

SHOFFNER CONSULTING

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June 9, 2023

Eric Sadler
MN Custom Homes
3009 112th Ave. NE. Suite 100
Bellevue, WA
98004

RE: Tree Inventory Report -7119 80th Ave. SE Mercer Island, WA.

Eric:

This report is provided to address the recent inventory I conducted of the trees on the property and just off-site at the address of 7119 80th Ave. SE in Mercer Island, WA. Please see the accompanying tree inventory map for the locations and numbers of the trees, as well as the proposed new house location, the tree evaluation data spreadsheet for complete information on the trees and the City of Mercer Island Tree Submittal Checklist and Tree Inventory and Replacement Submittal information for reference to this report.

1.0 Professional Experience and Credentials

Following is a summarization of my experience and credentials as a consulting arborist:

- Master of Science in Urban Horticulture from Center for Urban Horticulture, University of Washington, 1996. Focus of study and thesis was nursery production of Pacific madrone (*Arbutus menziesii*) and establishment into a natural/urban ecosystem.
- ISA Certified Arborist since 1996.
- Tree Risk Assessment Qualified since 2012.
- Consulting arborist, 1996-present.
- Wetland Biologist, 1996-1998
- Other related experience: City of Everett Urban Forestry, summers 1989-1992; Natural Resource Management staff and Bellevue Botanical Garden staff, City of Bellevue, 1996-1997.

2.0 Site Conditions

The property is developed with a single family residence and is located in a single family residence neighborhood. The landscape consists of a mixture and native and non-native trees and shrubs. The topography is flat.

3.0 Tree Inventory Methods and Results

I conducted visual evaluations of all the trees according to ISA standards and based upon many years conducting such evaluations on trees in the Pacific Northwest. I conducted level 2 basic visual assessments, observing trees up close to inspect

conditions of the trunks and from afar to inspect conditions in the crowns. For the trees located on the slope and at the base of it, both on and off-site, I conducted level 1 assessments from the top of the slope as this is an area of no development and the trees are far enough from the residence, both in vertical and horizontal distance, to not pose a risk of impact in the event of failure. All assessments were conducted according to the methods specified in the ISA Tree Risk Assessment Manual and on nearly 20 years experience conducting such evaluations.

The investigations involved the gathering of the following information:

- Tree species
- Trunk diameter
- Crown spread diameter
- Location factors
- Health and condition notes (general level of vigor, defects, disease or pest problems)

The information gathered on all of the trees is provided in the accompanying Tree Evaluation Data spreadsheet. No trees on or just off-site possessed any conditions, symptoms of conditions or defects worth noting.

4.0 Tree Retention and Protection Requirements

Tree City of Mercer Island retention requirements are specified in 19.10.060 of the MICC, titled Tree removal —Associated with a development proposal, and are as follows:

- A minimum of 30% of trees with a diameter of 10 inches or greater, or that otherwise meet the definition of a large tree, shall be retained over a rolling five year period.
- The following trees shall be prioritized for retention:
 - (a) Exceptional trees;
 - (b) Trees with a diameter of more than 24 inches;
 - (c) Trees that have a greater likelihood of longevity; and
 - (d) Trees that are part of a healthy grove. (Note: the definition of a grove is not provided in MICC.)

There is a total of 7 significant trees (10 inches or greater) on the property, none of which are exceptional by size. All of the trees on the property are proposed to be retained.

5.0 Tree Replacement

Per 19.10.070, trees that are cut pursuant to a tree permit shall be replaced as specified in subsections A and B of this section, or a fee in lieu shall be paid as specified in subsection C of this section.

<u>Diameter of removed tree</u>	<u>Number of replacement trees</u>
< 10 inches	1
10 inches up to 24 inches	2

24 inches up to 36 inches	3
More than 36 inches and any exceptional tree	6

All of the trees are proposed to be retained, therefore, no tree replacement is required.

6.0 Tree Protection and Impact Assessment

The accompanying tree evaluation data spreadsheet provides the limits of disturbance (LOD) for each tree. The LOD is the radial distances from the trees in feet and is the zone of protection where impacts are not to occur within, particularly below ground. However, for most of the trees, development will only occur on one side, so below ground impacts may be allowed within the specified LODs for these trees.

Tree protection fencing is to be installed at the specified LODs prior to beginning any work on the site including clearing and grading and is to remain in place throughout development.

If encroachment into the LOD is approved, the fencing is only to be removed at the time that the work within the LOD is to be done.

Encroachment is proposed into the drip lines of trees #23, #24 and #25. Following are the proposed encroachments and the impact assessments:

- #23 A proposed driveway entrance to the property will be approximately 10' to the south of this tree. This is a right-of-way tree. The amount of new impervious surface will not significantly affect the ability of the tree to obtain the necessary resources to maintain growth and defense. Preparation of the ground for the driveway will not exceed a depth where the roots would be impacted.
- #24 A proposed driveway entrance to the property will be approximately 10' to the south of this tree. This is a right-of-way tree. The amount of new impervious surface will not significantly affect the ability of the tree to obtain the necessary resources to maintain growth and defense. Preparation of the ground for the driveway will not exceed a depth where the roots would be impacted.
- #25 This is a right-of-way tree A corner of the house will encroach into the outer edge of the drip line, far enough away from the tree to eliminate any significant root damage. It is possible that a minor amount of small roots will be damaged, but this will not affect the health of the tree.

Special Work With the LOD

- Tree Protection per MICC 19.10 is to be installed at the LOD prior to removal of the existing residence.
- Only when work for the driveway is to begin is the fencing to be moved toward the tree.
- The work for preparation of the ground for the driveway is far enough and minor enough that it can be done by a machine.

7.0 Use of This Report and Limitations

This report is provided to MN Custom Homes to address the inventory of the trees on the property at the address of 7119 80th Ave. SE in Mercer Island, WA. Natural decline and failure of trees following development is not predictable, therefore, Shoffner Consulting and Tony Shoffner cannot be held liable for retained trees that die or fail prior to or following development of the property.

Cordially,

A handwritten signature in black ink, appearing to read "Tony Shoffner". The signature is written in a cursive, flowing style.

Tony Shoffner
ISA Certified Arborist #PN-0909A, TRAQ

Tree Viability Rating

Tree #	Location	Species	Dbh	CSD	Class	Structure	Health	Condition	CRZ radius	LOD N	LOD S	LOD E	LOD W	Grove	Status
1	On site	Pacific dogwood (Cornus nuttallii)	8"	14'	Significant	Good	Good	Good	8'	N/A	N/A	12'	N/A	No	Retain
2	On site	Pacific dogwood (Cornus nuttallii)	6"	14'	Significant	Good	Good	Good	6'	N/A	N/A	12'	N/A	No	Retain
3	On site	Pacific dogwood (Cornus nuttallii)	10"	18"	Significant	Good	Good	Good	10'	N/A	N/A	12'	N/A	No	Retain
4	Off site	English holly (Ilex aquifolium)	6"	12'	Significant	Good	Good	Good	6'	N/A	N/A	12'	N/A	No	N/A
5	On site	Portugal laurel (Prunus lusitanica)	6"	16'	Significant	Good	Good	Good	6'	N/A	N/A	12'	N/A	No	Retain
6	On site	Douglas fir (Pseudotsuga menziesii)	22"	36'	Significant	Good	Good	Good	22'	N/A	N/A	14'	N/A	No	Retain
7	On site	Pacific dogwood (Cornus nuttallii)	6"	16"	Significant	Good	Good	Good	6'	N/A	N/A	12'	N/A	No	Retain
8	On site	Pacific dogwood (Cornus nuttallii)	12"	22'	Significant	Good	Good	Good	12'	N/A	N/A	16'	N/A	No	Retain
9	On site	Pacific dogwood (Cornus nuttallii)	16"	32'	Significant	Good	Good	Good	16'	N/A	N/A	16'	N/A	No	Retain
10	On site	Hawthorn (Crataegus sp.)	6"	14'	Significant	Good	Good	Good	6'	N/A	N/A	8'	N/A	No	Retain
11	On site	Italian prune (Prunus domestica)	6"	14'	Significant	Good	Good	Good	6'	N/A	N/A	10'	N/A	No	Retain
12	On site	Pacific dogwood (Cornus nuttallii)	10"	22'	Significant	Good	Good	Good	10'	N/A	N/A	16'	N/A	No	Retain
13	On site	Douglas fir (Pseudotsuga menziesii)	18"	32'	Significant	Good	Good	Good	18'	N/A	N/A	16'	N/A	No	Retain
14	On site	Douglas fir (Pseudotsuga menziesii)	24"	36'	Significant	Good	Good	Good	24'	N/A	N/A	16'	N/A	No	Retain
15	On site	Japanese maple (Acer japonicum)	7"	16'	Significant	Good	Good	Good	7'	10'	N/A	N/A	N/A	No	Retain
16	Off site	Pacific madrone (Arbutus menziesii)	22"	20'	N/A	Poor	Poor	Poor	22'	N/A	N/A	16'	N/A	No	N/A
17	Off site	Douglas fir (Pseudotsuga menziesii)	18"	34'	Significant	Good	Good	Good	18'	N/A	N/A	16'	N/A	No	N/A
18	Off site	Douglas fir (Pseudotsuga menziesii)	36"	44'	Exceptional	Good	Good	Good	36'	N/A	N/A	N/A	16'	No	N/A
19	Off site	Douglas fir (Pseudotsuga menziesii)	28"	36'	Significant	Good	Good	Good	28'	N/A	N/A	N/A	16'	No	N/A
20	Off site	Douglas fir (Pseudotsuga menziesii)	16"	32'	Significant	Good	Good	Good	16'	N/A	N/A	N/A	16'	No	N/A
21	Off site	Douglas fir (Pseudotsuga menziesii)	28"	38'	Significant	Good	Good	Good	28'	N/A	N/A	N/A	16'	No	N/A
22	Off site	Douglas fir (Pseudotsuga menziesii)	26"	40'	Significant	Good	Good	Good	26'	N/A	N/A	N/A	16'	No	N/A
23	Off site	Douglas fir (Pseudotsuga menziesii)	26"	36'	Significant	Good	Good	Good	26'	N/A	N/A	N/A	16'	No	N/A
24	Off site	Douglas fir (Pseudotsuga menziesii)	18"	36'	Significant	Good	Good	Good	18'	N/A	N/A	N/A	16'	No	N/A
24	Off site	Douglas fir (Pseudotsuga menziesii)	22"	36'	Significant	Good	Good	Good	22'	N/A	N/A	N/A	16'		N/A
25	Off site	Douglas fir (Pseudotsuga menziesii)	38"	44'	Exceptional	Good	Good	Good	38'	N/A	N/A	N/A	16'	No	N/A

- Tree # On or Off site
- Location Tag # assigned by survey
- Species Tree Species
- Dbh Diameter at 54"
- CSD CSD is crown spread diameter for the on-site and right of way trees and crown spread distance onto the property for off-site trees.
- D.C. D.C. Density Credit per City of Kirkland
- Rating Condition rating: 1=Good condition and health, young and vigorous; 2=Generally good condition and health; 3=Fair condition and health, some health and defect concerns; 4=Poor condition and/or health.
- LOD Limits of development in radial feet from trunk for on site trees. For off-site trees, protection distance onto the property.
- Condition Notes Notes on conditions specific to each tree if
- Status To be retained or removed

CITY OF MERCER ISLAND

COMMUNITY PLANNING & DEVELOPMENT

9611 SE 36TH STREET | MERCER ISLAND, WA 98040

PHONE: 206.275.7605 | www.mercergov.org

Inspection Requests: Online: www.mybuildingpermit.com VM: 206.275.7730



TREE SUBMITTAL CHECKLIST

If a box is checked, please provide the information in your next submittal

SUBMITTAL ITEMS

1. The Mercer Island Tree Inventory Form

- Provide the City's Mercer Island Tree Inventory Form

2. Arborist report/tree inventory

- Provide an Arborist report, prepared by a qualified Arborist. Include the following information in the arborist report.
 - 1. Description of how the arborist meets the threshold requirements for Qualified Arborist.
 - 2. A complete description of each tree's diameter, species, critical root zone, limits of allowable disturbance, health, condition, and viability.
 - 3. A description of the method(s) used to determine the limits of allowable disturbance (i.e., critical root zone, root plate diameter, or a case-by-case basis description for individual trees).
 - 4. Any special instructions specifically outlining any work proposed within the limits of disturbance protection areas (i.e. hand-digging, air space, tunneling, root pruning, any grade changes, clearing, monitoring, and aftercare).
 - 5. For trees not viable for retention, a description of the reason(s) for removal based on poor health, high risk of failure due to structure, defects, unavoidable isolation, windfirmness, unsuitability species, etc. If there is no reasonable alternative action (pruning, cabling, etc.) possible, replacement recommendations must be given.
 - 6. Describe the impact of necessary tree removal on the remaining trees, including those in a grove or on adjacent properties.
 - 7. Describe timing and installation of tree protection measures. Such measures must include fencing and be in accordance with the tree protection standards as outlined in MICC 19.10.
 - 8. The suggested location and species of replacement trees to be used when required. The report shall include planting and maintenance specifications to ensure long term survival.
 - 9. **A Tree Inventory** containing the following:
 - a. A numbering system of all existing large trees on the property (with corresponding tags on trees). The inventory shall also include large trees on adjacent property with driplines or critical root zones extending into the property.
 - b. Tree size (diameter). Where a tree splits into several trunks close to ground level, the dbh (Diameter at Breast Height) for the tree is the square root of the sum of the dbh for each individual stem squared (example with 3 stems: $dbh = \sqrt{(stem1)^2 + (stem2)^2 + (stem3)^2}$).
 - c. Proposed tree status (retained or proposed for removal).
 - d. Tree type or species.
 - e. Identify all Exceptional trees and differentiate between those less than 24 inches and those greater than or equal to 24 inches in diameter.
 - f. Brief general health or condition rating of each tree (i.e. poor, fair, good, etc.).

3. Site/tree retention plan

Indicate the following on all civil/utility and grading sheets. If there are no civil sheets indicate on the architectural site plan

- 1. Location of all proposed improvements (building footprint, access, utilities, buffers, required landscape areas).
- 2. Surveyed location of all large trees and Exceptional trees on the property
- 3. Show the critical root zone of Large trees on adjacent properties if driplines extend over the subject property line.
- 4. Trees labeled corresponding to the tree inventory numbering system on the Mercer Island Tree Inventory Form.
- 5. Identify Exceptional trees using different symbols for trees less than 24 inches and trees greater than or equal to 24 inches.
- 6. Location of tree protection measures.
- 7. Limits of excavation near potential saved trees (e.g. excavation limits for building foundation).
- 8. Indicate clearing limits/limits of disturbance (LOD) around all trees potentially impacted by site disturbances - grading, demolition, construction activities (including approximate LOD of off-site trees with overhanging driplines), etc.
- 9. Proposed tree status (trees to be removed or retained) noted by an 'X' for removal.

4. Replanting plan

- Provide the Replanting plan showing proposed locations of any required replacement trees.

PEER REVIEW AND CONFLICT OF INTEREST

A peer review of the tree permit application by a qualified arborist may be required to verify the adequacy of the information and analysis. **The applicant shall bear the cost of the peer review.**

The City Arborist may require the applicant retain a replacement qualified arborist or may require a peer review where the City Arborist believes a conflict of interest may exist.

For example, if an otherwise qualified arborist is employed by a tree removal company and prepares the arborist report for a development proposal, a replacement qualified arborist or peer review may be required.

ARBORIST QUALIFICATION

For tree reviews associated with a development proposal, a qualified arborist must have

- A minimum of three (3) years' experience working directly with the protection of trees during construction
- Have experience with the likelihood of tree survival after construction
- Be able to prescribe appropriate measures for the preservation of trees during land development
- ISA Tree Risk Assessment Qualification
- Your qualified arborists must have at least one (1) of the following credentials:
 - ISA Certified Arborist;
 - ISA Certified Arborist Municipal Specialist;
 - ISA Board Certified Master Arborist;
 - American Society of Consulting Arborists (ASCA) registered Consulting Arborist;
 - Society of American Foresters (SAF) Certified Forester for Forest Management Plans;

ADDITIONAL INFORMATION

Additional Information. The City Arborist or Code Official may require additional documentation, plans, or information as needed to ensure compliance with applicable City regulations.

X

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MERCER ISLAND TREE INVENTORY & REPLACEMENT SUBMITTAL INFORMATION

PROJECT INFORMATION

Property Owner
Name: _____

Site Address or
Parcel Number: _____

Project Contact
Name: _____

Contact Email
Address: _____

Contact Phone
Number: _____

EXCEPTIONAL TREES

Exceptional Trees- means a tree or group of trees that because of its unique historical, ecological or aesthetic value constitutes an important community resource. A tree that is rare or exceptional by virtue of its size, species, condition, cultural/historical importance, age, and/or contribution as part of a tree grove. Trees with a diameter of more than 36 inches, or with a diameter that is equal to or greater than the diameter listed in the Exceptional Tree Table shown in MICC 19.16 under Tree, Exceptional.

List the total number of trees for each category and the tree identification numbers from the arborist report.

Number of trees 36" or greater _____

List tree numbers: _____

Number of trees 24" or greater (including 36" or greater) _____

List tree numbers: _____

Number of trees from Exceptional Tree Table (MICC 19.16) _____

List tree numbers: _____

LARGE REGULATED TREES

Large Regulated Trees- means any tree with a diameter of 10 inches or more, and any tree that meets the definition of an Exceptional Tree.

Number of Large Regulated Trees on site 7 (A)

List tree numbers: _____

Number of Large Regulated Trees on site proposed for removal 0 (B)

List tree numbers: _____

Percentage of trees to be retained ((A-B)/Ax100) note: must be at least 30% %

RIGHT OF WAY TREES

Right of Way Trees- means a tree that is located in the street right of way adjacent to the project property.

Number of Large Regulated Trees in right of way _____

List tree numbers: _____

Number of Large Regulated Trees in right of way proposed for removal _____

List tree numbers: _____

Reason for removal: _____

TREE REPLACEMENT

Tree replacement- removed trees must be replaced based on the ratio in the table below. Replacement trees shall be conifers at least six feet tall and or deciduous at least one and one-half inches in diameter at base.

Diameter of Removed Tree (measured 4.5' above ground)	Tree replacement Ratio	Number of Trees Proposed for Removal	Number of Tree Required for Replacement Based on Size/Type
Less than 10"*	1		
10" up to 24"	2		
Greater than 24" up to 36"	3		
Greater than 36" and any Exceptional Tree	6		
TOTAL TREE REPLACEMENTS			

****no replacement tree is needed if the tree fits all of the following;
Less than 10 inches in diameter, not an exceptional tree, and not a replacement tree from another tree permit. ****