



Andrew Lyon,
ISA certified arborist, PN-6446A
ISA Tree Risk Assessment Qualified

10016 Edmonds Way
Ste C 227,
Edmonds WA 98020
206-734-0705

6/14/2019

Arborist Tree Inventory Report and Retention Plan for:

3440 97th Ave SE

Mercer Island WA

Qualifications- I have been an ISA certified arborist for 10 years and hold the ISA's Tree Risk Assessment Qualification. I have been working with trees for 20 years and specifically with protecting trees during construction for the last 5 years.

Scope- This report includes all trees 8" Diameter at Breast Height or larger on or overhanging the lot. There are 3 regulated trees on the lot and 4 regulated trees overhanging the lot. There are no Exceptional Trees on or overhanging this lot. The trees are numbered and located according to the attached Tree Location Map and further described in the itemized section below. By following the prescribed tree protection measures, all of the trees that are being retained are expected to survive the proposed development project and continue growing normally.

Methods- Diameter at Breast Height, or DBH, for trees on site was determined by measuring the circumference of the tree at the narrowest point below 4.5' above grade and dividing by 3.14 and rounding off to the nearest inch. Multi stemmed tree's total DBH was calculated by squaring the DBHs of the individual trunks, adding them together and taking the square root of the sum and rounding to the nearest inch. The DBH of the trees off of the site were taken from the survey of the lot.

Corrections- The tree types listed on the survey may not be accurate. Where the survey and this report differ in regard to the species of the trees, this report shall be deemed accurate.

The Limits of Disturbance for each tree is based on the standard one foot of protection radius for each inch of tree diameter and adjusted on a case by case basis by taking into account the tree's drip line and species.

All Tree Protection Measures are in accordance with the current, ISA Best Management Practices, and shall be in place prior to breaking ground on the project.

Tree Protection Area A --Tree Protection Area A shall be created by fencing the area on the subject lot according to the location of the fencing marked on the tree location map. Fencing shall consist of 4' tall orange construction fencing. There shall be no site disturbance, traffic, storage of materials or washing of materials within the fenced area during the time of the development project. Any excavation within 3' of the tree protection fence shall be done by hand with shovels with care taken not to rip or tear any encountered roots but rather to cleanly cut or prune them.

Tree Protection Area B -- Tree Protection Area B shall be created by fencing the area on the subject lot that is within 11' of tree # 18 with 4' tall orange construction fencing. There shall be no site disturbance, traffic, storage of materials or washing of materials within the fenced area during the time of the development project. Any excavation within 2' of the tree protection fence shall be done by hand with shovels with care taken not to rip or tear any encountered roots but rather to cleanly cut or prune them.

Off site trees 1-7 and 9-12 are over 10' from the property line and any excavation or development activity on the site will not significantly stress these trees.



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Off site Trees 8, 15, 16, and 17 are near the property line and shall be protected with the tree protection area A as described below and drawn on the tree location map.

On site trees 14 and 18 shall be protected by tree protection areas A and B as described below and drawn on the tree location map.

1. Douglas Fir *Pseudotsuga menziesii* 18" DBH, with a 15' drip line. This tree has a 15' critical root zone and its limit of allowable disturbance is 18'. This tree is in good health and condition. It is located more than 18' from the property and will not be effected by development on the site.
2. Douglas Fir *Pseudotsuga menziesii* 14" DBH with a 12' drip line and a 6' critical root zone. Its limit of disturbance is 14'. This tree is in good health and condition. It is located more than 14' from the property and will not be effected by development on the site.
3. Douglas Fir *Pseudotsuga menziesii* 12" DBH with a 12' drip line and a 6' critical root zone. Its limit of disturbance is 10'. This tree is in good health and condition. It is located more than 12' from the property and will not be effected by development on the site.
4. Douglas Fir *Pseudotsuga menziesii* 18" DBH, with a 15' drip line. This tree has a 15' critical root zone and its limit of allowable disturbance is 18'. This tree is in good health and condition. It is located more than 18' from the property and will not be effected by development on the site.
5. Western Red Cedar *Thuja plicata* 12" DBH with a 12' drip line and a 6' critical root zone. Its limit of disturbance is 12'. This tree is in good health and condition. It is located more than 12' from the property and will not be effected by development on the site.
6. Western Red Cedar *Thuja plicata* 16" DBH with a 12' drip line and an 8' critical root zone. Its limit of disturbance is 16'. This tree is in good health and condition. It is located more than 16' from the property and will not be effected by development on the site.
7. Western Red Cedar *Thuja plicata* 12" DBH with a 12' drip line and a 6' critical root zone. Its limit of disturbance is 12'. This tree is in good health and condition. It is located more than 12' from the property and will not be effected by development on the site.
8. Black Cottonwood *Populus balsamifera* This tree has 3 stems with DBHs 13", 14", & 14". The square root of the sum of the squares of the DBHs is 23.68 giving this tree a total DBH of 24". It has a 15' average drip line. Its critical root zone is 8' and its limit of disturbance is 15'. It is in good health and condition and is to be retained and protected by Tree Protection Area A.
9. Douglas Fir *Pseudotsuga menziesii* 8" DBH with a 10' drip line and a 5' critical root zone. Its limit of disturbance is 10'. This tree is in good health and condition. It is located more than 10' from the property and will not be effected by development on the site.
10. Douglas Fir *Pseudotsuga menziesii* 8" DBH with a 10' drip line and a 5' critical root zone. Its limit of disturbance is 10'. This tree is in good health and condition. It is located more than 10' from the property and will not be effected by development on the site.
11. Douglas Fir *Pseudotsuga menziesii* 16" DBH with a 15' drip line and a 7' critical root zone. Its limit of disturbance is 16'. This tree is in good health and condition. It is located more than 16' from the property and will not be effected by development on the site.



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12. Norway Maple *Acer platanoids* DBH 8", 24' tall with a 15' drip line a 7' critical root zone. Its limit of disturbance is 15'. This tree is in excellent health and condition. This tree will not be significantly effected by excavation in the subject lot.
13. Bigleaf Maple *Acer macrophyllum* DBH 16" with a 14' drip line and an 8' critical root zone. Its limit of disturbance is 15'. This tree is in good health and condition and is to be removed due to being in the way or construction.
14. Douglas Fir *Pseudotsuga menziesii* 16" DBH with a 15' drip line and a 7' critical root zone. Its limit of disturbance is 10'. This tree is in good health and fair condition having had its top blown out more than 5 years ago. This tree is to be retained and protected by Tree Protection Area A.
15. Western Red Cedar *Thuja plicata* 12" DBH with a 10' drip line and a 6' critical root zone. Its limit of disturbance is 12'. This tree is in good health and condition and is to be retained and protected by Tree Protection Area A.
16. Douglas Fir *Pseudotsuga menziesii* 14" DBH with a 12' drip line and a 7' critical root zone. Its limit of disturbance is 12'. This tree is in good health and condition and is to be retained and protected by Tree Protection Area A.
17. Western Red Cedar *Thuja plicata* 12" DBH with a 12' drip line and a 6' critical root zone. Its limit of disturbance is 12'. This tree is in good health and condition and is to be retained and protected by Tree Protection Area A.
18. Western Red Cedar *Thuja plicata* This tree has 3 stems with DBHs 6", 8", & 4". The square root of the sum of the squares of the DBHs is 10.77 giving this tree a total DBH of 11". It has an 11' drip line and a 5' critical root zone. Its limit of disturbance is 11'. This tree is in good health and condition and is to be retained and protected by Tree Protection Area B. Tree Protection Area B shall be created by fencing the area on the subject lot that is within 11' of this tree with 4' orange construction fencing. There shall be no site disturbance, traffic, storage of materials or washing of materials within the fenced area during the time of the development project.

If you have any questions about these trees, please feel free to contact me. This report was prepared by:

Andrew Lyon

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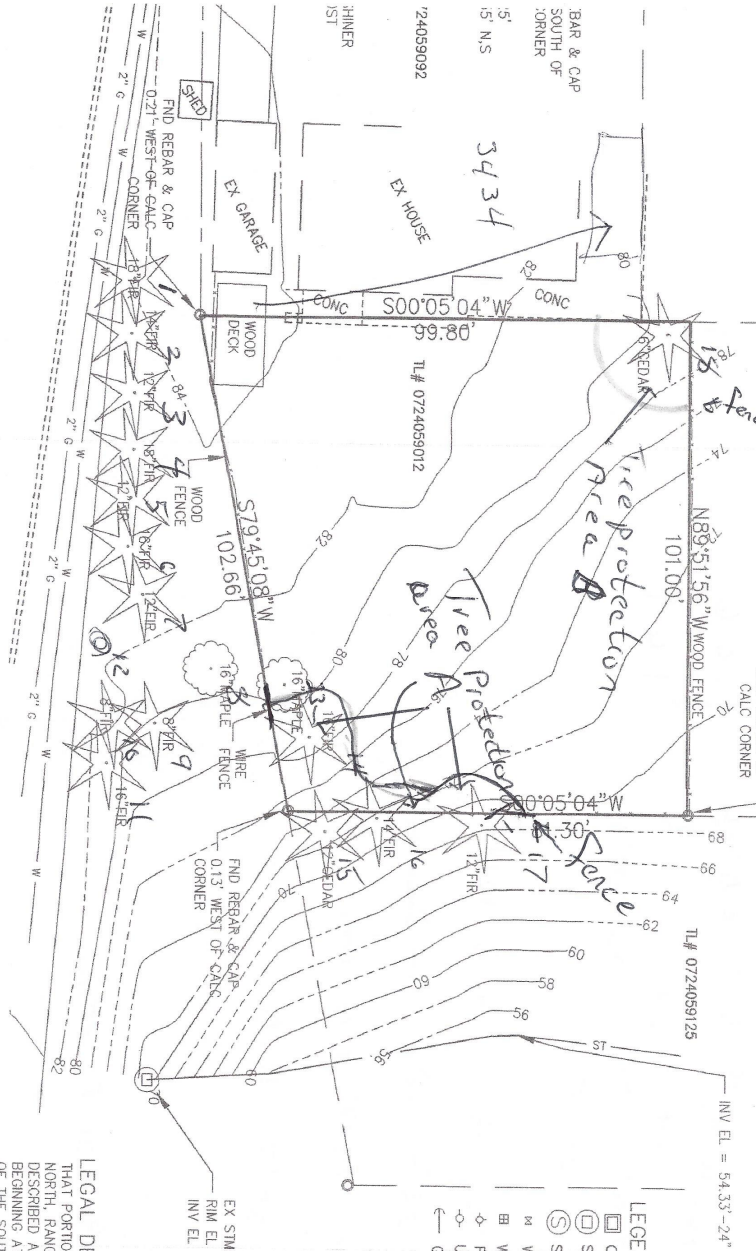
Tree Risk Assessment Qualified CTRA #512



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 Tree Location Map



- LEGEND**
- CB (TYPE 1)
 - ⊖ STMH (TYPE 11)
 - ⊙ SANITARY SEWER MH
 - ⊗ WATER VALVE
 - ⊞ WATER METER/SERVICE
 - ⊕ FIRE HYDRANT
 - ⊖ UTILITY POLE
 - ← GUY WIRE

LEGAL DESCRIPTION
 THAT PORTION OF GOVERNMENT LOT 5, SE NORTH, RANGE 5 EAST, W.M. IN KING COUNTY BEGINNING AT A POINT 921.44 FEET WEST / OF THE SOUTHEAST CORNER OF SAID GOV'T THE NORTHERLY PARALLEL WITH THE EAST GOVERNMENT LOT 220.00 FEET; THENCE EAST ALONG A LINE 250.00 FEET WITH THE SOUTH LINE OF SAID GOVERNMENT TRACT NORTH PARALLEL WITH SAID EAST

Trees teach us that it's important to have roots, grow where you're planted, and be flexible. If you really believe in something, don't be afraid to go out on a limb ☺