

## Arborist Summary Memo

To: David Yeh

Site: 7239 SE 27th Street, Mercer Island, WA

Re: Summary of arborist reports over last 5 years

Date: September 3, 2021

Project Arborist: Holly Iosso, Registered Consulting Arborist # 567  
ISA Certified Arborist PN- 6298A  
ISA Qualified Tree Risk Assessor

Referenced Docs: Arborist Report (Taylor/Hogan, Tree Solutions Inc., revised 10/11/2019)  
Tree Limits of Disturbance (Greenforest Inc., 12/27/2017)  
Arborist Monitoring Report (Dugan, Tree Solutions inc., 7/10/2019)  
Arborist Monitoring Memo (McDermott, Tree Solutions Inc., 1/5/2021)

Attached: "7239 SE 27<sup>th</sup> St Short Plat" (Core Design, undated see attached site plan)

This project has been underway for over 5 years, and there have been multiple arborists, site visits and tree reports related to this site. This memo intends to provide clarity for the reviewer by summarizing these visits and providing a final assessment of trees as they relate to current development plans.

The current development plan I have reviewed is used as Appendix A: Site Map.

Trees proposed for retention are:

	Species	DSH <sup>2</sup>	Health	Exploratory excavation	Revised LOD <sup>1</sup>			
					N	E	S	W
<b>9</b>	Western redcedar	5.7"	Good	--	4	--	--	--
<b>10</b>	Western redcedar	13.8"	Good	--	10	10	--	--
<b>11</b>	Willow	7.4, 6.7, 6.7"	Good	--	8	8	--	--
<b>13</b>	Ponderosa Pine	36"	Good	Yes – all 4 sides	18	16	22	18
<b>20</b>	Douglas-fir	31"	Good	Yes – on east side only	--	--	--	16
<b>29</b>	Ponderosa Pine	28"	Good	--	--	--	--	14
<b>30</b>	Flowering plum	Multi-stem*	Good	--	--	--	--	8

\* Multi-stem measurements (rounded to the nearest inch) were 6, 6, 5, 5, 5, 4, 4, 4, 4, 4, 2, 2, 2, 2, 2, 2

<sup>1</sup> LOD: Limits of Disturbance is distance (ft) to trunk where no impact (excavation, compaction, material storage, or pedestrian/machinery access may occur)

<sup>2</sup> DSH: Diameter at Standard Height

It is my professional opinion that, if strict tree protection requirements are followed during demolition, regrading, construction and landscaping, all of the retained trees will remain stable. A list of tree protection specifications should be included in the demolition permit as well as the construction permit. These specifications are listed in Appendix D.

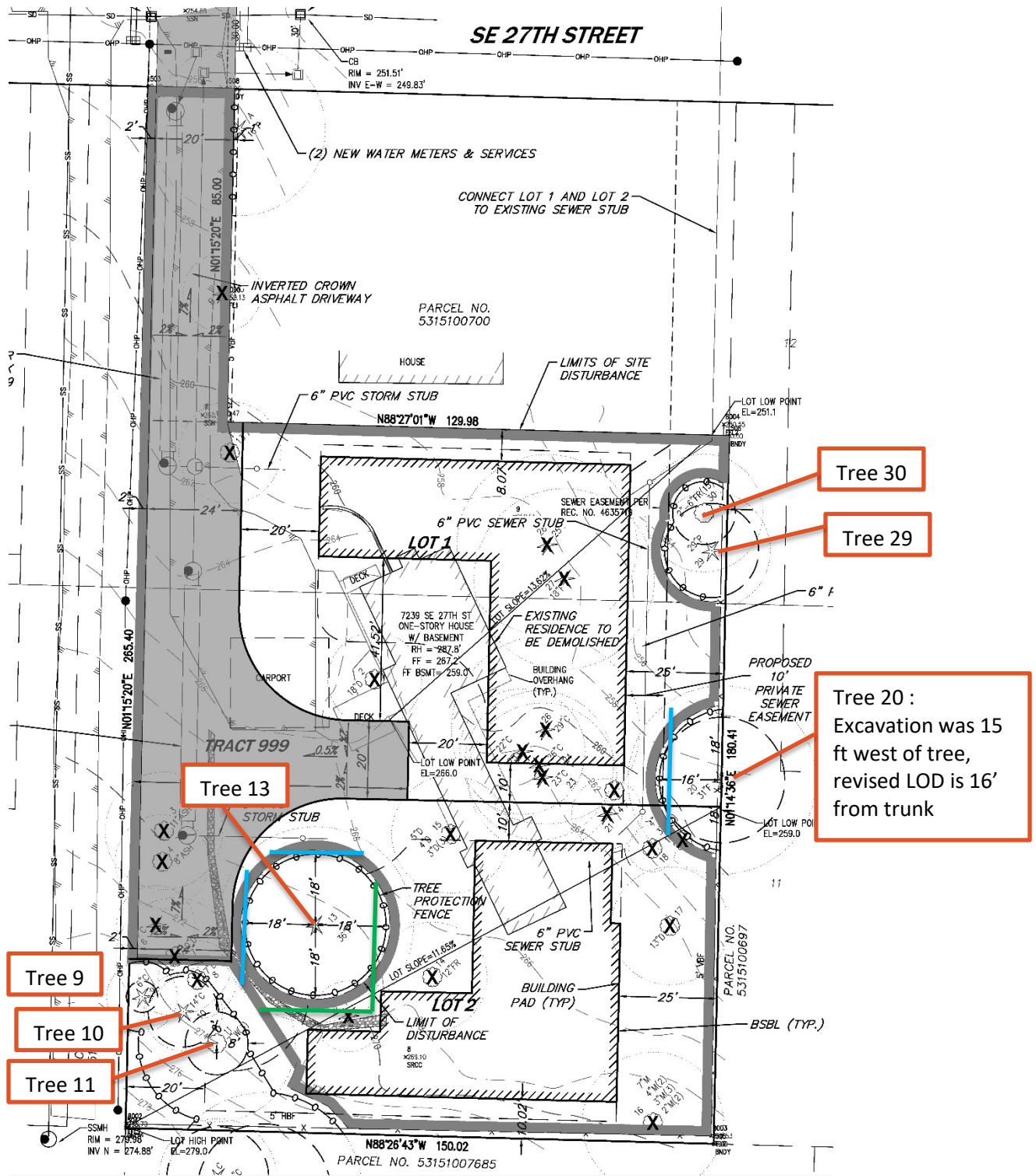
If these trees are all provided supplemental irrigation before, during, and (up to 3 years) after construction, the trees should also remain viable for future years.

Please contact me if you have more questions.

Respectfully submitted,

Holly Iosso,  
Principal, Senior Arborist

### Appendix A Site Map



**Site Map.** Approximate locations of exploratory excavation. Green lines indicate 2019 trenches (22 ft south, 16 ft east). Blue lines indicate 2021 trenches (18 ft north, 18 ft west). Base map is most recent development plan provided to me by Core Design in July 2021.

## Appendix B Photographs



**Photograph 1.** Northern and western trenches of Tree 13 (2021)



**Photograph 2.** Trenches from 2019 (S / E)



**Photograph 3.** View looking east towards Tree 20 (2021)



**Photograph 4.** Trench on west side of Tree 20 (2021)

## Appendix C Assumptions & Limiting Conditions

- 1 Consultant assumes that the site and its use do not violate, and is in compliance with, all applicable codes, ordinances, statutes or regulations.
- 2 The consultant may provide a report or recommendation based on published municipal regulations. The consultant assumes that the municipal regulations published on the date of the report are current municipal regulations and assumes no obligation related to unpublished city regulation information.
- 3 Any report by the consultant and any values expressed therein represent the opinion of the consultant, and the consultant's fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event, or upon any finding to be reported.
- 4 All photographs included in this report were taken by Tree Solutions, Inc. during the documented site visit, unless otherwise noted. Sketches, drawings and photographs (included in, and attached to, this report) are intended as visual aids and are not necessarily to scale. They should not be construed as engineering drawings, architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by the consultant as to the sufficiency or accuracy of the information.
- 5 Unless otherwise agreed, (1) information contained in any report by consultant covers only the items examined and reflects the condition of those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, climbing, or coring.
- 6 These findings are based on the observations and opinions of the authoring arborist, and do not provide guarantees regarding the future performance, health, vigor, structural stability or safety of the plants described and assessed.
- 7 Measurements are subject to typical margins of error, considering the oval or asymmetrical cross-section of most trunks and canopies.
- 8 Tree Solutions did not review any reports or perform any tests related to the soil located on the subject property unless outlined in the scope of services. Tree Solutions staff are not and do not claim to be soils experts. An independent inventory and evaluation of the site's soil should be obtained by a qualified professional if an additional understanding of the site's characteristics is needed to make an informed decision.
- 9 Our assessments are made in conformity with acceptable evaluation/diagnostic reporting techniques and procedures, as recommended by the International Society of Arboriculture.

## Appendix D Tree Protection Specifications

*The following is a list of protection measures that must be employed before, during and after construction to ensure the long-term viability of retained trees.*

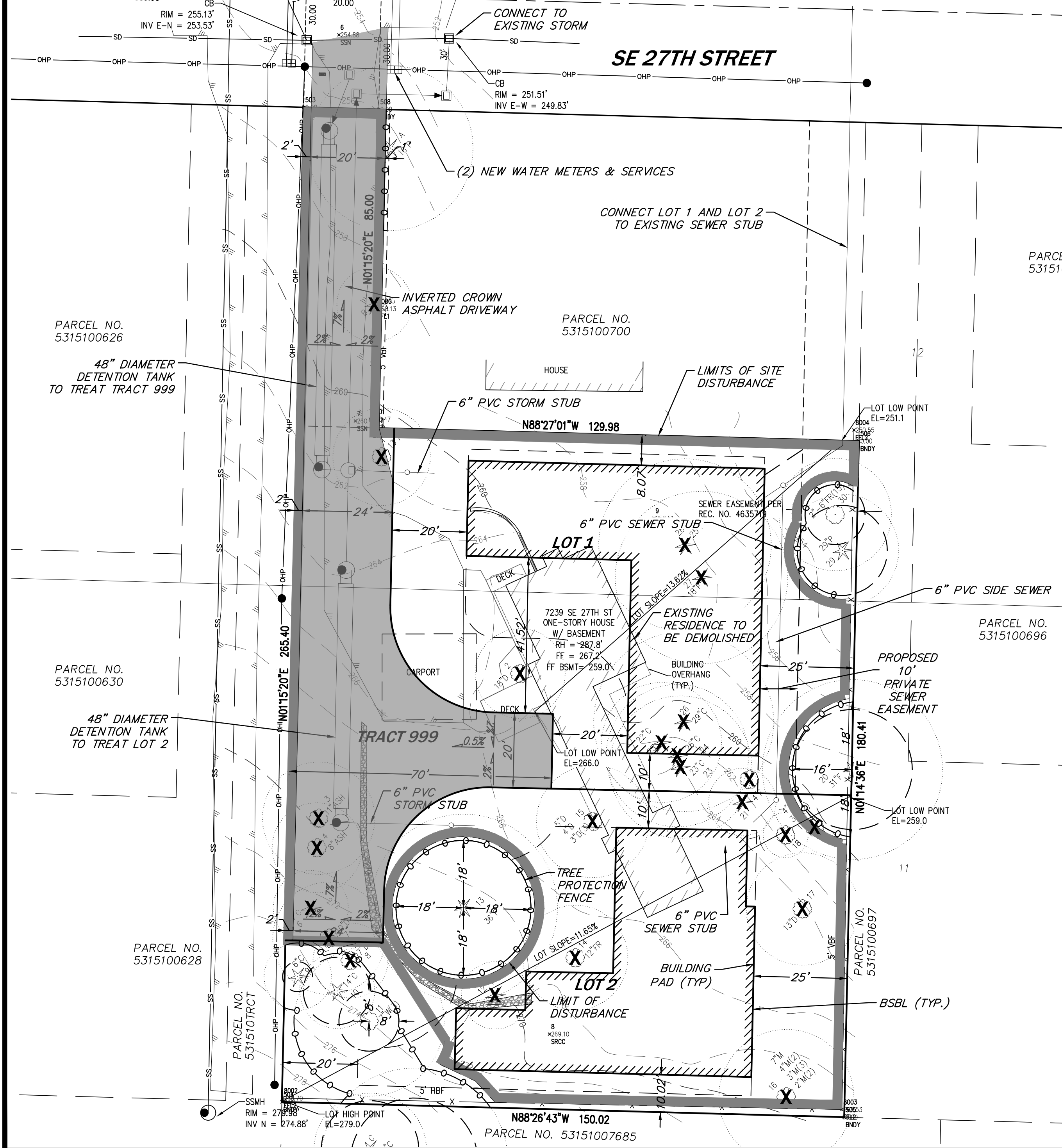
1. **Project Arborist:** The project arborists shall at minimum have an International Society of Arboriculture (ISA) Certification and ISA Tree Risk Assessment Qualification.
2. **Tree Protection Area (TPA):** TPA is the area within the dripline of all retained trees. The TPA for non-exceptional trees may be reduced to within the dripline based on the recommendation of the project arborist. The TPA for exceptional trees may be reduced to within the dripline based on the recommendation of the project arborist and approval by the City of Seattle.
3. **Tree Protection Fencing:** Tree protection fencing shall consist of 6-foot tall chain-link fencing installed at the edge of the TPA as approved by the project arborist. Fence posts shall be anchored into the ground or bolted to existing hardscape surfaces.
  - a. Where trees are being retained as a group the fencing shall encompass the entire area including all landscape beds or lawn areas associated with the group.
  - b. Per arborist approval, TPA fencing may be placed at the edge of existing hardscape within the TPA to allow for staging and traffic.
  - c. Where work is planned within the TPA, install fencing at edge of TPA and move to limits of disturbance at the time that the work within the TPA is planned to occur. This ensures that work within the TPA is completed to specification.
  - d. Where trees are protected at the edge of the project boundary, construction limits fencing shall be incorporated as the boundary of tree protection fencing.
4. **Access Beyond Tree Protection Fencing:** In areas where work such as installation of utilities is required within the TPA, a locking gate will be installed in the fencing to facilitate access. The project manager or project arborist shall be present when tree protection areas are accessed.
5. **Tree Protection Signage:** Tree protection signage shall be affixed to fencing every 20 feet. Signage shall be fluorescent, at least 2' x 2' in size. Signage must include all information in the PDF located here: <http://www.seattle.gov/Documents/Departments/SDCI/Codes/TreeProtectionAreaSign.pdf> in addition to the contact information for the project manager and instructions for gaining access to the area.
6. **Filter / Silt Fencing:** Filter / silt fencing within, or at the edge of the TPA of retained trees shall be installed in a manner that does not sever roots. Install so that filter / silt fencing sits on the ground and is weighed in place by sandbags or gravel. Do not trench to insert filter / silt fencing into the ground.
7. **Monitoring:** The project arborist shall monitor all ground disturbance at the edge of or within the TPA.
8. **Soil Protection:** Retain existing paved surfaces within or at the edge of the TPA for as long as possible. No parking, foot traffic, materials storage, or dumping (including excavated soils) are allowed within the TPA. Heavy machinery shall remain outside of the TPA. Access to the tree protection area will be granted under the supervision of the project arborist. If project arborist allows, heavy machinery can enter the area if soils are protected from the load. Acceptable methods of soil protection include placing 3/4-inch plywood over 4 to 6 inches of wood chip mulch, or use of AlturnaMats® (or equivalent product approved by the project arborist). Compaction of soils within the TPA must not occur.
9. **Soil Remediation:** Soil compacted within the TPA of retained trees shall be remediated using pneumatic air excavation according to a specification produced by the project arborist.

10. **Canopy Protection:** Where fencing is installed at the limits of disturbance within the TPA, canopy management (pruning or tying back) shall be conducted to ensure that vehicular traffic does not damage canopy parts. Exhaust from machinery shall be located 5 feet outside the dripline of retained trees. No exhaust shall come in contact with foliage for prolonged periods of time.
11. **Duff/Mulch:** Apply 6 inches of arborist wood chip mulch or hog fuel over bare soil within the TPA to prevent compaction and evaporation. TPA shall be free of invasive weeds to facilitate mulch application. Keep mulch 1 foot away from the base of trees and 6 inches from retained understory vegetation. Retain and protect as much of the existing duff and understory vegetation as possible.
12. **Excavation:** Excavation done within the TPA shall use alternative methods such as pneumatic air excavation or hand digging. If heavy machinery is used, use flat front buckets with the project arborist spotting for roots. When roots are encountered, stop excavation and cleanly sever roots. The project arborist shall monitor all excavation done within the TPA.
13. **Fill:** Limit fill to 1 foot of uncompacted well-draining soil, within the TPA of retained trees. In areas where additional fill is required, consult with the project arborist. Fill must be kept at least 1 foot from the trunks of trees.
14. **Root Pruning:** Limit root pruning to the extent possible. All roots shall be pruned with a sharp saw making clean cuts. Do not fracture or break roots with excavation equipment.
15. **Root Moisture:** Root cuts and exposed roots shall be immediately covered with soil, mulch, or clear polyethylene sheeting and kept moist. Water to maintain moist condition until the area is back filled. Do not allow exposed roots to dry out before replacing permanent back fill.
16. **Hardscape Removal:** Retain hardscape surfaces for as long as practical. Remove hardscape in a manner that does not require machinery to traverse newly exposed soil within the TPA. Where equipment must traverse the newly exposed soil, apply soil protection as described in section 8. Replace fencing at edge of TPA if soil exposed by hardscape removal will remain for any period of time.
17. **Tree Removal:** All trees to be removed that are located within the TPA of retained trees shall not be ripped, pulled, or pushed over. The tree should be cut to the base and the stump either left or ground out. A flat front bucket can also be used to sever roots around all sides of the stump, or the roots can be exposed using hydro or air excavation and then cut before removing the stump.
18. **Irrigation:** Retained trees with soil disturbance within the TPA will require supplemental water from June through September. Acceptable methods of irrigation include drip, sprinkler, or watering truck. Trees shall be watered three times per month during this time.
19. **Pruning:** Pruning required for construction and safety clearance shall be done with a pruning specification provided by the project arborist in accordance with American National Standards Institute ANSI-A300 2017 Standard Practices for Pruning. Pruning shall be conducted or monitored by an arborist with an ISA Certification.
20. **Plan Updates:** All plan updates or field modification that result in impacts within the TPA or change the retained status of trees shall be reviewed by the senior project manager and project arborist prior to conducting the work.
21. **Materials:** Contractor shall have the following materials on-site and available for use during work in the TPA:
  - **Sharp and clean bypass hand pruners**
  - **Sharp and clean bypass loppers**
  - **Sharp hand-held root saw**
  - **Reciprocating saw with new blades**
  - **Shovels**
  - **Trowels**
  - **Clear polyethylene sheeting**
  - **Burlap**
  - **Water**

# 7239 SE 27TH STREET SHORT PLAT

Plan provided to Tree Solutions as 'final plan' by Core Design June 30, 2021

A PORTION OF THE NE 1/4, OF THE NW 1/4, SECTION 01, TOWNSHIP 24 NORTH, RANGE 4 EAST, W.M. CITY OF MERCER ISLAND, KING COUNTY, WASHINGTON



**LEGEND**

	SURVEY MONUMENT
	SET 1/2" x 24" REBAR WITH YELLOW PLASTIC CAP STAMPED "CORE 48383"
	FENCE LINE
	VERTICAL BOARD FENCE
	HORIZONTAL BOARD FENCE
	CHAINLINK FENCE
	POWER POLE
	FIRE HYDRANT
	WATER METER
	SEWER MANHOLE
	CATCH BASIN
	EVERGREEN TREE
	DECIDUOUS TREE
	STORM LINE
	SEWER LINE
	OVERHEAD POWER
	CLEARING LIMITS
	TREE PROTECTION FENCE

**VERTICAL DATUM**

NAVD 88

**BENCHMARK**

CONCRETE MONUMENT IN CASE AT THE INTERSECTION OF SE 127TH STREET AND 72ND AVENUE SE.

ELEVATION = 259.038

**BASIS OF BEARINGS**

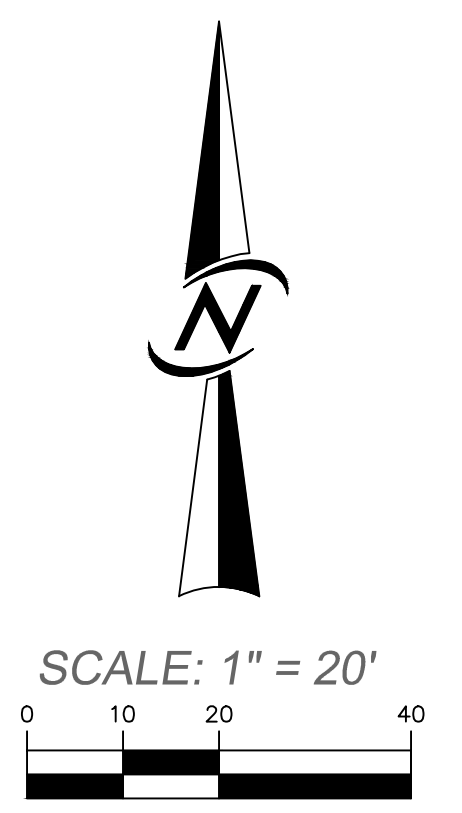
N01°16'24"E BETWEEN THE MONUMENTS FOUND ALONG 72ND AVENUE SE AT THE INTERSECTIONS OF SE 27TH STREET AND SE 32ND STREET, PER REFERENCE 1.

**REFERENCES**

- RECORD OF SURVEY AS RECORDED IN VOLUME 341 OF SURVEYS, PAGE 280, UNDER RECORDING NUMBER 20160419900010.
- MCGILVRA'S ISLAND ADDITION AS RECORDED IN VOLUME 42 OF PLATS, PAGE 58, UNDER RECORDING NUMBER 520803.

**NOTES**

- ALL TITLE INFORMATION SHOWN ON THIS MAP HAS BEEN EXTRACTED FROM CHICAGO TITLE INSURANCE COMPANY. IN PREPARING THIS MAP, CORE DESIGN, INC. HAS CONDUCTED NO INDEPENDENT TITLE SEARCH NOR IS CORE DESIGN, INC. AWARE OF ANY TITLE ISSUES AFFECTING THE SURVEYED PROPERTY OTHER THAN THOSE SHOWN ON THE MAP AND DISCLOSED BY THE REFERENCED GUARANTEE NO. 0070077-ETU. CORE DESIGN, INC. HAS RELIED WHOLLY ON CHICAGO TITLE INSURANCE COMPANY'S REPRESENTATIONS OF THE TITLE'S CONDITION TO PREPARE THIS SURVEY AND THEREFORE CORE DESIGN, INC. QUALIFIES THE MAP'S ACCURACY AND COMPLETENESS TO THAT EXTENT.
- THIS SURVEY REPRESENTS VISIBLE PHYSICAL IMPROVEMENT CONDITIONS EXISTING ON MAY 31, 2016. ALL SURVEY CONTROL INDICATED AS "FOUND" WAS RECOVERED FOR THIS PROJECT IN MAY, 2016.
- PROPERTY AREA = 28,759± SQUARE FEET (0.6602± ACRES).
- ALL DISTANCES ARE IN FEET.
- THIS IS A FIELD TRAVERSE SURVEY. A SOKKIA FIVE SECOND COMBINED ELECTRONIC TOTAL STATION WAS USED TO MEASURE THE ANGULAR AND DISTANCE RELATIONSHIPS BETWEEN THE CONTROLLING MONUMENTATION AS SHOWN. CLOSURE RATIOS OF THE TRAVERSE MET OR EXCEEDED THOSE SPECIFIED IN WAC 332-130-090. ALL MEASURING INSTRUMENTS AND EQUIPMENT ARE MAINTAINED IN ADJUSTMENT ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
- TOPOGRAPHIC INFORMATION SHOWN HEREON WAS PROVIDED BY SITE SURVEYING, INCORPORATED. CORE DESIGN DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF SAID INFORMATION.



14711 N.E. 29th Pl. Suite 101  
 Bellevue, Washington 98007  
 425.885.7877 Fax 425.885.7963

ENGINEERING • PLANNING • SURVEYING  
**JOB NO. 16082**

## Memorandum

To: David Yeh  
Site: 7239 SE 27th Street, Mercer Island, WA  
Re: Monitoring Report of Air Spade near Trees 13, 20  
Date: January 5, 2021  
Project Arborist: Connor McDermott ,  
ISA Certified Arborist PN- 8704A  
ISA Qualified Tree Risk Assessor  
Reviewed By: Holly Iosso , Registered Consulting Arborist # 567  
ISA Certified Arborist PN- 6298A  
ISA Qualified Tree Risk Assessor

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This memo documents my site visit to the above referenced site on December 23, 2020. I was asked by David Yeh, owner of the parcel, to be present during exploratory air excavation near two trees: Tree 13 (36" Ponderosa pine) and Tree 20 (31" Douglas-fir).

This exploration was requested by Robin Proebsting, Senior Planner with the City of Mercer Island. She requested that limits of disturbance (LOD) for each retained tree be drawn on development plans based on measurements from a previous arborist report (Greenforest Incorporated dated 12/27/2017) – using either the dripline radius or LOD noted in that report, whichever is greater. If development is proposed within these limits, air excavation is required for an arborist to assess the extent of the tree root system and discuss implications of construction in these areas.

### Tree 13

I observed the air excavation of trenches 18 feet north and 18 feet west of Tree 13. Both trenches were 20 feet long (see Photo 1). Excavation exposed mostly fine roots, less than 1 inch in diameter, and three structural roots along the trenches.

The three structural roots exposed on the north trench measured three inches in diameter or less (see Photo 2); the largest of which can be seen in Photo 3. In my opinion, the LOD can be modified and set along this trench line (see red lines shown in Appendix A). I believe cutting roots along this line, and not allowing disturbance (including landscape work) within the area closer to the tree, will allow the tree to be viable long-term, and there will be minimal impact on the tree's structural integrity.

### Tree 20

I observed excavation of a trench 15 feet west of Tree 20. The trench was 30 feet long (Photo 4). Mostly fine roots were exposed, in addition to four structural roots (Photo 5).

The largest root measured 4.5 inches in diameter (Photo 6) and the others measured under 3 inches. The largest root grows parallel to the trench and should be retained. Excavation should stay 16 feet away from the base of the tree to avoid this root.

In my opinion, the smaller roots can be pruned along this trench line (no closer than 16 feet from the base of the tree) without having a negative impact on the tree's structure.

### Site

Any roots cut on site should be cleanly cut using hand tools only and not torn using a backhoe.

I recommend that a 3 to 5-inch layer of woodchip mulch be placed on the ground within the driplines of all retained trees to improve growing conditions, retain soil moisture, and protect the trees during site development.

Respectfully submitted,

Connor McDermott,  
Consulting Arborist



## Appendix B Photographs



**Photograph 1.** Northern and western trenches of Tree 13.



**Photograph 2.** Tree 13 trench with some structural roots encountered, although most roots were fine roots, or less than 1 inch in diameter.



**Photograph 3.** Tree 13: Largest root exposed was 2.5 inch diameter, approximately 18 feet away from trunk on north side of tree.



**Photograph 4.** View looking east towards Tree 20 with ivy growing on the trunk.



**Photograph 5.** Trench on west side of Tree 20. A 2-inch diameter root is in foreground and mostly fine roots exposed.



**Photograph 6.** Largest root encountered on site. Root measured 4.5 inches and grows horizontally along trench. Root should be preserved and excavation should not occur within 16 feet of the trunk of Tree 13.

## Appendix C Assumptions & Limiting Conditions

- 1 Consultant assumes that the site and its use do not violate, and is in compliance with, all applicable codes, ordinances, statutes or regulations.
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- 4 All photographs included in this report were taken by Tree Solutions, Inc. during the documented site visit, unless otherwise noted. Sketches, drawings and photographs (included in, and attached to, this report) are intended as visual aids and are not necessarily to scale. They should not be construed as engineering drawings, architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by the consultant as to the sufficiency or accuracy of the information.
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- 7 Measurements are subject to typical margins of error, considering the oval or asymmetrical cross-section of most trunks and canopies.
- 8 Tree Solutions did not review any reports or perform any tests related to the soil located on the subject property unless outlined in the scope of services. Tree Solutions staff are not and do not claim to be soils experts. An independent inventory and evaluation of the site's soil should be obtained by a qualified professional if an additional understanding of the site's characteristics is needed to make an informed decision.
- 9 Our assessments are made in conformity with acceptable evaluation/diagnostic reporting techniques and procedures, as recommended by the International Society of Arboriculture.

**Arborist Report**

TO: David Yeh  
SITE: 7239 SE 27<sup>th</sup> Street, Mercer Island, WA  
RE: Monitoring Report  
DATE: July 10, 2019  
PROJECT ARBORIST: Sean Dugan, ISA BCMA#5459B, TRAQ, RCA 457

I observed the air excavation of a trench 22 feet south and 16 feet east of tree 13 at the above site address (see Photos 1a and 1b). Excavation exposed a low density of roots. Five structural roots were exposed east of the tree measuring less than three inches in diameter (see Photo 2). The largest root can be seen in photo 3.

Based on my knowledge, training and experience it is my opinion that these roots can be removed without having a negative impact on the tree's health or structure. The roots should be cleanly cut using hand tools only and not torn using a backhoe. It is recommended to add a three to five-inch layer of woodchip mulch below the canopy of the tree to improve growing conditions and protect the tree during site development.



Photos 1a (left) & 1b (right). These photos show the trench excavated by Root Cause.



Photo 2. View looking to the north along the east trench. This view shows the low density of structural roots encountered.



Photo 3. View of largest root exposed approximately 16 feet away from the tree.

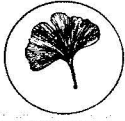
Please contact me with any questions regarding this information.

Respectfully,

Sean Dugan, Principal  
Tree Solutions Inc.

## **Appendix C - Assumptions & Limiting Conditions**

1. Consultant assumes that any legal description provided to Consultant is correct and that title to property is good and marketable. Consultant assumes no responsibility for legal matters. Consultant assumes all property appraised or evaluated is free and clear, and is under responsible ownership and competent management.
2. Consultant assumes that the property and its use do not violate applicable codes, ordinances, statutes or regulations.
3. Although Consultant has taken care to obtain all information from reliable sources and to verify the data insofar as possible, Consultant does not guarantee and is not responsible for the accuracy of information provided by others.
4. Client may not require Consultant to testify or attend court by reason of any report unless mutually satisfactory contractual arrangements are made, including payment of an additional fee for such Services as described in the Consulting Arborist Agreement.
5. Unless otherwise required by law, possession of this report does not imply right of publication or use for any purpose by any person other than the person to whom it is addressed, without the prior express written consent of the Consultant.
6. Unless otherwise required by law, no part of this report shall be conveyed by any person, including the Client, the public through advertising, public relations, news, sales or other media without the Consultant's prior express written consent.
7. 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 specific value, a stipulated result, the occurrence of a subsequent event or upon any finding to be reported.
8. All photographs included in this report were taken by Tree Solutions Inc. during the documented site visit, unless otherwise noted.
9. Sketches, drawings and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by Consultant as to the sufficiency or accuracy of the information.
10. Unless otherwise agreed, (1) information contained in this report covers only the items examined and reflects the condition of the those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, climbing, or coring. Consultant makes no warranty or guarantee, express or implied, that the problems or deficiencies of the plans or property in question may not arise in the future.
11. Loss or alteration of any part of this Agreement invalidates the entire report.



# Greenforest Incorporated

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TO: David Yeh

REFERENCE: Tree Limits of Disturbance

SITE ADDRESS: 7239 SE 27th Street, Mercer Island WA 98040

DATE: 12/27/2017

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

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You contacted me and contracted my services as a consulting arborist. My assignment is to provide limits of disturbance for all the regulated trees on the site, plus 4 offsite trees. I visited the site 12/7/17 and visually assessed the trees.

Subsequent to my site visit and contract, you provided me a RFI (for File No. Sub16-011) dated 3/14/17, authored by Robin Proebsting, Senior Planner for the City of Mercer Island. This RFI requests limits of disturbance (LOD) specifically for 5 trees total, plus an additional full root zone analysis with an air excavation tool.

This report provides specific LOD for the 5 trees identified by City, and generic LOD for all trees (in order to fulfill my initial contracted assignment). Air excavation is not included in this scope of work.

The City's RFI identifies Five 5 on page 2, item 1. Trees. They include 13, 29, 32, C, D. The tree listed as 32 appears to be a error, and is likely tree 20 (shown on sheets as a 32 Fir, and in one instance as tree #15). Tree numbered 20 (rather than 32) is used in this report.

## LIMITS OF DISTURBANCE

Limits of Disturbance (LOD) are calculated for all the regulated trees. They are determined using rootplate<sup>1</sup> and trunk diameter,<sup>2,3</sup> and ISA Best Management Practices.<sup>4</sup> These are the minimum distances from the trees for any soil disturbance, and represent the area to be protected during construction.

The following table lists the 5 subject trees by number, common name, DBH, Dripline radius and LOD: first as the radius for a generic circular LOD surrounding the tree, then by cardinal direction based on the preferred use of the site. In all cases, the area delineated by the cardinal LODs provide, by far, more undisturbed area around each tree, though disturbance encroaches closer than the circular LOD on one side of the tree.

Tree ID	Common Name	DBH	Dripline Radius	Limits of Disturbance					Area (SF)	
				Circle	North	East	South	West	Circle	Cardinal
13	<i>Ponderosa pine</i>	35.8"	25'	18'	22'	16'	22'	16'	254	352
29	<i>Ponderosa pine</i>	28.5"	15'	15'	18'	ND	18'	13'	176	234
20	<i>Pseudotsuga menzeisii</i>	31"	15'	16'	18'	ND	18'	14'	200	252
C	<i>Western red-cedar</i>	40"	15'		5' BSBL	DL	ND	DL		
D	<i>Scarlet oak</i>	25"	25'		PL	DL	ND	DL		

The data for the offsite trees is based on my observations, as I did not enter the adjoining parcel to touch the trees.

As I understand the RFI, these LOD must now be marked in the field, and, using an air excavation tool, verify that no structural roots will be impacted by these established LOD.

<sup>1</sup> Coder, Kim D. 2005. *Tree Biomechanics Series*. University of Georgia School of Forest Resources.

<sup>2</sup> Smiley, E. Thomas, Ph. D. *Assessing the Failure Potential of Tree Roots, Shade Tree Technical Report*. Bartlett Tree Research Laboratories.

<sup>3</sup> Fite, Kelby and E. Thomas Smiley. 2009. *Managing Trees During construction; Part Two*. Arborist News. ISA.

<sup>4</sup> Companion publication to the ANSI A300 Series, Part 5: *Managing Trees During Construction*. 2008. ISA.



David Yeh

RE: Tree Limits of Disturbance, 7239 SE 27th Street, Mercer Island WA 98040

12/27/2017

Page 3 of 5

Attachments:

1. Assumptions and Limiting Conditions
2. Certification of Performance
3. Generic LOD for all regulated trees.

Assumptions & Limiting Conditions

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- 1) A field examination of the site was made 12/7/2017. My observations and conclusions are as of that date.
- 2) Care has been taken to obtain all information from reliable sources. Tree identification, size (DBH) and condition are used from Tree Solutions Inc., report dated 8/31/2106.
- 3) 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.
- 4) 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.
- 5) 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.
- 6) Construction activities can impact trees in unpredictable ways. All retained trees should be inspected at the completion of construction, and regularly thereafter as part of ongoing maintenance.



Attachment No. 2 - Certification of Performance

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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:

  
GREENFOREST, 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: 2017.12.27 11:24:51 -08'00'

Date: December 27, 2017

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Greenforest



Registered Consulting Arborist

David Yeh

RE: Tree Limits of Disturbance, 7239 SE 27th Street, Mercer Island WA 98040

12/27/2017

Page 5 of 5

Attachment No. 3 – Circular LOD for Regulated Trees

Tree ID	Common Name	DBH (inches)	Dripline Radius	LOD
1	Apple	13	13'	7'
2	Fraser photinia	17.5	12'	5'
3	Oregon ash	10.8	15'	5'
4	Oregon ash	8	12'	5'
5	Oregon ash	8.7	15'	5'
6	Western red-cedar	14	10'	7'
7	Common hawthorn	9.8	15'	6'
8	Common hawthorn	7	10'	5'
9	Western red-cedar	5.7	9'	5'
10	Western red-cedar	13.8	10'	7'
11	Willow	7.4, 6.7, 6.7	20'	6'
12	Arizona cypress	10.6	9'	5'
13	Ponderosa pine	35.8	25'	18'
14	Common plum	11.5	14'	6'
15	Privet	5.1, 2.5, 2.5, 3, 3.5	15'	5'
16	Bigleaf maple	3.5, 3, 3, 2, 2, 3, 4, 7	18'	5'
17	Common hawthorn	13.3	15'	7'
18	Excelsa cedar	3, 3, 1, 4	6'	6'
19	European mountain ash	8.3, 9, 7.8, 7, 7	14'	9'
20	Douglas-fir	31	24'	16'
21	Douglas-fir	3.7	9'	4'
22	European mountain ash	26.4	16'	13'
23	Western red-cedar	23.4	19'	13'
24	Western red-cedar	25.5	19'	13'
25	Western red-cedar	21.5	16'	13'
26	Western red-cedar	29.4	24'	15'
27	Douglas-fir	18.4	23'	10'
28	Douglas-fir	24.5	23'	12'
29	Ponderosa pine	28.5	15'	15'
30	Plum	(15) 2-6	15'	8'
A	Japanese red pine	15.8	22'	8'
B	Western red-cedar	16.8	10'	8'
C	Western red-cedar	40	15'	20'
D	Scarlet oak	25	25'	13'



**Arborist Report**

TO: David Yeh  
SITE: 7239 SE 27<sup>th</sup> Street, Mercer Island, WA  
RE: Inventory report  
DATE: **October 7, 2016, revised October 11, 2019**  
PROJECT ARBORIST: Katherine Taylor,  
ISA Certified Arborist #PN-8022A  
ISA Qualified Tree Risk Assessor  
  
Katie Hogan  
ISA Certified Arborist PN-8078A  
ISA Qualified Tree Risk Assessor

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**Summary**

There are thirty (30) large trees at the above addressed property, none of which are designated Landmark trees by the City of Mercer Island. Six (6) trees are located inside an Environmentally Sensitive Area (ESA) for erosion hazard along the eastern edge of the property according to King County iMap.

There are four (4) trees, lettered A to D, on adjacent properties with overhanging canopies. These trees should be retained and protected throughout the project.

The site is proposed to be divided into two lots. The attached table of trees show which tree is located on each of the proposed lots.

Based on the latest proposed plans provided to us, as well as conversations with the developer, nine (9) trees on Lot 1 and fourteen (14) trees on Lot 2 are proposed for removal. Five (5) trees were previously planned for retention however have been granted removal by the City due to being low value trees (16, 17, 18, 19, 21).

Trees 29 and 30 are currently shown on the site plan as removed; however, based on the proposed plans it appears these trees can be retained. Careful protection will be required in order to safely retain tree 29, a large diameter pine tree. See recommendations below for more details.

Limits of Disturbance (LOD) are listed in the attached table of trees. These distances represent the number of feet, from the outer edge of the tree trunk, that should be protected to safely retain trees. Tree protection fencing shall be placed at the LOD unless otherwise approved by the City and project arborist. LOD's represent distances of 5, 6, or 8 times the subject trees trunk diameters depending on the proposed work and existing conditions.

## Recommendations

- Retain and protect trees on adjacent properties (Trees A, B, C, D) that overhang the site throughout the duration of the construction project.
- Update site plans to reflect proposed action for site trees (i.e. remove/retain) based on information provided in the Table of Trees dated October 11, 2019.
- Mark the limits of disturbance (LOD) for Trees 29 and 30. Install tree protection at this limit prior to beginning excavation. For any work conducted within the LOD of Tree 29 (12 feet from trunk) Tree Solutions shall be present to oversee potential root cuts.
- Install 6-foot-tall chain-link fencing at the LOD for all retained trees prior to beginning site work (Trees 9, 10, 11, 13, 20, 29, 30). See attached Table of Trees for limits of disturbances.
- Obtain all necessary permits prior to any tree removal and commencement of any construction activities (Trees 1 through 7, 8, 12, 14 through 19, 21 through 28).

## Assignment & Scope of Report

This report outlines the site inspection by Katherine Taylor and Jake Dancer of Tree Solutions Inc, on August 17, 2016. Included are observations and data collected at the above address site. David Yeh, the owner of the property, requested these services to acquire information for project planning.

We were asked to inventory all large trees at the above address, and provide a formal report including findings and management recommendations.

The tree size, species, health and structural condition, and related notes can be found in the attached [Table of Trees](#). A [Site Map](#) with tree locations is also attached. Photographs, Glossary, and References are below the written report. Limits of assignment can be found in [Appendix A](#). Methods can be found in [Appendix B](#). Additional assumptions and limiting conditions can be found in [Appendix C](#).

## Observations and Discussion

### The Site

The 27,655 square foot site is located on Mercer Island and includes a small side road that leads from SE 27<sup>th</sup> street, along the house numbered 7237, to the bulk of the property. There is one two-story building and a carport located onsite (see [Photo 1](#)).

According to the King County iMap, the eastern margin of the property is an Environmentally Sensitive Area (ESA) for erosion hazard (see [Figure 1](#)). There are 6 significant trees in this area.

On the southeastern end of the property there is a thick cover of invasive Himalayan blackberry (*Rubus bifrons*) growing around and into surrounding trees. On the western side of the property there is mature invasive ivy (*Hedera* sp.) growing up the trunks of trees.

### The Trees

Mercer Island classifies any conifer that is 6 feet or higher, and any deciduous tree that is 6 inches or greater diameter at standard height (DSH) as a “large tree.” They also identify any tree that is 36 inches or greater DSH can be nominated as a landmark tree by the landowner, but it is not required to do so.

The city maintains a register of landmark trees and landmark groves. The city arborist, John Kenney, confirmed that no landmark trees or groves are on this property.

There are 30 trees total onsite located throughout the property. Tree health and structure condition ranged from good to poor. Tree species found onsite include: western redcedar (*Thuja plicata*), common hawthorn (*Crataegus monogyna*), Oregon ash (*Fraxinus latifolia*), Frasier photinia (*Photinia x fraseri*), apple (*Malus domestica*), willow (*Salix* sp.), Arizona cypress (*Cupressus glabra*), ponderosa pine (*Pinus ponderosa*), plum (*Prunus domestica*), privet (*Ligustrum* sp.), bigleaf maple (*Acer macrophyllum*), rocky mountain juniper (*Juniperus scopulorum*), European mountain ash (*Sorbus aucuparia*), Douglas-fir (*Pseudotsuga menziesii*), and cherry plum (*Prunus cerasifera*).

The ESA for erosion hazard on the east side of the property includes trees 16, 17, 19, 20, 29, and 30. This area is designated by King County to define areas where soils may experience severe soil erosion (see [Figure 1](#)).

Along the west side of the property, trees 3 through 11 have invasive ivy growing at the base or into the canopy. If these trees are to be retained it would be advisable to remove the ivy for longterm health of the trees. In this group, tree 5, an Oregon ash is in fair health and poor structural condition. This tree has a significant lean which appears to be from a previous partial failure. This tree is not a viable long-term tree for the site.

Trees 19 and 22 are both European mountain ash trees in poor health and structural condition. Both trees have multiple stems and extensive decay at the base. These are not good long-term trees for the site.

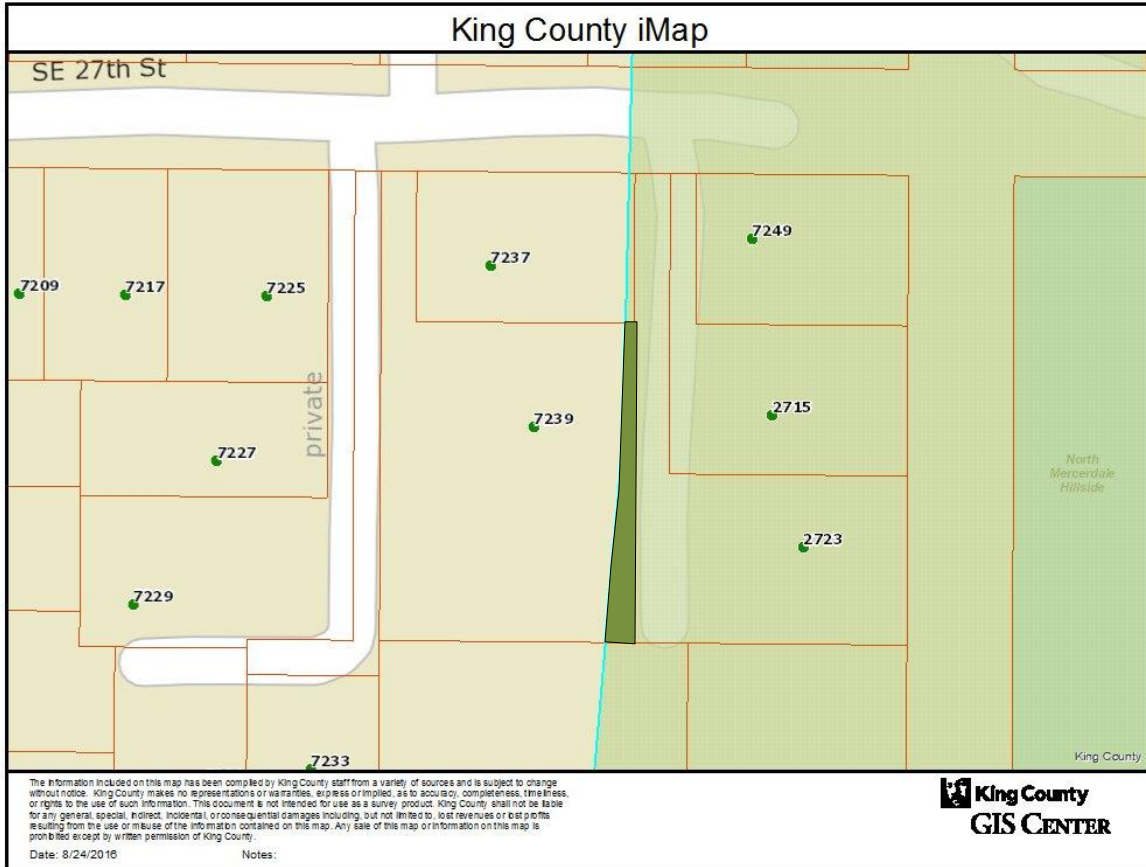
There are several large coniferous trees in good health and structural condition onsite, including trees 13, 20, and 23 through 29. The DSH of these trees range from 18.4 inches to 35.8 inches and species include western redcedar, Douglas-fir, and ponderosa pine (see [Photo 1](#)). Trees 13, 20, and 29 are currently proposed for retention throughout this project.

Tree 20 appears to fall on the property line meaning that the tree is shared with the adjacent property owner.

There are 4 trees, lettered A through D, on adjacent properties with canopies overhanging the site. Trees A and B are located adjacent the entry driveway and with DSHs respectively of 15.8 inches and 16.8 inches. Trees C and D are on the adjacent property to the south and are a scarlet oak (*Quercus coccinea*) with a DSH greater than 25 inches, and a western redcedar with a DSH of approximately 20 inches. The trees are in good condition and should be retained and protected throughout development.

## Site Map and Plans

Figure 1: Site Map with erosion hazard area outlined (The dark green shaded area shows property that is inside the erosion hazard area).



## Photographs



**Photo 1:** A view of some of the large coniferous trees and the two structures found onsite

## Glossary

**ANSI A300:** American National Standards Institute (ANSI) standards for tree care

**basic assessment:** detailed visual inspection of a tree and surrounding site that may include the use of simple tools. It requires that a tree risk assessor walk completely around the tree trunk looking at the site, aboveground roots, trunk, and branches (ISA 2013)

**chlorotic:** foliage with whitish or yellowish discoloration caused by lack of chlorophyll

**codominant stems:** stems or branches of nearly equal diameter, often weakly attached (Matheny *et al.* 1998)

**cracks:** defects in trees that, if severe, may pose a risk of tree or branch failure (Lilly 2001)

**crown:** the aboveground portions of a tree (Lilly 2001)

**crown cleaning:** selective pruning to remove one or more of the following parts: dead, diseased, and/or broken branches (ANSI A300)

**DBH or DSH:** diameter at breast or standard height; the diameter of the trunk measured 54 inches (4.5 feet) above grade (Matheny *et al.* 1998)

**deciduous:** tree or other plant that loses its leaves sometime during the year and stays leafless generally during the cold season (Lilly 2001)

**evergreen:** tree or plant that keeps its needles or leaves year-round; this means for more than one growing season (Lilly 2001)

**force:** any action or influence causing an object to accelerate/decelerate. Calculated as mass multiplied by acceleration. Is a vector quantity (ISA 2013)

**ISA:** International Society of Arboriculture

**included bark:** bark that becomes embedded in a crotch between branch and trunk or between codominant stems and causes a weak structure (Lilly 2001)

**lateral:** secondary or subordinate branch (Lilly 2001)

**level(s) of assessment:** categorization of the breadth and depth of analysis used in an assessment (ISA 2013)

**limited visual assessment:** a visual assessment from a specified perspective such as foot, vehicle, or aerial (airborne) patrol of an individual tree or a population of trees near specified targets to identify specified conditions or obvious defects (ISA 2013)

**mitigation:** process of reducing damages or risk (Lilly 2001)

**moment:** a turning, bending, or twisting force exerted by a lever, defined as the force (acting perpendicular to the lever) multiplied by the length of the lever (ISA 2013)

**monitoring:** keeping a close watch; performing regular checks or inspections (Lilly 2001)

**owner/manager:** the person or entity responsible for tree management or the controlling authority that regulates tree management (ISA 2013)

**pathogen:** causal agent of disease (Lilly 2001)

**phototropic growth:** growth toward light source or stimulant (Harris *et al.* 1999)

**retain and monitor:** the recommendation to keep a tree and conduct follow-up assessments after a stated inspection interval (ISA 2013)

**structural defects:** flaws, decay, or other faults in the trunk, branches, or root collar of a tree, which may lead to failure (Lilly 2001)

**Visual Tree Assessment (VTA):** method of evaluating structural defects and stability in trees by noting the pattern of growth. Developed by Claus Mattheck (Harris, *et al.* 1999)

## References

ANSI A300 (Part 1) – 2008 American National Standards Institute. American National Standard for Tree Care Operations: Tree, Shrub, and Other Woody Plant Maintenance: Standard Practices (Pruning). New York: Tree Care Industry Association, 2008.

Dunster & Associates Environmental Consultants Ltd. Assessing Trees in Urban Areas and the Urban-Rural Interface, US Release 1.0. Silverton: Pacific Northwest Chapter ISA, 2006.

Lilly, Sharon. Arborists' Certification Study Guide. Champaign, IL: The International Society of Arboriculture, 2001.

Matheny, Nelda and James R. Clark. Trees and Development: A Technical Guide to Preservation of Trees During Land Development. Champaign, IL: International Society of Arboriculture, 1998.

Mattheck, Claus and Helge Breloer, The Body Language of Trees.: A Handbook for Failure Analysis. London: HMSO, 1994.

## **Appendix A - Limits of Assignment**

Unless stated otherwise: 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, climbing, or coring unless explicitly specified. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.

Tree Solutions did not review any reports or perform any tests related to the soil located on the subject property unless outlined in the scope of services. Tree Solutions staff are not and do not claim to be soils experts. An independent inventory and evaluation of the soils on site should be obtained by a qualified professional if an additional understanding of site characteristics is needed to make an informed decision.

## Appendix B - Methods

I evaluated tree health and structure utilizing **visual tree assessment (VTA)** methods. The basis behind VTA is the identification of symptoms, which trees produce in reaction to weak spots or areas of mechanical stress. Trees react to mechanical and physiological stresses by growing more vigorously to re-enforce weak areas, while depriving less stressed parts (Mattheck & Breloer 1994). Understanding uniform stress allows me to make informed judgments about the condition of a tree.

I measured the diameter of each tree at 54 inches above grade, **diameter at standard height (DSH)**. Where a tree had multiple stems, I measured each stem individually at standard height and determined a single-stem equivalent diameter by using the method outlined in the Guide for Plant Appraisal, 9<sup>th</sup> Edition, published by the Council of Tree and Landscape Appraisers.

Tree health considers crown indicators including foliar density, size, color, stem shoot extensions, decay, and damage. We have adapted our ratings based on the Purdue University Extension Formula Values for health condition. These values are a general representation used to assist in arborists in assigning ratings. Tree health needs to be evaluated on an individual basis and may not always fall entirely into a single category; however, a single condition rating must be assigned.

Excellent - Perfect specimen with excellent form and vigor, well-balanced crown. Normal to exceeding shoot length on new growth. Leaf size and color normal. Trunk is sound and solid. Root zone undisturbed. No apparent pest problems. Long safe useful life expectancy for the species.

Good - Imperfect canopy density in few parts of the tree, up to 10% of the canopy. Normal to less than  $\frac{3}{4}$  typical growth rate of shoots and minor deficiency in typical leaf development. Few pest issues or damage, and if they exist, they are controllable or tree is reacting appropriately. Normal branch and stem development with healthy growth. Safe useful life expectancy typical for the species.

Fair - Crown decline and dieback up to 30% of the canopy. Leaf color is somewhat chlorotic/necrotic with smaller leaves and “off” coloration. Shoot extensions indicate some stunting and stressed growing conditions. Stress cone crop clearly visible. Obvious signs of pest problems contributing to lesser condition, control might be possible. Some decay areas found in main stem and branches. Below average safe useful life expectancy

Poor - Lacking full crown, more than 50% decline and dieback, especially affecting larger branches. Stunting of shoots is obvious with little evidence of growth on smaller stems. Leaf size and color reveals overall stress in the plant. Insect or disease infestation may be severe and uncontrollable. Extensive decay or hollows in branches and trunk. Short safe useful life expectancy.

*Tree health condition ratings have been adapted from the Purdue University Extension bulletin FNR-473-W - Tree Appraisal.*

## Appendix C - Assumptions & Limiting Conditions

1. Consultant assumes that any legal description provided to Consultant is correct and that title to property is good and marketable. Consultant assumes no responsibility for legal matters. Consultant assumes all property appraised or evaluated is free and clear and is under responsible ownership and competent management.
2. Consultant assumes that the property and its use do not violate applicable codes, ordinances, statutes or regulations.
3. Although Consultant has taken care to obtain all information from reliable sources and to verify the data insofar as possible, Consultant does not guarantee and is not responsible for the accuracy of information provided by others.
4. Client may not require Consultant to testify or attend court by reason of any report unless mutually satisfactory contractual arrangements are made, including payment of an additional fee for such Services as described in the Consulting Arborist Agreement.
5. Unless otherwise required by law, possession of this report does not imply right of publication or use for any purpose by any person other than the person to whom it is addressed, without the prior express written consent of the Consultant.
6. Unless otherwise required by law, no part of this report shall be conveyed by any person, including the Client, the public through advertising, public relations, news, sales or other media without the Consultant's prior express written consent.
7. 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 specific value, a stipulated result, the occurrence of a subsequent event or upon any finding to be reported.
8. All photographs included in this report were taken by Tree Solutions Inc. during the documented site visit, unless otherwise noted.
9. Sketches, drawings and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by Consultant as to the sufficiency or accuracy of the information.
10. Unless otherwise agreed, (1) information contained in this report covers only the items examined and reflects the condition of the those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, climbing, or coring. Consultant makes no warranty or guarantee, express or implied, that the problems or deficiencies of the plans or property in question may not arise in the future.
11. Loss or alteration of any part of this Agreement invalidates the entire report.



**Table of Trees**  
7239 SE 27th Street, Mercer Island  
Seattle, WA 98040

Date of Inventory: August 17, 2016

Table Prepared: October 11, 2019

Tree ID	Scientific Name	Common Name	DSH (inches)	Multistem Diameter	Health Condition	Structural Condition	Dripline Radius (feet)	Proposed Action	Remove/Retain	Limits of Disturbance (ft)	Notes
<b>Lot 1</b>											
1	<i>Malus domestica</i>	Apple	13		Good	Fair	13	Remove for utilities/ access	Remove	-	A lot of pruning wounds, reduction and heading cuts
2	<i>Photinia x fraseri</i>	Fraser photinia	17.5	17.5	Poor	Fair	12	Remove for demolition	Remove	-	Canopy decline, leaf spots, contorted leaves, powdery mildew
20	<i>Pseudotsuga menziesii</i>	Douglas-fir	31		Good	Good	24	Retain	Retain	21	Heavy ivy on trunk - remove,
22	<i>Sorbus aucuparia</i>	European mountain ash	26.4		Fair	Poor	16	Remove due to health and structure	Remove	-	Several stems, extensive decay at base, measured at narrowest point below codominant stems, poor attachments
23	<i>Thuja plicata</i>	Western redcedar	23.4		Good	Good	19	Remove for new house	Remove	-	Shared canopy with 24
24	<i>Thuja plicata</i>	Western redcedar	25.5		Good	Good	19	Remove for new house	Remove	-	Directly adjacent to 23
25	<i>Thuja plicata</i>	Western redcedar	21.5		Good	Good	16	Remove for new house	Remove	-	2 ft from 24
26	<i>Thuja plicata</i>	Western redcedar	29.4		Good	Good	24	Remove for new house	Remove	-	Ivy up trunk
27	<i>Pseudotsuga menziesii</i>	Douglas-fir	18.4		Good	Good	23	Remove for new house	Remove	-	Small hangers in tree



**Table of Trees**  
7239 SE 27th Street, Mercer Island  
Seattle, WA 98040

Date of Inventory: August 17, 2016

Table Prepared: October 11, 2019

Tree ID	Scientific Name	Common Name	DSH (inches)	Multistem Diameter	Health Condition	Structural Condition	Dripline Radius (feet)	Proposed Action	Remove/Retain	Limits of Disturbance (ft)	Notes
28	<i>Pseudotsuga menziesii</i>	<i>Douglas-fir</i>	24.5		Good	Good	23	Remove for new house	Remove	-	Surface roots
29	<i>Pinus ponderosa</i>	<i>Ponderosa pine</i>	28.5		Good	Good	15	Retain	Retain	12	
30	<i>Prunus cerasifera</i>	<i>Cherry plum</i>	3.5, 3.5, 2, 2, 2, 4.4, 4.7, 4, 2, 2, 3.6, 6.3, 2, 5.4, 6.2,	15	Good	Fair	15	Retain	Retain	8	Stump sprout
<b>Lot 2</b>											
3	<i>Fraxinus latifolia</i>	<i>Oregon ash</i>	10.8	10.8	Fair	Fair	15	Remove for driveway/utilities	Remove	-	Ivy on stem, symptoms of anthracnose in canopy
4	<i>Fraxinus latifolia</i>	<i>Oregon ash</i>	8		Fair	Fair	12	Remove for driveway/utilities	Remove	-	Diameter estimated, heavy lean, similar to tree 3
5	<i>Fraxinus latifolia</i>	<i>Oregon ash</i>	8.7		Fair	Poor	15	Remove due to health and structure	Remove	-	Not shown on site plan, partially failed, heavy ivy, heavy lean
6	<i>Thuja plicata</i>	<i>Western redcedar</i>	14		Good	Fair	10	Remove for driveway	Remove	-	Ivy at base, phototropic, swept base
7	<i>Crataegus monogyna</i>	<i>Common hawthorn</i>	9.8		Fair	Fair	15	Remove for driveway	Remove	-	Measured at narrowest point below codominant union, eastward lean, heavy ivy



**Table of Trees**  
7239 SE 27th Street, Mercer Island  
Seattle, WA 98040

Date of Inventory: August 17, 2016

Table Prepared: October 11, 2019

Tree ID	Scientific Name	Common Name	DSH (inches)	Multistem Diameter	Health Condition	Structural Condition	Dripline Radius (feet)	Proposed Action	Remove/Retain	Limits of Disturbance (ft)	Notes
8	<i>Crataegus monogyna</i>	Common hawthorn	7		Fair	Fair	10	Remove due to health and structure	Remove	-	Heavy ivy, phototropic lean
9	<i>Thuja plicata</i>	Western redcedar	5.7		Good	Good	9	Retain	Retain	4	Suppressed, canopy asymmetrical, ivy
10	<i>Thuja plicata</i>	Western redcedar	13.8		Good	Fair	10	Retain	Retain	9	Mature ivy up trunk
11	<i>Salix sp.</i>	Willow	7.4, 6.7, 6.7	12	Good	Fair	20	Retain	Retain	8	3 codominant stems, wound at base. English laurel at base girdling stem
12	<i>Cupressus glabra</i>	Arizona cypress	10.6		Good	Fair	9	Remove for new house	Remove	-	Codominant leaders, some dieback
13	<i>Pinus ponderosa</i>	Ponderosa pine	35.8		Good	Good	25	Retain	Retain	15	Blackberry at base
14	<i>Prunus domestica</i>	Common plum	11.5		Good	Good	14	Remove for new house	Remove	-	Ivy on stem, leaning
15	<i>Ligustrum sp.</i>	Privet	5.1, 2.5, 2.5, 3, 3.5	7.7	Good	Good	15	Remove for construction access	Remove	-	
16	<i>Acer macrophyllum</i>	Bigleaf maple	3.5, 3, 3, 2, 2, 3, 4, 7	10.6	Good	Good	18	Remove	Remove	-	Update plans to show as removed, stump sprout
17	<i>Crataegus monogyna</i>	Common hawthorn	13.3		Good	Good	15	Remove	Remove	-	Update plans to show as removed
18	<i>Juniperus scopulorum</i>	Rocky Mountain juniper	3, 3, 1, 4	5.9	Good	Fair	6	Remove	Remove	-	Update plans to show as removed



**Table of Trees**  
7239 SE 27th Street, Mercer Island  
Seattle, WA 98040

Date of Inventory: August 17, 2016

Table Prepared: October 11, 2019

Tree ID	Scientific Name	Common Name	DSH (inches)	Multistem Diameter	Health Condition	Structural Condition	Dripline Radius (feet)	Proposed Action	Remove/Retain	Limits of Disturbance (ft)	Notes
19	<i>Sorbus aucuparia</i>	European mountain ash	8.3, 9, 7.8, 7, 7	17.5	Poor	Poor	14	Remove due to health and structure	Remove	-	Update site plans to show as removed, extensive decay at base, tearouts, thin crown
21	<i>Pseudotsuga menziesii</i>	Douglas-fir	3.7		Good	Good	9	Remove	Remove	-	Update site plans to show as removed, one sided to south
<b>Off-site Trees with Canopy Overhanging Property</b>											
A	<i>Pinus parviflora</i>	Japanese red pine	15.8		Good	Fair	22	Retain and protect	Retain	7	leaders, pruned for utilities, nails in trunk, pitch flow around base, roots lifting pavement
B	<i>Thuja plicata</i>	Western redcedar	16.8		Good	Fair	10	Retain and protect	Retain	7	Codominant stems at 7 ft, long seam of included bark, narrowly attached stems
C	<i>Thuja plicata</i>	Western redcedar	20		Good	Good	15	Retain and protect	Retain	13	DSH estimated
D	<i>Quercus coccinea</i>	Scarlet oak	25		Good	Good	25	Retain and protect	Retain	17	DSH estimated

Additional notes:

*DSH (Diameter at Standard Height) is measured 4.5 feet above grade.*

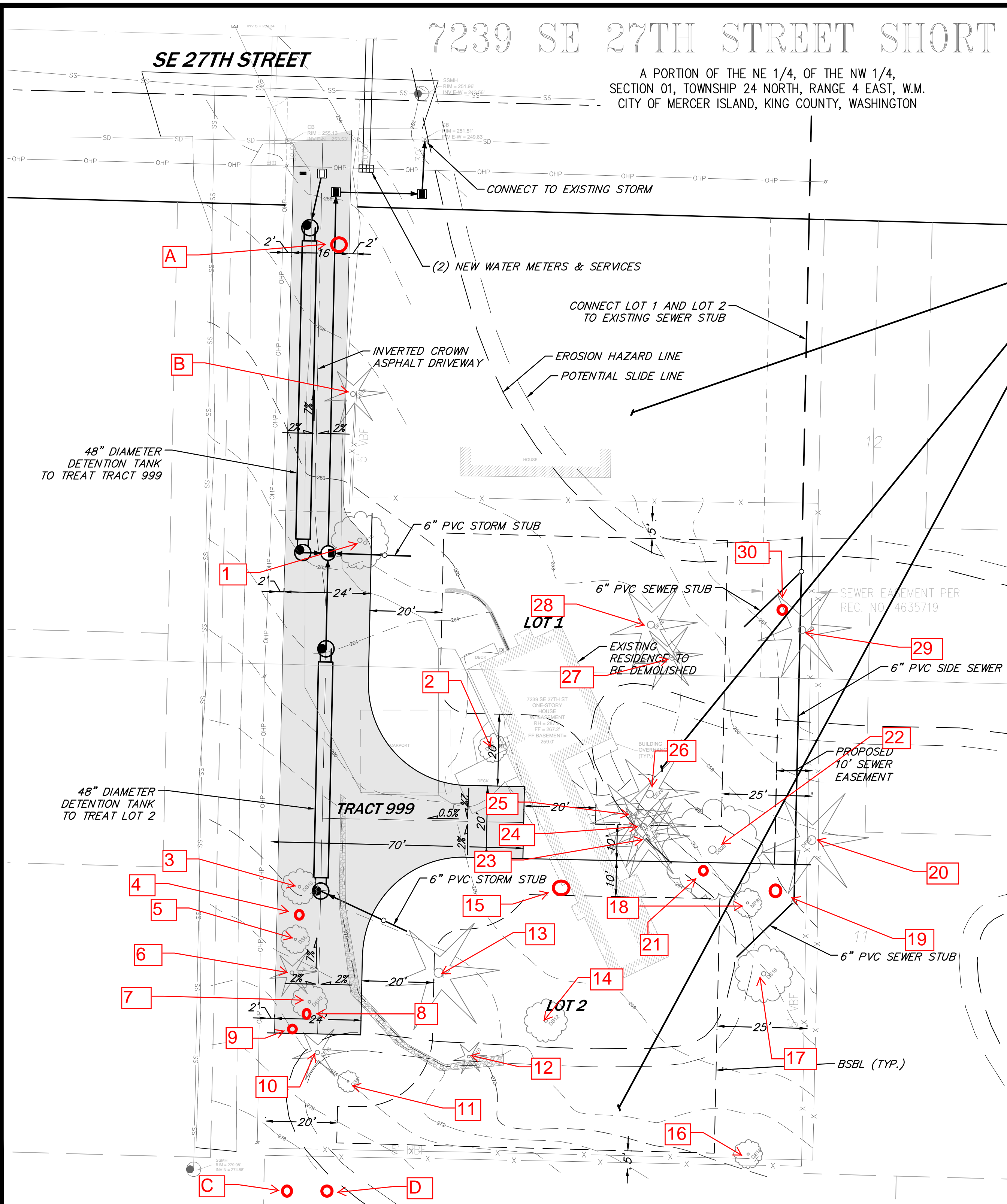
*Multi-stem trees are noted, and a single stem equivalent is calculated using the method defined in the Guide for Plant Appraisal, 9th Edition*

*Drip line is measured from the center of the tree to the outermost extent of the canopy*

# 7239 SE 27TH STREET SHORT PLAT

A PORTION OF THE NE 1/4, OF THE NW 1/4,  
SECTION 01, TOWNSHIP 24 NORTH, RANGE 4 EAST, W.M.  
CITY OF MERCER ISLAND, KING COUNTY, WASHINGTON

Arborist Map  
dated 2016



THESE 3 LOTS ARE IN THE EROSION/SLIDE HAZARD AREA. WE NEED TO DETERMINE IF THESE LOTS CAN BE EXCLUDED FROM THOSE HAZARD ZONES

**VERTICAL DATUM**

NAVD 88

**BENCHMARK**

CONCRETE MONUMENT IN CASE AT THE INTERSECTION OF SE 127TH STREET AND 72ND AVENUE SE.

ELEVATION = 259.038

**BASIS OF BEARINGS**

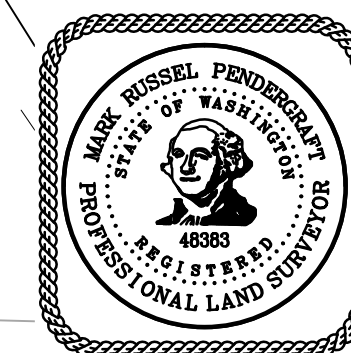
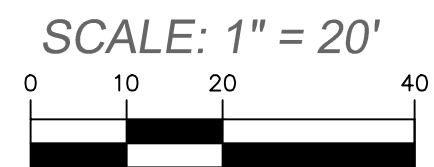
N01°16'24"E BETWEEN THE MONUMENTS FOUND ALONG 72ND AVENUE SE AT THE INTERSECTIONS OF SE 27TH STREET AND SE 32ND STREET, PER REFERENCE 1.

**REFERENCES**

- RECORD OF SURVEY AS RECORDED IN VOLUME 341 OF SURVEYS, PAGE 280, UNDER RECORDING NUMBER 20160419900010.
- MCGILVRA'S ISLAND ADDITION AS RECORDED IN VOLUME 42 OF PLATS, PAGE 58, UNDER RECORDING NUMBER 520803.

**NOTES**

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- THIS SURVEY REPRESENTS VISIBLE PHYSICAL IMPROVEMENT CONDITIONS EXISTING ON MAY 31, 2016. ALL SURVEY CONTROL INDICATED AS "FOUND" WAS RECOVERED FOR THIS PROJECT IN MAY, 2016.
- PROPERTY AREA = 28,759± SQUARE FEET (0.6602± ACRES).
- ALL DISTANCES ARE IN FEET.
- THIS IS A FIELD TRAVERSE SURVEY. A SOKKIA FIVE SECOND COMBINED ELECTRONIC TOTAL STATION WAS USED TO MEASURE THE ANGULAR AND DISTANCE RELATIONSHIPS BETWEEN THE CONTROLLING MONUMENTATION AS SHOWN. CLOSURE RATIOS OF THE TRAVERSE MET OR EXCEEDED THOSE SPECIFIED IN WAC 332-130-090. ALL MEASURING INSTRUMENTS AND EQUIPMENT ARE MAINTAINED IN ADJUSTMENT ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
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14711 N.E. 29th Pl. Suite 101  
Bellevue, Washington 98007  
425.885.7877 Fax 425.885.7963

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