



BACK TO NATURE DESIGN

MEMORANDUM

To: Khoa Ha (Client)
Parcel #4024100380 (28th Ave NE)
Lake Forest Park, WA

From: Brooke K. Sullivan
RCA#541 ISA#PN-6439A
Back to Nature Design LLC
121 NW 79th St
Seattle, WA 98117

Date: May 23, 2019

RE: May 2019 Site Visit

Khoa Ha (Client) contacted BTND and requested our staff arborist complete a field visit to parcel #4024100380 in Lake Forest Park, Washington to collect data regarding health, condition and likely impacts from proposed developments on eight trees found growing onsite. We have prepared this summary memorandum to provide a record of the investigations.

On May 16, 2019 Back To Nature Design (BTND) Certified Arborist (ISA#PN-6439A) and Registered Consulting Arborist (ASCA#541) Brooke Sullivan completed a site visit to evaluate whether construction activities from the proposed residential development are likely to inadvertently impact the health of a big leaf maple (*Acer macrophyllum*), an Oregon ash (*Fraxinus latifolia*) and a grove of six *Thuja plicata*.

A summary of key characteristics observed of each tree are provided in Table 1.

Table 1. Existing Tree Conditions

Tree	Scientific Name	Common Name	DBH	Condition	Notes
1	<i>Acer macrophyllum</i>	Big leaf maple	Multi-stem 32.5 + 23	Good	Full canopied maple grows on the property boundary with adjacent neighbor to south of lot 10.
2	<i>Fraxinus latifolia</i>	Oregon ash	13	Fair	Younger tree growing on mapped wetland boundary
3	<i>Thuja plicata</i>	Western red cedar	~36"	Fair	Largest cedar, rooted in stream bank and over culvert, growing in a grove
4	<i>Thuja plicata</i>	Western red cedar	23.5	Fair	Gravel over roots, rooted near culvert, growing in a grove
5	<i>Thuja plicata</i>	Western red cedar	<23.5	Fair	Gravel over roots, growing in a grove
6	<i>Thuja plicata</i>	Western red cedar	<23.5	Fair	Gravel over roots, growing in a grove
7	<i>Thuja plicata</i>	Western red cedar	<23.5	Fair	Gravel over roots, growing in a grove
8	<i>Thuja plicata</i>	Western red cedar	<23.5	Fair	Gravel over roots, growing in a grove

Impacts

After reviewing the existing condition of eight trees onsite, the Site Plan (emailed May 13, 2019) was referenced to assess the nature and location of likely impacts from proposed development activities, including the construction of a driveway and a new home. BTND Registered Consulting Arborist, Brooke Sullivan determined Trees #1 and #2 may be able to be saved through preventative pruning, combined with other tree protection techniques initiated during and following construction. We recommend hiring a certified arborist to preventively prune minor branches in the tree canopy (according to Tree Care Industry standards in ANSI300). Where the crown can be raised in the areas of impact, and according to these standards (without impacting structural branches), limbs may be raised to 30' (where required for construction). Minor pruning is not expected to negatively impact tree health. However, due to the age and condition of the maple tree, protection is advised, and should include retention of all structural branches and roots, including all branches larger than 6-inches. Following pruning activities, we recommend asking the arborist to drop a tape measure at the surveyed edge of the proposed new home and evaluate whether the building height intersects with the maple tree. The foundation may need to be shifted to allow for adequate protection. The Certified Arborist shall verify the tree can be adequately protected during construction and that the building height does not conflict with major branches. Other more specific tree protection recommendations can be provided as the design develops.

Critical damage to 5 other trees is highly likely (#4-8), and damage to one other tree is likely (Tree #3) as a result of driveway construction. Here the trees are likely to incur damages at multiple levels. Direct and permanent physical injury is expected to critically impact the roots and branches of several cedar trees. It is likely that losses to the root tissues (equal to 40-50 percent of the total rooting area) may occur in trees #4-#8 as a result of driveway construction. These direct impacts will result in loss of

structural branches on the south side of the trees and will disrupt structural and feeder roots as well, resulting in a rapid or slow decline in tree health over time (1-5 years), and also potentially the development of hazard trees longer term. Impacts to the stream culvert from tree removal should be investigated. Additionally, indirect damages to the trees may continue to occur following construction, including chronic loss of nutrients and water that the tree require to sustain themselves. Due to the intensity of construction impacts onsite, it is extremely likely that the trees will experience extreme and abrupt changes to landscape soil and hydrological conditions. Cedar trees are especially sensitive to the loss of lower limbs and root compaction. With increasing drought, we generally expect continued loss of cedar trees into the future regardless of added disturbances. It is unlikely these can be saved with the current driveway configuration.

These findings were limited by time and budget. No other studies were completed as part of this scope; however, we are available to assist with any further planning and design documentation that you may require. Please contact me at 206-664-1688 or brooke@backtonaturedesign.com if you have any further questions or comments.