



**Arborist Report
for
WOODSIDE Property
Parcel 0725069033
Redmond, WA**



November 7, 2018

Table of Contents

1. Introduction.....	1
2. Description	1
3. Methodology	1
4. Observations/Discussion	2
5. Tree Retention and Removal.....	2
6. Tree Retention Calculation.....	3
7. Tree Replacement	3
8. Tree Protection Measures.....	3

Appendix

Site/Tree Photos – pages 5 - 6

Tree Summary Tables - attached

Tree Conditions Map – attached

1. Introduction

American Forest Management was contacted by Nick AbdeInour of Polygon WLH, LLC and was asked to compile an 'Arborist Report' for a subdivision project involving a parcel in the City of Redmond. The parcel number is 0725069033.

Our assignment is to prepare a written report on present tree conditions, and to provide appropriate recommendations for the protection of retained trees during construction.

This report encompasses all the criteria set forth under the City of Redmond's tree regulations.

Dates of Field Examination: October 9-10th, 2018

2. Description

The +/- 12 acre site has been heavily disturbed from past Cadman operations. There is no significant tree cover within the interior of the site.

The topography of the subject property is mostly flat except for the east, west, and south perimeters which have steep slopes of greater than 40%. The east side of the property slopes down to the Evans Creek Natural Area and 196th Ave NE, also known as Red Brick Road. This slope has the most significant tree cover on the property and has 36 significant trees with stems measuring over 6" diameter at breast height (4.5' above ground or DBH), and dozens more small, non-significant alder trees growing in mixed rubble and deposited soils from the earth work performed many years before.

The south portion of the property has a planted row of 39 Excelsa cedar which were likely planted within the past decade. Of these, 31 are over 6" DBH. There are also regularly planted Russian Laurel (*Prunus laurocerasus 'Schipkaensis'*) which were not surveyed or included in this report due to their shrub-like habit.

Trees on neighboring properties with drip-lines extending onto the subject parcels were also assessed. The majority of the larger trees included here are growing on the adjacent parcel to the east in the Evans Creek Natural Area.

All of the significant trees on the subject property have been identified in the field with a numbered aluminum tag attached to the lower trunk by the surveying crew. Tree tag numbers correspond with tree numbers on the attached Tree Summary Tables.

3. Methodology

Each tree in this report was visited. Tree diameters were measured by tape at DBH. The tree heights were measured using a Spiegel Relaskop. Each tree was visually examined for defects and vigor. The tree assessment procedure involves the examination of many factors:

- The crown of the tree is examined for current vigor. This is comprised of inspecting the crown (foliage, buds and branches) for color, density, form, and annual shoot growth, limb dieback and disease. The percentage of live crown is estimated for coniferous species only and scored appropriately.
- The bole or main stem of the tree is inspected for decay, which includes cavities, wounds, fruiting bodies of decay (conks or mushrooms), seams, insects, bleeding, callus development, broken or dead tops, structural defects and unnatural leans. Structural defects include crooks, forks with V-shaped crotches, multiple attachments, and excessive sweep.

Attachment 13

WOODSIDE Property - Arborist Report

- The root collar and roots are inspected for the presence of decay, insects and/or damage, as well as if they have been injured, undermined or exposed, or original grade has been altered.

The four condition categories are described below:

Excellent – free of structural defects, no disease or pest problems, no root issues, excellent structure/form with uniform crown or canopy, foliage of normal color and density, above average vigor, it will be wind firm if isolated, suitable for its location

Good – free of significant structural defects, no disease concerns, minor pest issues, no significant root issues, good structure/form with uniform crown or canopy, foliage of normal color and density, average or normal vigor, will be wind firm if isolated or left as part of a grouping or grove of trees, suitable for its location

Fair – minor to moderate structural defects not expected to contribute to a failure in near future, no disease concerns, moderate pest issues, no significant root issues, asymmetric or unbalanced crown or canopy, average or normal vigor, foliage of normal color, moderate foliage density, will be wind firm if left as part of a grouping or grove of trees, cannot be isolated, suitable for its location

Poor – major structural defects expected to cause fail in near future, disease or significant pest concerns, decline due to old age, significant root issues, asymmetric or unbalanced crown or canopy, sparse or abnormally small foliage, poor vigor, not suitable for its location

The attached Tree Summary Table provides specific information on tree sizes and average drip-line radius.

4. Observations

A total of 68 significant trees were identified within the parcel boundaries. The majority of trees located by the surveyor are of non-significant size. Of the trees assessed, six were found to be in poor condition, and one was dead.

Subject trees are primarily comprised of bigleaf maple (*Acer macrophyllum*) and red alder (*Alnus rubra*). The red alder is of a young age class, growing on mostly disturbed soils. The majority are of low vigor due to past drought conditions and poor soils. The maple is found on the lower slopes of the east perimeter where soils have not been significantly disturbed. These have developed typical form for the species are mostly in fair condition.

There is a planted row of Excelsa cedar (*Thuja plicata 'Excelsa'*) along the south perimeter. These were likely planted to create a screen between the residential and commercial uses of the adjoining properties. All of these are young and in fair to good condition.

Three 'landmark' trees were identified on the east perimeter of the subject property. These include two mature big leaf maple and one Douglas fir. This fir is the only coniferous tree assessed other than the planted cedar. The fir tree is located just off the property, according to the surveyor.

The site has significant invasive plant cover. Primarily Himalayan blackberry and Scots broom.

5. Discussion

The extent of drip-lines (farthest reaching branches) for the subject trees can be found on the tree summary tables at the back of this report. The Tree Summary Tables indicate the proposed action for subject trees.

There are few trees on the property that warrant protection or preservation. The most appropriate location for possible tree retention is on the east perimeter at the bottom of the slope where soils have not been disturbed to a significant degree. The young alder trees on the property are not sustainable long-term. These have naturally regenerated on disturbed, degraded soils and are not expected to survive for the long-term. Many have already prematurely died.

The planted cedar on the south perimeter are too large to successfully relocate or transplant. It would be more prudent to simply replace these trees as part of the finished landscape plan.

6. Tree Retention Summary

A total of 68 significant trees were identified on the subject property. One alder was found dead and not included in the tree retention calculation.

Tree Calculation based on 67 significant trees

Viable Trees proposed for removal – 43 (64%)

Viable Trees proposed for retention – 24 (36%)

Viable Trees proposed to be impacted – 0 (%)

The following table summarizes the tree retention calculation.

Tree Type	Removal	Impacted	Retained	Total
Landmark #	0	0	2	2
Landmark %	0%	0	100%	100%
Significant #	43	0	22	65
Significant %	66%	0%	34%	100%
Total #	43	0	24	67
Total %	64%	0%	36%	100%

7. Tree Replacement

Replacement trees will be required. Each significant tree removed will be replaced, therefore a total of 43 replacement trees are required. All replacement trees are to be planted on site. Replacement trees shall be at a minimum – 2 ½ inch caliper for deciduous species and 6 feet in height for coniferous species.

Site perimeters can be enhanced with native tree plantings of coniferous species to provide screening between neighboring properties and maintaining the natural character of the area. Recommended native conifer species include western red cedar, shore pine and Douglas fir.

8. Tree Protection Measures

The following guidelines are recommended to ensure that the designated space set aside for the preserved trees are protected and construction impacts are kept to a minimum. See the Redmond Zoning Code RZC 21.72.070 Tree Protection Measures.

Attachment 13

WOODSIDE Property - Arborist Report

- Tree protection barriers shall be initially erected at 5' outside of the drip-line prior to moving any heavy equipment on site.
- Tree protection fencing shall only be moved where necessary to install improvements, but only as close as the Limits of Disturbance, as indicated on the attached plan.
- Excavation limits should be laid out in paint on the ground to avoid over excavating.
- Excavations within the drip-lines shall be monitored by a qualified tree professional so necessary precautions can be taken to decrease impacts to tree parts. A qualified tree professional shall monitor excavations when work is required and allowed up to the "Limits of Disturbance".
- To establish sub grade for foundations, curbs and pavement sections near the trees, soil should be removed parallel to the roots and not at 90 degree angles to avoid breaking and tearing roots that lead back to the trunk within the drip-line. Any roots damaged during these excavations should be exposed to sound tissue and cut cleanly with a saw. Cutting tools should be sterilized with alcohol.
- Areas excavated within the drip-line of retained trees should be thoroughly irrigated weekly during dry periods.
- Preparations for final landscaping shall be accomplished by hand within the drip-lines of retained trees. Plantings within the drip lines shall be limited. Large equipment shall be kept outside of the tree protection zones.

There is no warranty suggested for any of the trees subject to this report. Weather, latent tree conditions, and future man-caused activities could cause physiologic changes and deteriorating tree condition. Over time, deteriorating tree conditions may appear and there may be conditions, which are not now visible which, could cause tree failure. This report or the verbal comments made at the site in no way warrant the structural stability or long term condition of any tree, but represent my opinion based on the observations made.

Trees within reach of improvements or human use areas may represent hazards that could lead to damage or injury.

Please call if you have any questions or we can be of further assistance.

Thank you,



Benjamin Mark
ISA Certified Arborist #PN-6976A
ISA Tree Risk Assessment Qualified

Big Leaf Maple
#9613. Note
small leaves
and dying
crown
indicating
stress.



Offsite Maples
#9614-9616



Attachment 13

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Stand of non-significant alders on east slope



East perimeter

