

ARBORIST REPORT

Addendum/Memo

Date:

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Prepared for:

Tomoko Lumpkin

Site Address:

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Mercer Island, WA

Prepared by:

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This memo is intended to address the tree root impact concerns as addressed in a note from John Kenney dated 10/6/2021, regarding Tree #233 at the above referenced site. I visited the site Tuesday October 19th following the air-excavation of portions of the root zone of Tree #233. I've attached photos below.

The limits of proposed soil disturbance were marked with spray paint on the soil prior to the air-excavation work. However, once the air-excavation work began, a large concrete mass was found immediately under a thin soil layer. The concrete is much thicker than a typical concrete pad and is quite large. The total extent of the concrete was not established at the edges furthest from the subject tree. The edges of the concrete closest to the tree were excavated although this excavation is closer to the tree than what would be required in order to excavate for the proposed construction.

The soil immediately around the exposed concrete edges was compacted such that the air-excavation tool was not able to excavate more than 10-14". In this area, the exposed roots were located in the top 6"-8" of soil. The concrete mass and associated compacted soil have apparently restricted root growth in this area, as would be expected of such conditions. No single root larger than 2.5" diameter was exposed, with one (1) such root of that size exposed. Several additional roots in the .75" to 1.5" diameter were exposed. The trench that was exposed is located closer to the subject tree than what will be required for the proposed foundation construction.

There are at least two significant factors that I considered with regard to assessing the potential impacts of excavating within the dripline of the subject tree. Primarily, the concrete mass would need to be either removed or cut in order to provide construction access. I believe that it would be better to remove the entire concrete mass as part of the site excavation. By so doing, the excavated area would actually exceed the area that normally would be excavated if the concrete mass was not present. By removing the mass, an area equal in size to the mass could then be backfilled with fresh sandy loam, replacing the compacted soil and providing an area for new feeder roots to be established. Secondly, a large garden shed that was located within the dripline of this tree has now been removed. This shed was built upon pier blocks and the removal of the shed and pier blocks has not caused any excavation into the soil. This area that was previously covered by the shed, is now available to receive additional soil treatments of mulch and hydration, thus slightly mitigating for the proposed root removal on the opposite side of the tree.

I believe the proposed root removal will impact roots that are less structural in nature. The loss of moisture and nutrient absorbing roots will be mitigated by the addition of sandy loam backfill and by the addition of mulch and hydration. A dedicated sprinkler system covering the entire dripline radius of the subject tree would significantly aid in providing additional hydration. A fresh 3" layer of organic mulch should be applied to the entire dripline radius.



This photo shows air-excavation within 15" of Tree #233. The planned limits of disturbance for this tree is actually 7.35' east of the tree and 5' north. At 5' north of the tree, the air-excavated trench contained very small roots, less than .5" in diameter. The air-excavation trench shown here is the edge of a large underground concrete mass as described in this memo. Even at this close proximity to the subject tree, root mass and size appears very limited, most likely due to the compacted soils surrounding the concrete mass. Complete removal of this mass will not impact the existing roots and may well provide space to backfill with sandy loam soil.



This photo shows the largest of the roots that were exposed by the air-excitation. The largest of these photographed roots is 3.0" in diameter. It appears that this root may have been severed many years ago, resulting in this cluster of smaller roots growing from the previously cut root end. Also present in the photo is a ¾" irrigation line, and less obvious a 4" concrete tile storm drain that is full of soil. It is not known when these systems were installed but it is obvious that there have been root system impacts to this tree in the past.

This memo was prepared by Thomas Quigley, ISA certified arborist PN-655A, Tree Risk Assessment qualified.