



Memorandum

To: Kevin McFarland – Sound Urban Forestry LLC
Site: Olympia Regional Airport
7525 Old Highway 99 SE
Tumwater, WA 98501
Re: Sonic Tomography of One Garry Oak Tree
Date: September 5, 2023
Project Arborist: Tyler Bunton
ISA Certified Arborist PN-8715A
ISA Qualified Tree Risk Assessor
Reviewed By: George White,
ISA Certified Arborist PN-8908A
ISA Qualified Tree Risk Assessor

This memorandum documents the visit by Tyler Bunton of Tree Solutions Inc. to the above referenced site on August 24, 2023 to perform sonic tomography on one Garry oak (*Quercus garryana*) tree. Kevin McFarland requested these services to obtain additional information about the extent of decay at the base of the tree to provide the City of Tumwater with a more informed risk assessment and management recommendations. The sonic tomogram can be found in Appendix A.

I used a PiCUS sonic tomograph to obtain a tomogram 50 centimeters above the tree base. I selected this height based on soundings of the trunk which indicated the most extensive decay was located low in the trunk. I used the PiCUS Q74 program to analyze the data and obtain a rough estimate of the remaining sound wood shell wall required to maintain tree stability, indicated by the green line in Figure 1 in Appendix A.

The tomogram indicates there is slightly more sound wood than is required to support the tree. However, due to the extent of the decay and thin shell wall around measuring points 3, 4, and 18 it is my opinion that this tree should be managed as a veteran tree and have retrenchment pruning performed to reduce the tree height and spread by approximately 15 feet. Reducing the tree height and spread will result in lowered wind loads acting on the trunk and branch unions resulting in a lower likelihood of failure.

If this tree is retained, it should be reassessed with sonic tomography in five years to determine if the decay is continuing to spread and what the remaining shell wall is at that time. Additionally, 4 to 6 inches of wood chip mulch should be added within the dripline of the tree to improve soil conditions. The wood chip mulch should be kept 12 inches from the base of the tree.