tree Protection Specifications

The following is a list of protection measures that must be employed before, during and after construction to ensure the long-term viability of retained trees.

1. **Project Arborist:** The project arborists shall at minimum have an International Society of Arboriculture (ISA) Certification and ISA Tree Risk Assessment Qualification.
2. **Tree Protection Area (TPA):** TPA is the area within the dripline of all retained trees. The TPA may be reduced based on the recommendation of the project arborist.
3. **Tree Protection Fencing:** Tree protection fencing shall consist of 6-foot-tall chain-link fencing installed at the edge of the TPA as approved by the project arborist. Fence posts shall be anchored into the ground or bolted to existing hardscape surfaces.
 - a. Where trees are being retained as a group the fencing shall encompass the entire area including all landscape beds or lawn areas associated with the group.
 - b. Per arborist approval, TPA fencing may be placed at the edge of existing hardscape within the TPA to allow for staging and traffic.
 - c. Where work is planned within the TPA, install fencing at edge of TPA and move to limits of disturbance at the time that the work within the TPA is planned to occur. This ensures that work within the TPA is completed to specification.
 - d. Where trees are protected at the edge of the project boundary, construction limits fencing shall be incorporated as the boundary of tree protection fencing.
4. **Access Beyond Tree Protection Fencing:** In areas where work such as installation of utilities is required within the TPA, a locking gate will be installed in the fencing to facilitate access. The project manager or project arborist shall be present when tree protection areas are accessed.
5. **Tree Protection Signage:** Tree protection signage shall be affixed to fencing every 20 feet. Signage shall be fluorescent, at least 2' x 2' in size.
6. **Filter / Silt Fencing:** Filter / silt fencing within, or at the edge of the TPA of retained trees shall be installed in a manner that does not sever roots. Install so that filter / silt fencing sits on the ground and is weighed in place by sandbags or gravel. Do not trench to insert filter / silt fencing into the ground.
7. **Monitoring:** The project arborist shall monitor all ground disturbance at the edge of or within the TPA.
8. **Soil Protection:** Retain existing paved surfaces within or at the edge of the TPA for as long as possible. No parking, foot traffic, materials storage, or dumping (including excavated soils) are allowed within the TPA. Heavy machinery shall remain outside of the TPA. Access to the tree protection area will be granted under the supervision of the project arborist. If project arborist allows, heavy machinery can enter the area if soils are protected from the load. Acceptable methods of soil protection include placing 3/4-inch plywood over 4 to 6 inches of wood chip mulch or use of AlturnaMats® (or equivalent product approved by the project arborist). Compaction of soils within the TPA must not occur.
9. **Soil Remediation:** Soil compacted within the TPA of retained trees shall be remediated using pneumatic air excavation according to a specification produced by the project arborist.
10. **Canopy Protection:** Where fencing is installed at the limits of disturbance within the TPA, canopy management (pruning or tying back) shall be conducted to ensure that vehicular traffic does not damage canopy parts. Exhaust from machinery shall be located 5 feet outside the dripline of retained trees. No exhaust shall come in contact with foliage for prolonged periods of time.
11. **Duff/Mulch:** Apply 6 inches of arborist wood chip mulch or hog fuel over bare soil within the TPA to prevent compaction and evaporation. TPA shall be free of invasive weeds to facilitate mulch

- application. Keep mulch 1 foot away from the base of trees and 6 inches from retained understory vegetation. Retain and protect as much of the existing duff and understory vegetation as possible.
12. **Excavation:** Excavation done within the TPA shall use alternative methods such as pneumatic air excavation or hand digging. If heavy machinery is used, use flat front buckets with the project arborist spotting for roots. When roots are encountered, stop excavation, and cleanly sever roots. The project arborist shall monitor all excavation done within the TPA.
 13. **Fill:** Limit fill to 1 foot of uncompacted well-draining soil, within the TPA of retained trees. In areas where additional fill is required, consult with the project arborist. Fill must be kept at least 1 foot from the trunks of trees.
 14. **Root Pruning:** Limit root pruning to the extent possible. All roots shall be pruned with a sharp saw making clean cuts. Do not fracture or break roots with excavation equipment.
 15. **Root Moisture:** Root cuts and exposed roots shall be immediately covered with soil, mulch, or clear polyethylene sheeting and kept moist. Water to maintain moist condition until the area is back filled. Do not allow exposed roots to dry out before replacing permanent back fill.
 16. **Hardscape Removal:** Retain hardscape surfaces for as long as practical. Remove hardscape in a manner that does not require machinery to traverse newly exposed soil within the TPA. Where equipment must traverse the newly exposed soil, apply soil protection as described in section 8. Replace fencing at edge of TPA if soil exposed by hardscape removal will remain for any period of time.
 17. **Tree Removal:** All trees to be removed that are located within the TPA of retained trees shall not be ripped, pulled, or pushed over. The tree should be cut to the base and the stump either left or ground out. A flat front bucket can also be used to sever roots around all sides of the stump, or the roots can be exposed using hydro or air excavation and then cut before removing the stump.
 18. **Irrigation:** Retained trees with soil disturbance within the TPA will require supplemental water from June through September. Acceptable methods of irrigation include drip, sprinkler, or watering truck. Trees shall be watered three times per month during this time.
 19. **Pruning:** Pruning required for construction and safety clearance shall be done with a pruning specification provided by the project arborist in accordance with American National Standards Institute ANSI-A300 2017 Standard Practices for Pruning. Pruning shall be conducted or monitored by an arborist with an ISA Certification.
 20. **Plan Updates:** All plan updates or field modification that result in impacts within the TPA or change the retained status of trees shall be reviewed by the senior project manager and project arborist prior to conducting the work.
 21. **Materials:** Contractor shall have the following materials on-site and available for use during work in the TPA:
 - **Sharp and clean bypass hand pruners**
 - **Sharp and clean bypass loppers**
 - **Sharp hand-held root saw**
 - **Reciprocating saw with new blades**
 - **Shovels**
 - **Trowels**
 - **Clear polyethylene sheeting**
 - **Burlap**
 - **Water**

Appendix B 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.