



Superior NW Enterprises

August 24, 2023

RE: Review of retaining wall plan for 6950 SE Maker, PN-9350900620

To Whom It May Concern:

The Mercer Island City arborist requested a close study of the situation with the #4 fir which was described in the original August 2022 TPP as -

4. Douglas fir (*Pseudotsuga menziesii*) 36" DSH (may be less as it appears to have heavy bark), reaches in the neighborhood of 75' tall. It appears to have been topped multiple times and regrown. Exhibits good new growth and color with a full radial canopy down below the halfway point. Base of the tree is 9.5' N of the northwest corner of the subject property. There is a significant drop off in this area of the yard. The plan sheet indicates a negative 12' grade change.

Initially no significant impacts were going to occur near the tree beyond the removal of the existing deck. However a geotech reviewing the proposed plan grew concerned with the existing rock retaining wall on the west side of the yard. He recommended that a pile and timber retaining system be installed to the east of the existing one. This work will theoretically cross into the CRZ of the big offsite fir.

Based on the plan set drawing shown in Figure 1 the north end of the new wall will terminate 15' out from the base of the tree. This means there is no chance that the work will damage the Structural Root Plate of the tree.

The base of the #4 tree is close to 5' below the level of *the base* of the existing stone wall which ends right at the NW corner post. According to the architect and builder this wall will remain in place and not be disturbed. Only a secondary section of stone that is well outside the theoretical CRZ will be removed to facilitate the installation of the pile wall.

The work plan states that the machinery required for drilling the pile holes will be stationed outside the theoretical CRZ for the tree. This is not absolutely necessary as it is highly unlikely that the fir has any roots present east of the existing wall in the first place. Douglas fir rarely has roots present below 36" due to compaction and oxygenation constraints.

In this specific case the tree is unlikely to have pushed roots around the wall and upslope into the subject property as there is not a resource base present that would have drawn roots into the space. Drilling the line of five 24" diameter holes within the theoretical CRZ would realistically create little functional impact even if the tree did have roots present in the space. They move perpendicularly away from the tree and have exponentially lessor chances of intersecting with any roots that may present.

13110 NE 177th Place #304 * Woodinville, WA 98072 * 206 930 5724

Anthony@SuperiorNW.com

00647

Installing another wall 4-5' E and nearly 5' higher on the grade will create no significant disturbance for the tree. No excavation will be done to the existing grade. There will be fill work done to level the grade but this will occur over only 6% of the tree's theoretical rooting space. Again, it is highly unlikely that the fir does have roots present in the area.

Out of an abundance of caution an arborist should be onsite during the proposed work.

Please let me know if you have any questions.

Anthony Moran
ISA Certified Arborist
PN-5847A

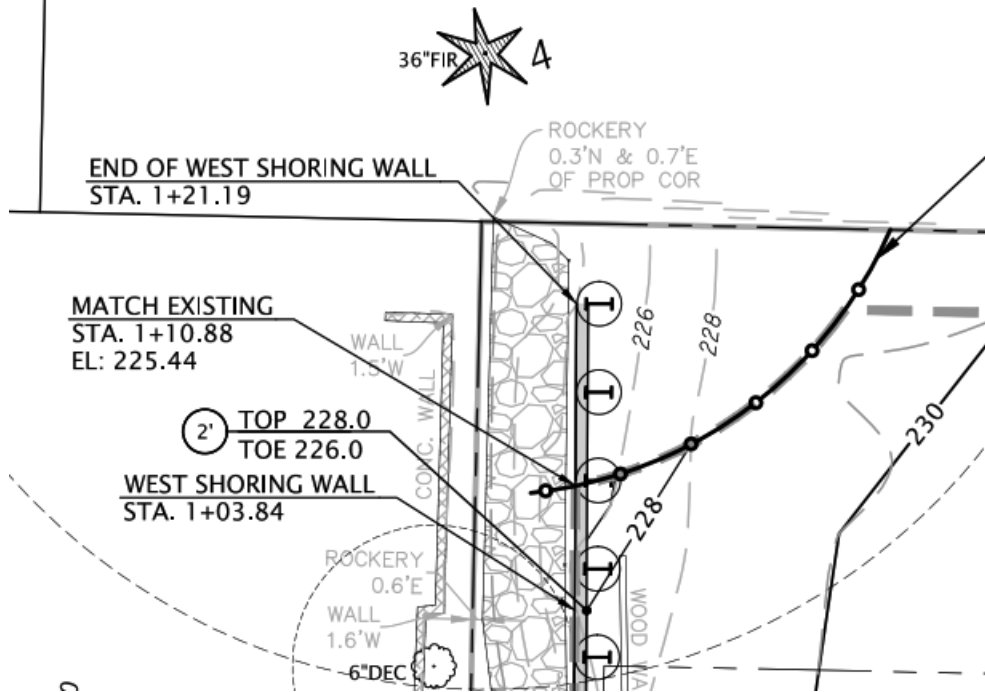


Figure 1. Excerpt from page C-2 of the submitted plan set. The base of the fir is roughly at the 214 grade level. Fir tree rarely if ever have roots deeper than 3' below grade. It is highly unlikely that this tree has any significant root density in the area east (right) of the existing rock wall.