Greenforest Incorporated

Consulting Arborist

TO: Ryan Yuan
3611 W Mercer Way
Mercer Island WA 98040

REFERENCE: Regulated Tree Inventory

SITE ADDRESS: 3611 W Mercer Way, Mercer Island

DATE: February 13, 2019

PREPARED BY: Favero Greenforest, ISA Certified Arborist # PN -0143A
ISA Tree Risk Assessment Qualified
ASCA Registered Consulting Arborist® #379

Introduction

You contracted my services to prepare an inventory of the trees on the site
I received a site plan from George Steirer of Plan to Permit, LLC, prepared by Site Surveying, Inc., and dated 9/27/18. I visited the site 11/29/2018 and inspected the trees on the site. This inventory represents all regulated trees on the parcel. Some of the surveyed trees are a species that is not regulated by the municipality, and are indicated on the attached inventory.

Summary

The site is waterfront property with a single-family residence. The subject trees include both native and ornamental deciduous species. Data is included for 2 offsite trees on an abutting parcel to the north.

	Significant	*Grove*	*Exceptional*	Not Regulated
Onsite Trees	2	15	2	6
Offsite Trees			2	

This inventory establishes the condition of the regulated trees on site, and provides a *significant tree inventory* as per MI code §19.10.090.c.2.a, including:

i. A numbering system of all existing large trees on the subject 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 development proposal site;
ii. Size (diameter);
iii. Proposed tree status (retained or removed);
iv. Tree type or species;
v. Brief general health or condition rating of these trees (i.e., poor, fair, good, etc.).

Limitations and Use of this Report
This document provides required tree attributes for a *tree inventory*: required data for an *arborist report* (as per MI code §19.10.090.c.2.b) shall be provided under separate cover and scope. This inventory shall be used in the building permit process for the subject parcel, and as an aid in tree retention with City planners.

This tree report establishes, via the most practical means available, the existing conditions of the trees on the subject property. Ratings for health and structure, as well as any recommendations are valid only through the development and construction process. This report is based solely on what is readily visible and observable, without any invasive means.

There are several conditions that can affect a tree's condition that may be pre-existing and unable to be ascertained with a visual-only analysis. No attempt was made to determine the presence of hidden or concealed conditions which may contribute to the risk or failure potential of trees on the site. These conditions include root and stem (trunk) rot, internal cracks, structural defects or construction damage to roots, which may be hidden beneath the soil. Additionally, construction and post-construction circumstances can cause a relatively rapid deterioration of a tree's condition.

TREE INSPECTION
I marked each onsite tree with 1" x 3.5" aluminum tag indicating tree number.
I visually inspected each tree from the ground. I performed a Level 1 risk assessment.[1] This is the standard assessment for populations of trees near specified targets, conducted in order to identify obvious defects or specified conditions such as a pre-

[1] Companion publication to the ANSI A300 Part 9: Tree Shrub and Other woody Plant Management – Standard Practices, Tree Risk Assessment. 2011. ISA.

development inventory. This is a limited visual assessment focuses on identifying trees with imminent and/or probable likelihood of failure, and/or other visible conditions that will affect tree retention.

I recorded tree species and size (DBH). I estimated the average dripline of each tree. I rated the condition of each tree, both health and structure/form. A tree's structure/form is distinct from its health. This inspection identifies what is visible with both.

High-risk trees can appear healthy in that they can have a dense, green canopy. This may occur when there is sufficient sapwood or adventitious roots present to maintain tree health, but inadequate strength for structural support.

Conversely, trees in poor health may or may not be structurally stable. For example, tree decline due to root disease is likely to cause the tree to be structurally unstable, while decline due to drought or insect attack may not.

One way that tree health and structure/form are linked is that healthy trees are more capable of compensating for structural defects. A healthy tree can develop adaptive growth that adds strength to parts weakened by decay, cracks, and wounds.

This report identifies unhealthy trees based on existing health conditions and tree structure, and specifies which trees are most suitable for preservation.[2] No invasive procedures were performed on any trees. The results of this inspection are based on what was visible at the time of the inspection. The attached inventory summarizes my inspection results and provides the following information for each tree:

Tree Status: Remove or Retain – indicates if tree is proposed for removal or retention. Project is still in the design phase and you or your designer will provide status for each tree.

Regulated Tree Category – indicates if tree is significant or exceptional as defined by Municipal code.

Grove tree – indicates 8 or more trees, 10" DBH or larger that comprise a contiguous canopy.

> 24" – indicates trees with DBH equal to or greater than 24".

Tree number as shown on tag in the field, and on attached exhibit.

[2] Companion publication to the *ANSI A300 Part 5: Tree Shrub and Other woody Plant Maintenance – Standard Practices, Managing Trees During Construction*. 2008. ISA.

DBH Stem diameter in inches measured 4.5 feet from the ground. Multiple-stemmed trees are reported as a single integer, using quadratic mean.

QMD - Multiple-stemmed trees are reported as a single integer, using quadratic mean.

Tree Species Latin and common name.

Dripline average branch extension from the trunk as radius in feet.

Health and Structure/Form ratings '1' indicates good to excellent condition; no visible health-related problems or structural defects, '2' indicates fair condition; minor visible problems or defects that may require attention if the tree is retained, and '3' indicates poor condition; significant visible problems or defects and tree removal is recommended.

Comments on Condition obvious structural defects or diseases visible at time of inspection, which includes:

- Asymmetric canopy - the tree has an asymmetric canopy from space and light competition from adjacent trees.
- Branch dieback - mature branches in canopy are dying/dead.
- Decay - process of wood degradation by microorganisms resulting in weak and defective structure.
- Diseased - foliage and trunk/stems are diseased.
- Ivy - dense ivy prevents a thorough inspection, and other defects may be present.
- Lean - angle of the trunk from vertical.
- Multiple leaders - the tree has multiple stem attachments, which may lead to tree failure and require maintenance or monitoring over time.
- Stumpsprout- tree previously cut at grade with multiple stems and potentially weak attachments.
- Tree leans - trunk has significant lean from vertical.
- Trunk decay - wood decay is visible in the trunk.
- Wound/decay base of trunk - open wound with visible decay in trunk.

Tree type – indicates if tree is coniferous, deciduous or broadleaf evergreen.

Viability - a determination by the arborist whether the tree is viable for retention, regardless of municipal requirements.

Onsite trees include 2 *significant* ornamental species growing near the residence. One, a flowering cherry, is in very poor condition and nearly dead. Two maple trees are

exceptional based on trunk size: a Vine maple and a Japanese maple, both also near the house.

Portugal laurel flank the south parcel boundary, and the downhill side of the driveway. This species is not regulated and will likely be removed from the survey during the submittal process.

Uphill from the driveway stand 15 native alders and maples. These trees qualify as *grove* trees based on municipal code. Ten of these 15 grove trees are in very poor condition, and in my opinion, are not viable for retention.

The attached survey is for tree number reference only: not all tree sizes and dripline measurements are accurate as shown on this exhibit. Please refer to the inventory above for accurate tree attributes.

Two offsite trees stand near the NE corner of your parcel, both of *exceptional* size.

This project is currently in the design phase. The following information will be provided later under separate cover of an *arborist report*:
An arborist report, prepared by a qualified arborist, containing the following:

i. Tree status (remove or retain);
ii. 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);
iii. Any special instructions specifically outlining any work proposed within the limits of the disturbance protection area (i.e., hand-digging, air spade, tunneling, root pruning, any grade changes, clearing, monitoring, and aftercare);
iv. Describe the impact of necessary tree removal to the remaining trees, including those in a grove or on adjacent properties;
v. For development applications, a discussion of timing and installation of tree protection measures. Such measures must include fencing and be in accordance with the tree protection standards as outlined in this chapter; and

Attachments:

1. Assumptions and Limiting Conditions
2. Certification of Performance
3. Regulated Tree Inventory
4. Tree Number Exhibit

Attachment No. 1 - Assumptions & Limiting Conditions

1. A field examination of the site was made 11/29/2018. My observations and conclusions are as of that date.

2. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant/arborist can neither guarantee nor be responsible for the accuracy of information provided by others.

3. I am not a qualified land surveyor. Reasonable care was used to match the trees indicated on the sheets with those growing in the field.

4. Construction activities can significantly affect the condition of retained trees. All retained trees should be inspected after construction is completed, and then inspected regularly as part of routine maintenance.

5. Unless stated other wise: 1) information contained in this report covers only those trees that were examined and reflects the condition of those trees at the time of inspection; and 2) the inspection is limited to visual examination of the subject trees without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied that problems or deficiencies of the subject tree may not arise in the future.

6. All trees possess the risk of failure. Trees can fail at any time, with or without obvious defects, and with or without applied stress. A complete evaluation of the potential for this (a) tree to fail requires excavation and examination of the base of the subject tree. Permission of the current property owner must be obtained before this work can be undertaken and the hazard evaluation completed.

7. The consultant/appraiser shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made.

Attachment No. 2 - Certification of Performance

I, Favero Greenforest, certify that:

- I have personally inspected the trees and the property referred to in this report and have stated my findings accurately.
- I have no current or prospective interest in the vegetation or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved.
- The analysis, opinion, and conclusions stated herein are my own and are based on current scientific procedures and facts.
- My analysis, opinion, and conclusions were developed and this report has been prepared according to commonly accepted arboricultural practices.
- No one provided significant professional assistance to me, except as indicated within the report.
- My compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client of any other party nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member in good standing of International Society of Arboriculture (ISA), and the ISA PNW Chapter, I am an ISA Certified Arborist (#PN-0143A) and am Tree Risk Assessment Qualified, and am a Registered Consulting Arborist® (#379) with American Society of Consulting Arborists. I have worked as an independent consulting arborist since 1989.

Signed:

Favero Greenforest

GREENFORESTT, Inc.
By Favero Greenforest, M. S.

Favero Greenforest

Digitally signed by Favero Greenforest
DN: cn=Favero Greenforest, o, ou, email=greenforestinc@mindspring.com, c=US
Date: 2019.02.13 15:38:14 -08'00'

Date: February 13, 2019

Attachment No. 3 – Tree Inventory

Retain*	Remove*	Threshold (in.)	Significant	Exceptional (Grove)	Exceptional (Size)	≥ 24" DBH	Tree No.	DBH (In.)	QMD*	Species	Dripline radius (Ft.)	Health	Structure		Viable Tree	Tree Type
X		8”			X		**1**	3.5,3.3, 4.8,2.9, 3.7”	10.1”	Vine maple, Acer circinatum	6’	1	2	Stumpsprout, multiple stems	Yes	D
	X	12”			X		**2**	14.5”		Japanese maple, Acer palmatum	13’	1	2	Growth obstruction, roots are soil surface	Yes	D
X		23”	X				**3**	10.8”		Kwanzan flowering ch. P. serrulata 'Kwanzan'	11’	3	3	Diseased, decay, decline	NO	D
X		24”	X				**4**	12.7”		European white birch, Betula pendula	15’	1	2	Ivy	Yes	D
NOT A REGULATED SPECIES							**5**	11”		Portugal laurel, Prunus lusitanica	10’	1	2	Sheared as hedge	Yes	BE
							6	10”			10’	1	2		Yes	BE
							7	4.5,6,8”	10.9”		8’	1	2		Yes	BE
							8	6,7,9”	12.8”		8’	1	2		Yes	BE
							9	11”			8’	1	2		Yes	BE
							10	11”			10’	1	2		Yes	BE
	X	30”		X			**11**	18”		Bigleaf maple, Acer macrophyllum	20’	1	3	Asymmetric canopy, sweep, rootplate failure	NO	D

Retain*	Remove*	Threshold (in.)	Significant	Exceptional (Grove)	Exceptional (Size)	≥ 24" DBH	**Tree No.**	DBH (In.)	QMD*	Species	Dripline radius (Ft.)	Health	Structure		Viable Tree	Tree Type
	X	30”		X		Yes	**12**	10,18, 18”	27.3”	Bigleaf maple, Acer macrophyllum	25’	1	2	Multiple leaders, ivy, perched on retaining wall	Yes	D
X		36”		X		Yes	**13**	24”		Red alder, Alnus rubra	18’	2	2	Branch decline, lean, ivy	Yes	D
X		30”		X			**14**	8,10, 12”	17.5”	Bigleaf maple, Acer macrophyllum	10’	1	3	Stumpsprout, diseased, decay, decline, ivy	NO	D
X		30”		X			**15**	16.5”		Bigleaf maple, Acer macrophyllum	12’	2	3	Stumpsprout, ivy	NO	D
X		36”		X			**16**	17”		Red alder, Alnus rubra	15’	2	3	Branch dieback, asymmetric, very dense ivy covering nearly the entire tree	NO	D
X		36”		X			**17**	18”			12’	2	3		NO	D
X		36”		X			**18**	18”			12’	2	3		NO	D
X		36”		X			**19**	16”			16’	2	3		NO	D
X		36”		X			**20**	21”			18’	2	3		NO	D
X		36”		X			**21**	19”			16’	3	3		NO	D
X		36”		X			**22**	16”			14’	3	3		NO	D
	X	30”		X			**23**	20”		Bigleaf maple, Acer macrophyllum	20’	2	2	Lean, asymmetric, ivy, perched on	Yes	D

Retain*	Remove*	Threshold (in.)	Significant	Exceptional (Grove)	Exceptional (Size)	≥ 24" DBH	**Tree No.**	DBH (In.)	QMD*	Species	Dripline radius (Ft.)	Health	Structure		Viable Tree	Tree Type
														retaining wall		
	X	36”		X			**24**	21”		Red alder, Alnus rubra	25’	2	2	Lean, asymmetric, ivy, perched on retaining wall	Yes	D
	X	30”		X		Yes	**25**	19,22”	29”	Bigleaf maple, Acer macrophyllum	30’	2	2	Multiple leaders, ivy, perched on retaining wall	Yes	D
OFFSITE TREES																
TO BE RETAINED		30”			X	Yes	**101**	(6) 6-18”	32”	Bigleaf maple, Acer macrophyllum	20’			Offsite		D
		30”			X	Yes	**102**	30”		Western red-cedar, Thuja plicata	16’			Offsite		C

Remove or Retain Status: Project is still in the design phase and tree status will be indicated in these columns by onwer.
QMD - quadratic mean diameter in inches.

Ryan Yuan
RE: Regulated Tree Inventory, 3611 W Mercer Way, Mercer Island
February 13, 2019

Attachment No. 4 – Tree Number Exhibit

SEE ATTACHED TABLE FOR ACCURATE TREE SIZE (DBH) AND DRIPLINE RADII

VICINIT
N

#101
MP20"
FOUND REBAR & CAP (19622) HELD
CE30
#102
MP18"
#14
S42°09'00"E 100.00'
PARCEL NO. 362350-0260
S47°51'00"W 152.69'
#15
MP16"
#16
AL18
#11
MP24"
#24
AL20
#23
MP20"
#25
MP20"
#12
MP16"
#22
AL16
#21
AL18
#20
AL20
#17
AL18
#18
AL18
#19
AL18
#13
AL24
T/S
AL12
15.0'
FOUND REBAR & CAP (19622) HELD FOR LINE 0.2' SE
15' INGRESS, EGRESS & UTILITIES EASEMENT PER AF: 9108151194
SLOPE & GRADING EASEMENT PER AF: 9108151194
OHWM BOTTOM OF ROCK WALL
CB RIM = 28.93'
#2
MP8"
#1
MP8"
#10
DS12"
OHP
TOO SMALL. NOT REGUATED
3611 W MERCER WAY ONE STORY HOUSE
RH = 43.9'
FF = 29.3'
PARCEL NO. 362350-0250
LA14
#9
WATER LEVEL @ 11.00 AM 9/27/18=20.05' COE
DECK
LA10"
T/S
#8
LAKE WASHINGTON
MP6"
LA8"
#7
TREES 5-10 PORTUGAL LAUREL NOT REGULATED
CH10"
#3
FOUND REBAR & CAP (15025) 0.13' N
BI12
DS12
DS10
#6
#5
DOCK
#4