



Brian Highberger
Upright Construction

September 22, 2017

Re: 4500 NE 186th St, Lake Forest Park

Scope of Work – You have asked me to assist you in assessing the trees located on the Watters property located at 4500 NE 186th St, in Lake Forest Park, specifically the trees that could or would be impacted by the construction of a proposed residential building. Beyond the assessment, I will provide canopy coverage calculations and provide for a replanting/mitigation plan.

Methodology - The methods used for this assessment are as outlined in *Tree Risk Assessment* by Julian Dunster and as adopted by the International Society of Arboriculture (ISA). The end goal of most assessments is to provide the owner or manager of the tree(s) with factual information, enabling them to make decisions about the management of the tree(s). Basic assessment includes inspection of the root collar, lower trunk, and canopy of the tree as can be seen from the ground. Basic risk assessment does not include climbing the tree or excavation of soils to inspect root structure or condition.

Each tree was tagged with a metal numbered tag and then measured for diameter at breast height (DBH). An overall 'Condition' rating was assigned to each tree and any observations that were noteworthy were recorded and are detailed in the Tree Inventory. You provided a site plan whereupon an approximate canopy coverage has been delineated. The site plan includes the surveyed location of all of the trees on-site greater than 6" DBH. Trees designated for removal have been X'd out.

Canopy coverage on this parcel is overlapping and was calculated using aerial photo imagery, on-ground observation, and the City of Lake Forest Park GSI Canopy Coverage Map. The approximate canopy is marked on the above referenced Tree Plan by heavy marker pen.

Findings and Observations – The subject parcel would be created by a proposed Boundary Line Adjustment (BLA). Once completed, the subject property would be 28,939 square feet in area. There is an existing driveway that provides access to the existing residence. The remainder of the property is forested with a combination of Douglas Fir, Big Leaf Maple, and Western Red Cedar.

Ground measurements and observation indicate that approximately 70% of the proposed parcel area is currently covered with canopy. Approximately 30% of that coverage is proposed for removal. The net coverage following removal would be approximately 49% of the total proposed parcel area.

Considerations – Eighteen trees are marked for removal, due to construction or due to poor condition. Tree #109 is to be retained but it has a structural split that should be further assessed once the new building and new access driveway are completed, which will alter its current risk factors. Tree #110, #111, #137 and #138 are scheduled for retention but could easily be removed as part of good urban forest management. They contribute very little to the total canopy coverage and could be retained or removed with little overall impact one way or the other.

It is highly likely that the entire parcel is a woven mat of roots that are interconnected with like species and overlapping in many areas. When roots are torn by excavation or grading equipment, the torn and broken roots often leave behind a mangled root that is highly susceptible to disease and fungal infections. When roots are encountered, they should be properly pruned.

Conclusions – As currently detailed, you will fall below the target canopy coverage goal of 58% by 2605 square feet of coverage. You can plant three (3) Western Red Cedar trees and receive 962 square feet of credit per tree, which will return you to a 59% coverage. You will be planting additional trees and shrubs as part of your wetland mitigation, thereby, your future canopy coverage will exceed the 58% goal by a wide margin.

I provided the location of Tree Protection Measures (TPM) for the retained trees. TPM's should be as specified in the City of Lake Forest Park municipal code. These locations should be marked on the ground prior to any clearing or grading activity and should reflect the individual tree canopy or a distance reasonably far enough away from grading activity as to reduce impact to a minimum. A tree professional should assist with the TPM actual critical location and should be on-site during any clearing and grading activity. Encountered roots could be properly pruned and decisions could be made about the implications of certain root removal.

It is possible that additional trees may need removal as a result of something yet undiscovered about an individual trees structure or about its root system, typically discovered in the process of tree removal or of grading activity. As stated before, there will be additional tree planting as mitigation, so a final canopy coverage could be calculated following final grading and mitigation planting.

This report was prepared by Thomas Quigley, ISA certified arborist PN0655A. Tree Risk Assessment Qualified by the International Society of Arboriculture.