



ARBOR INFO LLC

2406 N Castle Way Brier, WA, 98036

**Tree Assessment  
For  
Sturman Architects  
At  
8413 SE 82<sup>nd</sup> St.  
Mercer Island, Washington**

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**Date  
6/13/2024(rev 10/29/2024)**

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### Addenda

- I. Tree Plan
- II. Tree Assessment Summary Table
- III. Geotechnical Addendum Letter – Cobalt Geosciences
- IV. Mercer Island Check list
- V. Mercer Island Tree Inventory Form
- VI. Signage Requirements

## **1. Introduction**

I was contacted by John Magcawas at Sturman Architects to describe and assess the condition and viability of trees on and adjacent to 8413 SE 82<sup>nd</sup> St., Mercer Island, WA. This report summarizes my observations and conclusions.

## **2. Competence**

- Certified Arborist (International Society of Arboriculture, ISA #23136, PN 0426 A)
- Registered Consulting Arborist (American Society of Consulting Arborists #499).
- Tree Risk Assessment Qualified (ISA).
- Certified forester (Society of American Foresters #951)
- Bachelor of Science degree in Forest Management from the University of Washington
- Licensed Washington State Real Estate Managing Broker #11534

## **3. Client**

The client to whom this report is addressed is:

John Magcawas  
Sturman Architects  
9-103<sup>rd</sup> Ave NE, Suite 203  
Bellevue, WA 98004

## **4. Assignment, Purpose and Use of Report**

The assignment is to describe and assess the condition and viability of on-site and off-site trees adjacent to the subject parcel. Protection recommendations in conformance with the City of Mercer Island “Tree Submittal Check List” are included.

## **5. Limits of Assignment**

The assignment is limited to the information gathered during the site visit April 15, 2022 (date of assessment) and references noted in this report. No excavation or sampling was undertaken to determine unseen defects. No inspection of trees not reported herein was made.

A site plan indicating the current condition of the property was provided and is included in the Addenda with tree locations noted.

## **6. Site Description**

8413 – SE 82<sup>nd</sup> St. Mercer Island, WA  
King County Parcel No. 3625600080, 16,386 square feet; 0.37 acres

The subject property is an irregularly shaped lot that contains a single-family residence on near level ground that drops off sharply on the SE end.

The existing house is planned for remodel on the site.

## 7. Methodology

Each tree was measured for diameter at 4.5-feet above ground, (or equivalent) total height, percentage of live green crown, and dripline (extent of live limbs).

Each tree was assessed as to its vitality, structure, vigor and viability:

### **Vigor** or condition:

#### Vitality: Biotic

- Good: No evidence of fungal infection or decay; ) Tree has sufficient photosynthetic capacity to reach expected normal life expectancy. (40-100 years) in this case
- Fair: Tree has initial fungal decay or evidence of insect habitat and is less likely to survive to normal life expectancy. Some with minor defects are rated viable because they have sufficient photosynthetic capacity to reach expected normal life expectancy,
- Poor: Tree has significant fungal decay and defects that render it not likely to survive three years.

#### Structural: Abiotic

- Good: no significant abiotic or mechanical defects
- Fair: less than preferred form, defects such as breaks in the bole, poor limb attachments, included bark, poor root contact, etc. May be rated non-viable.
- Poor: Broken or cracked bole or limbs; root plate compromised; generally rated non-viable.

### **Viability:**

- A measure of whether the tree is likely to live to its “normal” life span or has defects limiting that potential or poses a risk to the residence or proposed development is a simple ‘yes/no’ rating.

**8. Tree Description**

Refer to the attached Tree Assessment Summary Form. There are a total of sixty-one on-site trees and nine off-site. A summary of the trees follows.

Table 1- Tree Category Summary – On site

<u>Category</u>	<u>Number</u>
Total	21
Total viable	21
36”+	2
24”+	9
Exceptional	6
Large Regulated	16
Large Regulated to be Removed	2
Percentage Retention (Large Regulated)	88%

Table 2- Tree Category Summary – Off site – Private

<u>Category</u>	<u>Number</u>
24”+	1
Exceptional	0
Large Regulated	9
Large Regulated to be Removed	0
Percentage Retention	100%

**9. Tree Retention and Removals**

Refer to Addendum II and Mercer Island City Code 19.10.060.

There are sixteen large-regulated trees on site with two (No. 3 and 4) proposed for removal, leaving 88-percent retention.

19.10.060.A.2. *Retention requirement.* Development proposals specified under subsection (a)(1) of this section shall retain trees as follows:

a .A minimum of 30 percent of trees with a diameter of ten inches or greater, or that otherwise meet the definition of large tree, shall be retained over a rolling five-year period.

The retention requirement is met.

The following Table 3 provides the likely root zone incursion and impacts for all trees.

Table 3 – Root Zone Impacts

Root Zone Impacts							
Tree #	Species	DBH (in)	Root Zone		Distance tree face to:		Impact
			Outer	Inner	Excavation	Percent	
			(ft)	(ft)	(ft)	Disturbance*	
<b>On-site</b>							
1	Shore pine	8.1	7	4	4'-10 1/2"	1%	Minor
2	Douglas-fir	30.5	23	12	16'-2 1/4"	30%	Retain - New driveway uplift possible
3	Douglas-fir	30.4	18	9	NA	NA	Remove - Negatively impacting existing retaining wall
4	Douglas-fir	32.5	15	8	NA	NA	Remove - Negatively impacting existing retaining wall
5	Douglas-fir	37.5	26	13	12'-1"	8%	Minor
6	Beech	15.5	25	13	23'-9"	1%	Minor
7	Japanese maple	11.1	14	7	9'-2"	3%	Minor
8	Flowering cherry	9.5	10	5	Within house foot print	100%	Remove
9	Douglas-fir	36.5	24	12	5'-4"	38%	Retain--lower floor excavation
10	Bitter cherry	28.9	24	12	15'-0 1/2"	0%	Minor
11	Shore pine	15.8	9	5	18'-4 1/4"	0%	None--Outside dripline/root zone
12	Flowering cherry	12.2	16	8	24'-6 1/4"	0%	None--Outside dripline/root zone
13	Douglas-fir	34.4	22	11	NA	0%	None--Outside dripline/root zone
14	Flowerign cherry	8.1	12	6	NA	0%	None--Outside dripline/root zone
15	Douglas-fir	29.7	18	9	NA	0%	None--Outside dripline/root zone
16	Douglas-fir	24.5	17	9	NA	0%	None--Outside dripline/root zone
17	Douglas-fir	19.5	18	9	NA	0%	None--Outside dripline/root zone
18	Cherry	13.9	15	8	NA	0%	None--Outside dripline/root zone
19	Vine maple	7.6	14	7	NA	0%	None--Outside dripline/root zone
20	Katsura	10.4	14	7	NA	0%	None--Outside dripline/root zone
21	Shore pine	8.1	7	4	NA	0%	None--Outside dripline/root zone
<b>Off Site</b>							
A	Norway spruce	25	20	10			None--Outside dripline/root zone
B	Norway spruce	18	12	6			None--Outside dripline/root zone
C	Douglas-fir	17	12	6			None--Outside dripline/root zone
D	Douglas-fir	18	15	8			None--Outside dripline/root zone
E	Douglas-fir	22	16	8			None--Outside dripline/root zone
F	Leyland cypress	12	10	5			None--Outside dripline/root zone
G	Leyland cypress	12	9	5			None--Outside dripline/root zone
H	Douglas-fir	24	25	13			None--Outside dripline/root zone
I	Norway spruce	17	20	10			None--Outside dripline/root zone
J	Bay laural	10	6	3			None--Outside dripline/root zone

\*A calculation of the total area (square feet) of proposed disturbance in the outer half of the tree's drip line divided by the total area of the outer half of the dripline (square feet)that cannot exceed 33 percent or 1/3 of the outer dripline.

Site Development impacts are rated as follows:

- None; Site Disturbance, Excavation and fill are beyond the Critical Root Zone
- Minor: Shallow Site Disturbance, will affect less than 15-percent of the Critical Root Zone –Careful excavation required
- Moderate: Site Disturbance will affect less than 30-percent of the Critical Root Zone with depths up to 12-inches – Careful excavation required
- Significant: Site Disturbance, Excavation and fill exceed the above limits: Tree not recommended for retention.

Tree 9 is planned for retention but not recommended due to 38% root zone excavation for the house footing.

Table 4 following summarizes the proposed tree removals.

Table 4 – Tree Removal Summary

<u>Tree No.</u>	<u>Species</u>	<u>Diameter (in)</u>	<u>Classification</u>	<u>Purpose</u>
3	Douglas-fir	30.4	Exceptional	Potential Hazard due to potential retaining wall failure
4	Douglas-fir	32.5	Exceptional	Potential Hazard due to potential retaining wall failure
8	Flowering cherry	9.5	Not Regulated	Within House foot print

Within the Guidelines of MICC as excerpted following, trees 3, 4, and 8 that are planned for removal meet the allowable removal criteria as demonstrated by unavoidable hazardous situations. (MICC19.10.060(3))

19.10.060.A.3 *Retention of exceptional trees.* Development proposals specified under subsection (a)(1) of this section shall retain exceptional trees with a diameter of 24 inches or more. Exceptional trees with a diameter of 24 inches or more that are retained shall be credited towards compliance with the retention requirements of subsection (A)(2) of this section. Removal of exceptional trees with a diameter of 24 inches or more, shall be limited to the following circumstances:

**a. Retention of an exceptional tree(s) with a diameter of 24 inches or more will result in an unavoidable hazardous situation; or**

b. Retention of an exceptional tree(s) with a diameter of 24 inches or more will limit the constructable gross floor area to less than 85 percent of the maximum gross floor area allowed under [chapter 19.02](#) MICC; or,

c. Retention of an exceptional tree(s) with a diameter of 24 inches or more will prevent creation of a residential lot through a subdivision or short subdivision that is otherwise allowed by this title.

Reference also to the letter in Addendum IV, dated October 25, 2024 prepared by Cobalt Geosciences LLC with respect to trees No. 3 and 4 that states:

“Roots of two trees near the block walls are causing structural damage and movement of the wall system. These trees may be removed without adversely affecting geologic hazards in the area or adjacent areas provided surfaces are surfaced with topsoil/mulch and new low-lying vegetation.”

Tree Removal, Additional Reasoning:



Tree No. 3 and 4 growing atop block retaining wall

Tree 3 the 30.4" and Tree 4 the 32.5" Douglas Fir is substantially growing into an existing retaining wall. The trunk of the tree is within inches of the existing retaining wall which is showing signs of structural failure. The tree is proposed to be removed to ensure the stability of the wall. The tree canopy and root zone will also be overlapping the new garage foundation.

Tree 8: The 9.5" flowering cherry is unregulated.

### 10. Replacement Trees

Removal of two exceptional large regulated trees 24-36 inches (3 and 4) requires replacement at a 6:1 ratio. (See Attached Tree Removal and Replacement Work sheet). Twelve replacement trees are required.

The project landscape architect will develop a tree planting plan including species and placement on the property.

## 11. Tree Protection

Trees to be retained must be protected per MIC 19.10.080.b. The following guidelines should be employed to protect all retained trees on and off site at this project location.

- Place no construction material or equipment within the protected area of any tree to be retained
- Tree protection fencing consisting of chain link at least 4-feet in height. at the dripline
- “Tree Protection Area- Entrance Prohibited” at 15-foot intervals on the fence
- Prohibiting excavation or compaction of earth or other damaging activities within the barriers unless approved by the Planning Official and supervised by a qualified professional
- Approved landscaping in a protected zone shall be done by light machinery or by hand
- Any exposed roots should be cut cleanly and backfilled with soil as soon as possible
- Root zones should be protected by a 4-inch-deep layer of clean organic material (tree chips, etc.)

Detailed Tree Protection Signage requirements per Mercer Island Requirements are attached in Addendum VI.

## 11. Summary

The tree retention, removal and protection plan described above meets the objectives of the 19.10.010 by retaining and protecting 88-percent of the large regulated onsite trees and 100-percent of the trees on adjacent property. Removal of two trees eliminates a potential failure and hazard risk.

## 12. Assumptions and Limiting Conditions

1. Any legal description provided to the consultant is assumed to be correct. Ownership of the subject trees as provided by the client is assumed to be correct. No responsibility is assumed for legal matters. No opinion as to the property line location is made.
2. Care has been taken to obtain all information from reliable sources. The consultant can neither guarantee nor be responsible for the accuracy of information provided by others.
3. The consultant shall not be required to give testimony or attend court by reason of this report unless subsequent contractual arrangements are made, including additional fees.

4. This report and any values expressed herein represent the opinion of the consultant, and the consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.
5. The exhibits in this report are included to assist the reader and are not necessarily to scale.
6. Unless expressed otherwise, the information in this report covers only items that were examined and reflects the condition of those items at the time of inspection. The subject site was cleared of all vegetation at the time of inspection therefore the extent of removals is inferred from adjacent undisturbed areas. The inspection is limited to visual examination of accessible portions of the trees and plants.
7. Loss or alteration of any part of the report invalidates the entire report. Ownership of any documents related to this report passes to the client only.
8. The liability of ArborInfo LLC its contractors and employees is limited to the client only and only up to the amount of the fee actually received for the assignment.
9. *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.*
10. *NEARLY ALL TREES IN ANY CONDITION STANDING WITHIN REACH OF IMPROVEMENTS OR HUMAN USE AREAS REPRESENT HAZARDS THAT COULD LEAD TO DAMAGE OR INJURY. THE ASSESSMENT IS VALID FOR TWO YEARS FROM THE DATE OF INSPECTION, ONLY.*
11. PERTINENT JURISDICTION RULES AND REGULATIONS SHOULD BE CONSULTED PRIOR TO THE REMOVAL OR ALTERATION OF ANY TREE.

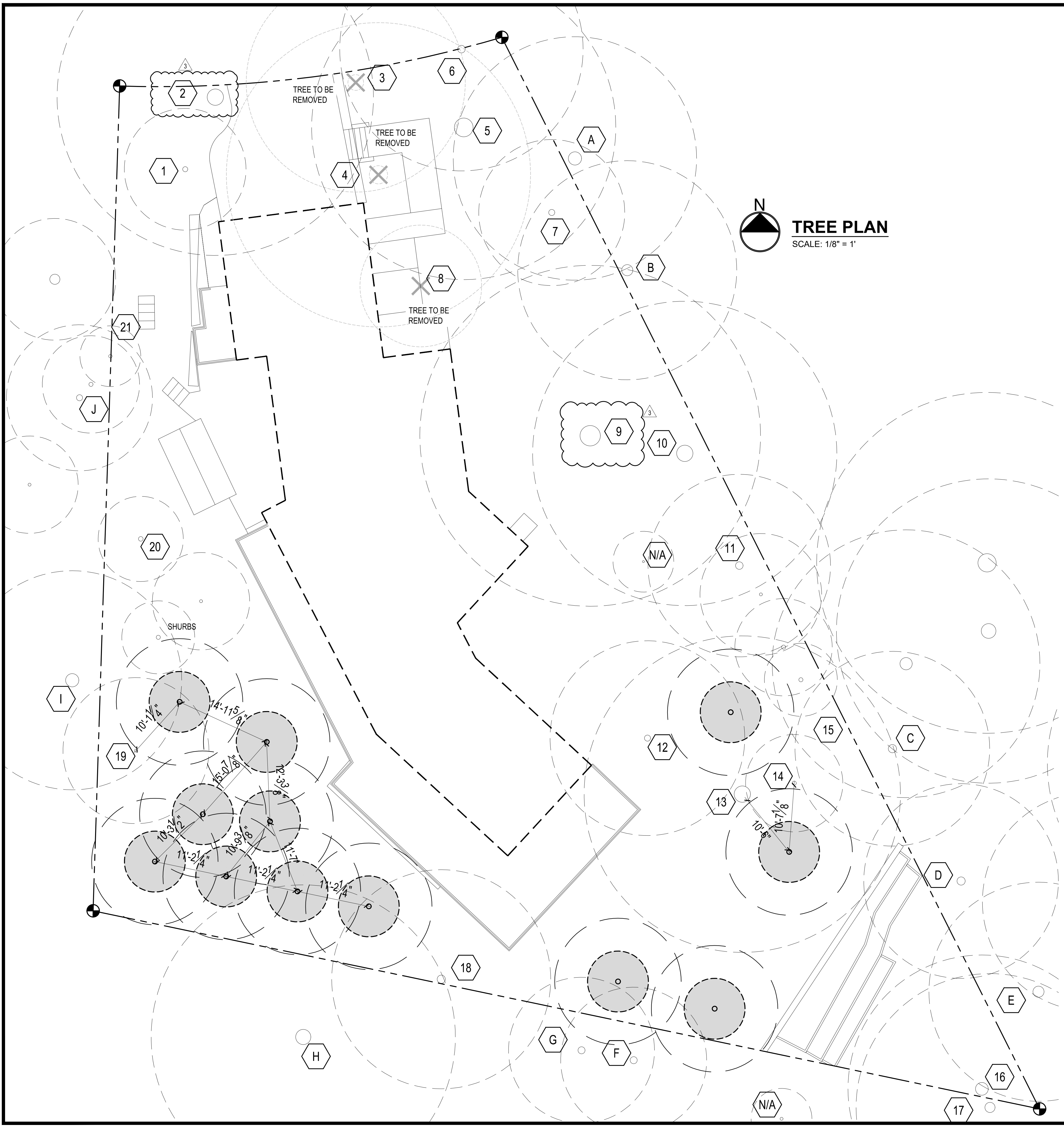
Respectfully Submitted,



Thomas M. Hanson, CA, RCA

Addenda

- I. Tree Plan
- II. Tree Assessment Summary Table
- III. Geotechnical Addendum Letter – Cobalt Geosciences
- IV. Mercer Island Check list
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**TREE PLAN**  
SCALE: 1/8" = 1'

**PLAN NOTES**

**REPLACEMENT TREE**

MIN 10'-0" RADIUS FROM ANY STRUCTURE, FENCE, UTILITIES, OR TREES

REPLACEMENT TREE

A TOTAL OF 24 REPLACEMENT TREES ARE REQUIRED. 24 TREES WILL BE PROVIDED

HALF (12) OF THE REPLACEMENT TREES ARE REQUIRED TO BE PACIFIC NORTHWEST NATIVE TREE SPECIES.

DRIP IRRIGATION WILL BE PROVIDED AROUND ALL NEWLY PLANTED TREES. FLOW WILL ENSURE SATURATION OF ROOT ZONE. DURING DRY SEASON, JUNE 15-OCT 31, IRRIGATION WILL RUN 8 TIMES PER MONTH

SCALE: IF SHEET IS LESS THAN 24" x 36" IT IS A REDUCED PRINT, REDUCE SCALE ACCORDINGLY  
CORRECTION 3 SET 10/29/2024

**TREE PLAN**

REVISIONS:

△	CORRECTION 1 - 5/30/2024
△	CORRECTION 2 - 8/8/2024
△	CORRECTION 3 - 10/29/2024

PLOT DATE: 10/30/2024  
DRAWN BY: JM  
CHECKED BY: BJS

SHEET  
**A1.3**

Tree Assessment																			
Site: Sturman Architects at 8413 SE 82nd St., Mercer Island, WA												Date:	15/2022(rev 7/10/202				P 2023-15		
Tree #	Species		DBH	Height	Crown Ratio	Dripline(ft)				Root Zone/Outer Radius	Root Zone/Inner Radius	Vigor		Viable	Large Regulated	Exceptional	Disposition		
	Common	Scientific	inches	(feet)	(%)	N	S	E	W	(feet)	(feet)	Vitality	Structure	Viable			Comments		
<b>On Site</b>																			
1	Shore pine	<i>Pinus contorta 'contorta'</i>	8.1	75	40	8	8	4	8	7	4	Fair	Fair	Yes			Retain		
2	Douglas-fir	<i>Psuedotsuga menziesii</i>	30.5	120	60	26	20	20	26	23	12	Good	Good	Yes	✓	✓	Retain	2' West of driveway	
3	Douglas-fir	<i>Psuedotsuga menziesii</i>	30.4	130	60	28	12	16	16	18	9	Good	Fair	Yes	✓	✓	Remove	Perched above driveway, minor pitching	
4	Douglas-fir	<i>Psuedotsuga menziesii</i>	32.5	130	60	12	22	12	14	15	8	Good	Good	Yes	✓	✓	Remove	Perched above driveway	
5	Douglas-fir	<i>Psuedotsuga menziesii</i>	37.5	130	70	34	26	20	22	26	13	Good	Good	Yes	✓	✓	Retain		
6	Beech	<i>Fagus sylvatica</i>	15.5	70	80	32	16	24	28	25	13	Good	Good	Yes	✓		Retain		
7	Japancee maple	<i>Acer palmatum</i>	11.1	22	80	16	14	20	4	14	7	Good	Good	Yes	✓		Retain		
8	Flowering cherry	<i>Prunus sp.</i>	9.5	14	80	14	10	6	10	10	5	Good	Fair	Yes			Remove	Poor pruning	
9	Douglas-fir	<i>Psuedotsuga menziesii</i>	36.5	125	50	30	22	26	18	24	12	Good	Good	Yes	✓	✓	Retain		
10	Bitter cherry	<i>Prunus emarginata</i>	28.9	70	70	28	18	22	26	24	12	Good	Fair	Yes	✓		Retain	3 codominants above 5-feet	
11	Shore pine	<i>Pinus contorta 'contorta'</i>	15.8	65	50	12	8	0	14	9	4	Good	Fair	Yes	✓		Retain	asymetric	
12	Flowering cherry	<i>Pruus sp.</i>	12.2	20	70	17	12	14	19	16	8	Good	Good	Yes	✓		Retain		
13	Douglas-fir	<i>Psuedotsuga menziesii</i>	34.4	110	60	24	24	14	24	22	11	Good	Good	Yes	✓	✓	Retain		
14	Flowerign cherry	<i>Prunus sp.</i>	8.1	18	60	12	14	12	10	12	6	Good	Good	Yes			Retain		
15	Douglas-fir	<i>Psuedotsuga menziesii</i>	29.7	110	60	19	19	16	16	18	9	Good	Good	Yes	✓		Retain		
16	Douglas-fir	<i>Psuedotsuga menziesii</i>	24.5	105	60	24	14	16	12	17	8	Fair	Good	Yes	✓		Retain	Flat top	
17	Douglas-fir	<i>Psuedotsuga menziesii</i>	19.5	55	40	14	26	30	0	18	9	Fair	Fair	Yes	✓		Retain		
18*	Cherry	<i>Prunus avium</i>	13.9	44	50	14	16	15	15	15	8	Good	Good	Yes	✓		Retain		
19*	Vine maple	<i>Acer circinatum</i>	7.6	25	80	16	14	14	12	14	7	Good	Good	Yes			Retain		
20	Katsura	<i>Cercidiphyllum sp.</i>	10.4	20	50	14	12	14	14	14	7	Good	Good	Yes	✓		Retain		
21	Shore pine	<i>Pinus contorta 'contorta'</i>	8.1	40	30	8	6	10	3	7	3	Good	Good	Yes			Retain		
<b>Off Site</b>																			
A	Norway spruce	<i>Picea abies</i>	25	112	60	20	20	26	14	20	10	Good	Good	Yes	✓		Retain		
B	Norway spruce	<i>Picea abies</i>	18	100	40	10	12	12	14	12	6	Fair	Good	Yes	✓		Retain		
C	Douglas-fir	<i>Psuedotsuga menziesii</i>	17	100	30	0	16	20	12	12	6	Fair	Fair	Yes	✓		Retain	Asymetric, suppressed	
D	Douglas-fir	<i>Psuedotsuga menziesii</i>	18	90	30	18	10	18	14	15	8	Good	Fair	Yes	✓		Retain		





Cobalt Geosciences, LLC  
P.O. Box 1792  
North Bend, WA 98045

October 25, 2024

John Magcawas  
[john@sturmanarchitects.com](mailto:john@sturmanarchitects.com)

**RE: Geotechnical Addendum**  
Proposed Additions  
8413 SE 82<sup>nd</sup> Street  
Mercer Island, Washington

In accordance with your authorization, Cobalt Geosciences, LLC has prepared this letter to discuss localized tree removal near the driveway and existing block walls.

We visited the site in October 2024 to observe the specific area. Roots of two trees near the block walls are causing structural damage and movement of the wall system. These trees may be removed without adversely affecting geologic hazards in the area or adjacent areas provided surfaces are surfaced with topsoil/mulch and new low-lying vegetation. All bare soils must be landscaped and surfaced upon completion of the removal.

Once removed, it appears that some minor wall mitigation will be necessary (block replacement/realignment). We can provide additional input upon request.

Sincerely,

**Cobalt Geosciences, LLC**



10/25/2024  
Phil Haberman, PE, LG, LEG  
Principal

# CITY OF MERCER ISLAND

## COMMUNITY PLANNING & DEVELOPMENT

9611 SE 36TH STREET | MERCER ISLAND, WA 98040

PHONE: 206.275.7605 | [www.mercergov.org](http://www.mercergov.org)

Inspection Requests: Online: [www.mybuildingpermit.com](http://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).
    - 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.




ARBOR INFO LLC

2406 N Castle Way Brier, WA, 98036

**Tree Assessment  
For  
Sturman Architects  
At  
8413 SE 82<sup>nd</sup> St.  
Mercer Island, Washington**

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**Date  
6/13/2024(rev 10/29/2024)**

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### Addenda

- I. Tree Plan
- II. Tree Assessment Summary Table
- III. Geotechnical Addendum Letter – Cobalt Geosciences
- IV. Mercer Island Check list
- V. Mercer Island Tree Inventory Form
- VI. Signage Requirements

## **1. Introduction**

I was contacted by John Magcawas at Sturman Architects to describe and assess the condition and viability of trees on and adjacent to 8413 SE 82<sup>nd</sup> St., Mercer Island, WA. This report summarizes my observations and conclusions.

## **2. Competence**

- Certified Arborist (International Society of Arboriculture, ISA #23136, PN 0426 A)
- Registered Consulting Arborist (American Society of Consulting Arborists #499).
- Tree Risk Assessment Qualified (ISA).
- Certified forester (Society of American Foresters #951)
- Bachelor of Science degree in Forest Management from the University of Washington
- Licensed Washington State Real Estate Managing Broker #11534

## **3. Client**

The client to whom this report is addressed is:

John Magcawas  
Sturman Architects  
9-103<sup>rd</sup> Ave NE, Suite 203  
Bellevue, WA 98004

## **4. Assignment, Purpose and Use of Report**

The assignment is to describe and assess the condition and viability of on-site and off-site trees adjacent to the subject parcel. Protection recommendations in conformance with the City of Mercer Island “Tree Submittal Check List” are included.

## **5. Limits of Assignment**

The assignment is limited to the information gathered during the site visit April 15, 2022 (date of assessment) and references noted in this report. No excavation or sampling was undertaken to determine unseen defects. No inspection of trees not reported herein was made.

A site plan indicating the current condition of the property was provided and is included in the Addenda with tree locations noted.

## **6. Site Description**

8413 – SE 82<sup>nd</sup> St. Mercer Island, WA  
King County Parcel No. 3625600080, 16,386 square feet; 0.37 acres

The subject property is an irregularly shaped lot that contains a single-family residence on near level ground that drops off sharply on the SE end.

The existing house is planned for remodel on the site.

## 7. Methodology

Each tree was measured for diameter at 4.5-feet above ground, (or equivalent) total height, percentage of live green crown, and dripline (extent of live limbs).

Each tree was assessed as to its vitality, structure, vigor and viability:

### **Vigor** or condition:

#### Vitality: Biotic

- Good: No evidence of fungal infection or decay; ) Tree has sufficient photosynthetic capacity to reach expected normal life expectancy. (40-100 years) in this case
- Fair: Tree has initial fungal decay or evidence of insect habitat and is less likely to survive to normal life expectancy. Some with minor defects are rated viable because they have sufficient photosynthetic capacity to reach expected normal life expectancy,
- Poor: Tree has significant fungal decay and defects that render it not likely to survive three years.

#### Structural: Abiotic

- Good: no significant abiotic or mechanical defects
- Fair: less than preferred form, defects such as breaks in the bole, poor limb attachments, included bark, poor root contact, etc. May be rated non-viable.
- Poor: Broken or cracked bole or limbs; root plate compromised; generally rated non-viable.

### **Viability:**

- A measure of whether the tree is likely to live to its “normal” life span or has defects limiting that potential or poses a risk to the residence or proposed development is a simple ‘yes/no’ rating.

**8. Tree Description**

Refer to the attached Tree Assessment Summary Form. There are a total of sixty-one on-site trees and nine off-site. A summary of the trees follows.

Table 1- Tree Category Summary – On site

<u>Category</u>	<u>Number</u>
Total	21
Total viable	21
36”+	2
24”+	9
Exceptional	6
Large Regulated	16
Large Regulated to be Removed	2
Percentage Retention (Large Regulated)	88%

Table 2- Tree Category Summary – Off site – Private

<u>Category</u>	<u>Number</u>
24”+	1
Exceptional	0
Large Regulated	9
Large Regulated to be Removed	0
Percentage Retention	100%

**9. Tree Retention and Removals**

Refer to Addendum II and Mercer Island City Code 19.10.060.

There are sixteen large-regulated trees on site with two (No. 3 and 4) proposed for removal, leaving 88-percent retention.

19.10.060.A.2. *Retention requirement.* Development proposals specified under subsection (a)(1) of this section shall retain trees as follows:

a .A minimum of 30 percent of trees with a diameter of ten inches or greater, or that otherwise meet the definition of large tree, shall be retained over a rolling five-year period.

The retention requirement is met.

The following Table 3 provides the likely root zone incursion and impacts for all trees.

Table 3 – Root Zone Impacts

Root Zone Impacts							
Tree #	Species	DBH (in)	Root Zone		Distance tree face to:		Impact
			Outer	Inner	Excavation	Percent	
			(ft)	(ft)	(ft)	Disturbance*	
<b>On-site</b>							
1	Shore pine	8.1	7	4	4'-10 1/2"	1%	Minor
2	Douglas-fir	30.5	23	12	16'-2 1/4"	30%	Retain - New driveway uplift possible
3	Douglas-fir	30.4	18	9	NA	NA	Remove - Negatively impacting existing retaining wall
4	Douglas-fir	32.5	15	8	NA	NA	Remove - Negatively impacting existing retaining wall
5	Douglas-fir	37.5	26	13	12'-1"	8%	Minor
6	Beech	15.5	25	13	23'-9"	1%	Minor
7	Japanese maple	11.1	14	7	9'-2"	3%	Minor
8	Flowering cherry	9.5	10	5	Within house foot print	100%	Remove
9	Douglas-fir	36.5	24	12	5'-4"	38%	Retain--lower floor excavation
10	Bitter cherry	28.9	24	12	15'-0 1/2"	0%	Minor
11	Shore pine	15.8	9	5	18'-4 1/4"	0%	None--Outside dripline/root zone
12	Flowering cherry	12.2	16	8	24'-6 1/4"	0%	None--Outside dripline/root zone
13	Douglas-fir	34.4	22	11	NA	0%	None--Outside dripline/root zone
14	Flowerign cherry	8.1	12	6	NA	0%	None--Outside dripline/root zone
15	Douglas-fir	29.7	18	9	NA	0%	None--Outside dripline/root zone
16	Douglas-fir	24.5	17	9	NA	0%	None--Outside dripline/root zone
17	Douglas-fir	19.5	18	9	NA	0%	None--Outside dripline/root zone
18	Cherry	13.9	15	8	NA	0%	None--Outside dripline/root zone
19	Vine maple	7.6	14	7	NA	0%	None--Outside dripline/root zone
20	Katsura	10.4	14	7	NA	0%	None--Outside dripline/root zone
21	Shore pine	8.1	7	4	NA	0%	None--Outside dripline/root zone
<b>Off Site</b>							
A	Norway spruce	25	20	10			None--Outside dripline/root zone
B	Norway spruce	18	12	6			None--Outside dripline/root zone
C	Douglas-fir	17	12	6			None--Outside dripline/root zone
D	Douglas-fir	18	15	8			None--Outside dripline/root zone
E	Douglas-fir	22	16	8			None--Outside dripline/root zone
F	Leyland cypress	12	10	5			None--Outside dripline/root zone
G	Leyland cypress	12	9	5			None--Outside dripline/root zone
H	Douglas-fir	24	25	13			None--Outside dripline/root zone
I	Norway spruce	17	20	10			None--Outside dripline/root zone
J	Bay laural	10	6	3			None--Outside dripline/root zone

\*A calculation of the total area (square feet) of proposed disturbance in the outer half of the tree's drip line divided by the total area of the outer half of the dripline (square feet) that cannot exceed 33 percent or 1/3 of the outer dripline.

Site Development impacts are rated as follows:

- None; Site Disturbance, Excavation and fill are beyond the Critical Root Zone
- Minor: Shallow Site Disturbance, will affect less than 15-percent of the Critical Root Zone –Careful excavation required
- Moderate: Site Disturbance will affect less than 30-percent of the Critical Root Zone with depths up to 12-inches – Careful excavation required
- Significant: Site Disturbance, Excavation and fill exceed the above limits: Tree not recommended for retention.

Tree 9 is planned for retention but not recommended due to 38% root zone excavation for the house footing.

Table 4 following summarizes the proposed tree removals.

Table 4 – Tree Removal Summary

<u>Tree No.</u>	<u>Species</u>	<u>Diameter (in)</u>	<u>Classification</u>	<u>Purpose</u>
3	Douglas-fir	30.4	Exceptional	Potential Hazard due to potential retaining wall failure
4	Douglas-fir	32.5	Exceptional	Potential Hazard due to potential retaining wall failure
8	Flowering cherry	9.5	Not Regulated	Within House foot print

Within the Guidelines of MICC as excerpted following, trees 3, 4, and 8 that are planned for removal meet the allowable removal criteria as demonstrated by unavoidable hazardous situations. (MICC19.10.060(3))

19.10.060.A.3 *Retention of exceptional trees.* Development proposals specified under subsection (a)(1) of this section shall retain exceptional trees with a diameter of 24 inches or more. Exceptional trees with a diameter of 24 inches or more that are retained shall be credited towards compliance with the retention requirements of subsection (A)(2) of this section. Removal of exceptional trees with a diameter of 24 inches or more, shall be limited to the following circumstances:

**a. Retention of an exceptional tree(s) with a diameter of 24 inches or more will result in an unavoidable hazardous situation; or**

b. Retention of an exceptional tree(s) with a diameter of 24 inches or more will limit the constructable gross floor area to less than 85 percent of the maximum gross floor area allowed under [chapter 19.02](#) MICC; or,

c. Retention of an exceptional tree(s) with a diameter of 24 inches or more will prevent creation of a residential lot through a subdivision or short subdivision that is otherwise allowed by this title.

Reference also to the letter in Addendum IV, dated October 25, 2024 prepared by Cobalt Geosciences LLC with respect to trees No. 3 and 4 that states:

“Roots of two trees near the block walls are causing structural damage and movement of the wall system. These trees may be removed without adversely affecting geologic hazards in the area or adjacent areas provided surfaces are surfaced with topsoil/mulch and new low-lying vegetation.”

Tree Removal, Additional Reasoning:



Tree No. 3 and 4 growing atop block retaining wall

Tree 3 the 30.4" and Tree 4 the 32.5" Douglas Fir is substantially growing into an existing retaining wall. The trunk of the tree is within inches of the existing retaining wall which is showing signs of structural failure. The tree is proposed to be removed to ensure the stability of the wall. The tree canopy and root zone will also be overlapping the new garage foundation.

Tree 8: The 9.5" flowering cherry is unregulated.

### 10. Replacement Trees

Removal of two exceptional large regulated trees 24-36 inches (3 and 4) requires replacement at a 6:1 ratio. (See Attached Tree Removal and Replacement Work sheet). Twelve replacement trees are required.

The project landscape architect will develop a tree planting plan including species and placement on the property.

## 11. Tree Protection

Trees to be retained must be protected per MIC 19.10.080.b. The following guidelines should be employed to protect all retained trees on and off site at this project location.

- Place no construction material or equipment within the protected area of any tree to be retained
- Tree protection fencing consisting of chain link at least 4-feet in height. at the dripline
- “Tree Protection Area- Entrance Prohibited” at 15-foot intervals on the fence
- Prohibiting excavation or compaction of earth or other damaging activities within the barriers unless approved by the Planning Official and supervised by a qualified professional
- Approved landscaping in a protected zone shall be done by light machinery or by hand
- Any exposed roots should be cut cleanly and backfilled with soil as soon as possible
- Root zones should be protected by a 4-inch-deep layer of clean organic material (tree chips, etc.)

Detailed Tree Protection Signage requirements per Mercer Island Requirements are attached in Addendum VI.

## 11. Summary

The tree retention, removal and protection plan described above meets the objectives of the 19.10.010 by retaining and protecting 88-percent of the large regulated onsite trees and 100-percent of the trees on adjacent property. Removal of two trees eliminates a potential failure and hazard risk.

## 12. Assumptions and Limiting Conditions

1. Any legal description provided to the consultant is assumed to be correct. Ownership of the subject trees as provided by the client is assumed to be correct. No responsibility is assumed for legal matters. No opinion as to the property line location is made.
2. Care has been taken to obtain all information from reliable sources. The consultant can neither guarantee nor be responsible for the accuracy of information provided by others.
3. The consultant shall not be required to give testimony or attend court by reason of this report unless subsequent contractual arrangements are made, including additional fees.

4. This report and any values expressed herein represent the opinion of the consultant, and the consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.
5. The exhibits in this report are included to assist the reader and are not necessarily to scale.
6. Unless expressed otherwise, the information in this report covers only items that were examined and reflects the condition of those items at the time of inspection. The subject site was cleared of all vegetation at the time of inspection therefore the extent of removals is inferred from adjacent undisturbed areas. The inspection is limited to visual examination of accessible portions of the trees and plants.
7. Loss or alteration of any part of the report invalidates the entire report. Ownership of any documents related to this report passes to the client only.
8. The liability of ArborInfo LLC its contractors and employees is limited to the client only and only up to the amount of the fee actually received for the assignment.
9. *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.*
10. *NEARLY ALL TREES IN ANY CONDITION STANDING WITHIN REACH OF IMPROVEMENTS OR HUMAN USE AREAS REPRESENT HAZARDS THAT COULD LEAD TO DAMAGE OR INJURY. THE ASSESSMENT IS VALID FOR TWO YEARS FROM THE DATE OF INSPECTION, ONLY.*
11. PERTINENT JURISDICTION RULES AND REGULATIONS SHOULD BE CONSULTED PRIOR TO THE REMOVAL OR ALTERATION OF ANY TREE.

Respectfully Submitted,



Thomas M. Hanson, CA, RCA

Addenda

- I. Tree Plan
- II. Tree Assessment Summary Table
- III. Geotechnical Addendum Letter – Cobalt Geosciences
- IV. Mercer Island Check list
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# CITY OF MERCER ISLAND

## COMMUNITY PLANNING & DEVELOPMENT

9611 SE 36TH STREET | MERCER ISLAND, WA 98040

PHONE: 206.275.7605 | [www.mercergov.org](http://www.mercergov.org)

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## TREE INVENTORY & REPLACEMENT SUBMITTAL INFORMATION

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### 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 \_\_\_\_\_ (A)

List tree numbers: \_\_\_\_\_

Number of Large Regulated Trees on site proposed for removal \_\_\_\_\_ (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: \_\_\_\_\_

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**TREE REPLACEMENT**

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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		
<b>TOTAL TREE REPLACEMENTS</b>			

# TREE PROTECTION AREA (TPZ)

## KEEP OUT!

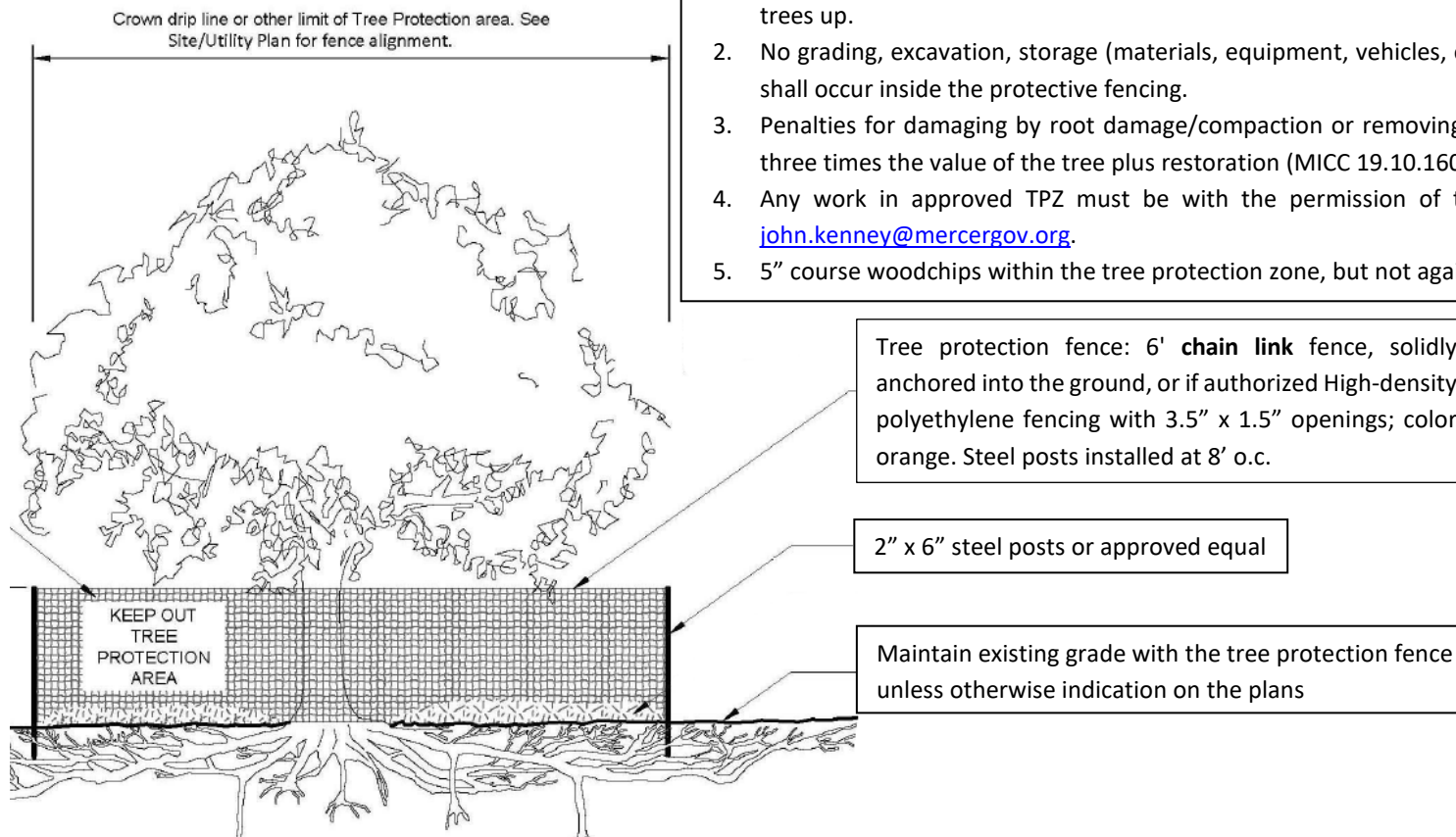
### DO NOT REMOVE OR ADJUST THE APPROVED LOCATION OF THIS TREE PROTECTION AREA

Trees enclosed by this fence are protected and are subject to the conditions of the tree permit. Violation of tree conditions may lead to:

1. Correction Notices or Stop Work Orders until compliance is achieved
2. RE Inspection Fees/financial penalties
3. Arborist reports recommending mitigation

#### Notes

1. No pruning shall be performed unless under the direction of the Project Arborist. Including limbing trees up.
2. No grading, excavation, storage (materials, equipment, vehicles, etc.), or other unpermitted activity shall occur inside the protective fencing.
3. Penalties for damaging by root damage/compaction or removing a saved tree may be a fine up to three times the value of the tree plus restoration (MICC 19.10.160).
4. Any work in approved TPZ must be with the permission of the City Arborist (206) 275-7713, [john.kenney@mercergov.org](mailto:john.kenney@mercergov.org).
5. 5" course woodchips within the tree protection zone, but not against the tree trunk.



Any Work in the protected area must be with the permission of the City Arborist [john.kenney@mercergov.org](mailto:john.kenney@mercergov.org)