Tree Solutions Inc
Consulting Arborists

Project No. TS - 8298

Arborist Report

To:	JayMarc Homes c/o Alex Spahman
Site:	9619 SE 34th St, Mercer Island, WA 98040
Re:	Tree Inventory and Assessment
Date:	June 24, 2022
Project Arborist:	Tyler Bunton ISA Certified Arborist #PN-8715A ISA Qualified Tree Risk Assessor
Reviewed By:	Haley Galbraith ISA Board Certified Master Arborist #PN-7512BM Municipal Specialist; ISA Qualified Tree Risk Assessor
Referenced Documents:	Site Plan, Sheet A2.1 (JayMarc Homes, 6/10/2022)
Attached:	Table of Trees Site Plan, Sheet A2.1 (JayMarc Homes, 6/10/2022)

Summary

I inventoried and assessed 28 trees at the above referenced property. Based on the Mercer Island City Code (MICC) large (regulated) and exceptional trees are required to be assessed for development projects. I tagged each on-site tree with an aluminum tree tag. Tree identifier corresponds to the number on each tag.

Of the trees I assessed, one met the exceptional tree criteria by size outlined in the MICC.

I found one tree grove on-site. Trees that are part of a grove are also considered exceptional trees, unless they also meet the definition of a hazardous tree.

There were three trees on adjacent property that required documentation. Trees on neighboring properties were documented if they appeared to be greater than 10-inches diameter or exceptional, and their driplines extended over the property line. All trees on adjacent properties were estimated from the subject site or public property such as the adjacent right-of-way. I used alphabetical tree identifiers for trees off-site.

Assignment and Scope of Work

This report outlines the site inspection by Tyler Bunton of Tree Solutions Inc., on February 8, 2022. I was asked to visit the site and provide a formal report including findings and management recommendations. Alex Spahman, of JayMarc Homes, requested these services for project planning purposes.

Observations and Discussion

Site

This 18,720 square-foot site is located on SE 34th St of Mercer Island. According to the City of Mercer Island GIS map, the entire site is located within potential slide and seismic hazard areas.

The entire site is maintained with turfgrass and landscape beds. The landscape beds have been cleared of leaves every year for many years, which has resulted in soil mining and exposed tree roots.

Trees

Twenty-eight large trees were tagged and assessed on-site, one of which, tree 219, met the criteria to be classified as an exceptional tree by size. I also identified one tree grove on-site consisting of 15 site trees (trees 206-220) and two off-site trees (trees A and B).

Trees 201, 217, and 218 are all European white birch (*Betula pendula*) trees with upper canopy dieback, which is often a symptom of bronze birch borer (*Agrilus anxius*).

Tree 214 is a flowering plum (*Prunus cerasifera*) in good health and poor structural condition located centrally on the southern property line. This tree has split at the base between two codominant trunks. Currently the base appears stable, however, the failure has resulted in the canopy of the tree nearly touching the ground when in leaf.

Tree 219 is an exceptional-by-size western redcedar (*Thuja plicata*) tree in fair health and structural condition with a diameter at standard height (DSH) of 40.1 inches. At the time of my assessment this tree sounded hollow from the base to approximately 6 feet with a bulge in the trunk at approximately 5 feet above the base. South of the fence on the southern property line there is approximately 3 feet of fill. This fill was likely pushed against the fence when the adjacent property to the south installed their sport court in 2008.

Tree 220 is a black locust (*Robinia pseudoacacia*) tree with a DSH of 15 inches in good health and fair structural condition. This tree appears to have partially failed at the base when it was approximately 25 feet tall; above 25 feet the trunk grows vertically.

Tree 226 is a Lawson cypress (*Chamaecyparis lawsoniana*) tree with a DSH of 14 inches in good health and fair structural condition. This tree has a swept base and corrected lean to the northeast. There are several large surface roots from this tree extending approximately 35 feet south into the yard. An adjacent tree recently failed to the north impacting the power lines and the neighbors garage across the street.

Based on the direction of lean of tree 226, the most likely target of impact in the event of failure at the base would be the power lines. With a possible likelihood of failure, a high likelihood of impacting the power lines, and significant disruption/damage, this tree presents a moderate level of risk to the power lines, and an overall moderate level of risk to surrounding targets.

I have attached the Site Plan, Sheet A2.1 (JayMarc Homes, 6/10/2022) to serve as the site map, and a table of trees that has detailed information about each of the trees I assessed.

Discussion—Construction Impacts

No ground disturbance is allowed within the minimum limits of disturbance (MLOD), defined as five-times DSH, or 6 feet, whichever is greater. Development work within the MLOD has high a potential for mechanical damage to structural roots and may destabilize trees.

Development work may occur within the recommended limits of disturbance (RLOD), defined as eight times DSH or greater, depending on individual tree species and/or condition. All work proposed within the RLOD must be reviewed and approved by the project arborist and the City of Mercer Island. The RLOD for each retained tree is listed in the attached table of trees. The RLOD for western redcedar trees and Lawson cypress trees has been increased to ten times trunk diameter because these species are relatively intolerant of construction disturbances.

Nine of the 28 trees on-site are proposed for removal, one of which (tree 220) is part of an exceptional grove, resulting in retention of 68 percent of site trees. Thirty percent of trees greater than 10-inches diameter or otherwise meeting the definition of a large tree are required for retention over a rolling five year period (MICC 19.10.060.A.2.a).

MICC 19.10.070 requires that all trees removed with a tree permit be replaced according to 19.10.070.A, or a fee-in-lieu paid. Twenty-two replacement trees are required to be planted for the removal of the nine site trees. Based on the number of trees retained and the limited availability of replacement planting area after site development, it is possible that the city will approve fee-in-lieu payment for a portion of the replacement trees.

Trees 205 and 210 have work proposed within the RLOD. The amount of work planned within the RLOD of these two trees appears to be minimal and in my opinion, should not negatively impact tree health and stability.

Tree protection fencing may be moved for the demolition of existing structures. Demolition within the tree protection areas should occur carefully to miniminize disturbance to soils and trees. Once existing structures are removed tree protection fencing shall be immediately replaced at the locations indicated on Site Plan, Sheet A2.1 (JayMarc Homes, 6/10/2022).

Recommendations

- Perform advanced testing on tree 219 to determine the presence of internal decay.
- Obtain all necessary permits and approval from the city prior to commencement of site work.
- Update site plans to include limits of disturbance.
- Demolish existing structures within tree protection areas carefully, replacing tree protection fencing immediately after structures are removed.
- Install tree protection fencing as indicated on Site Plan, Sheet A2.1 (JayMarc Homes, 6/10/2022).
- All pruning should be conducted by an ISA certified arborist following current ANSI A300 standards.
- Ensure tree protection standards comply with MICC 19.10.080 and ISA Best Management Practices (BMP) – Managing Trees During Construction.

Respectfully submitted,

Tyler Bunton,
Consulting Arborist

Appendix A **Glossary**

DBH or DSH: diameter at breast or standard height; the diameter of the trunk measured 54 inches (4.5 feet) above grade (Council of Tree and Landscape Appraisers 2019)

tree grove: a group of eight or more trees each 10 inches or more in diameter that form a continuous canopy. Trees that are part of a grove shall also be considered exceptional trees, unless they also meet the definition of a hazardous tree. (MICC 19.16.010)

exceptional tree: a tree measuring 36 inches DSH or greater or with a diameter that is equal to or greater than the diameter listed in the Exceptional Tree Table (MICC 19.16.010)

ISA: International Society of Arboriculture

large tree (regulated): A tree measuring 10 inches or greater DSH (MICC 19.16.010)

MLOD (Minimum Limits of Disturbance) Minimum Limits of Disturbance: represents a distance five (5) times that of the trunk or 6-feet, whichever is greater, and is the minimum distance from a trunk that a structural root can be cut to maintain tree stability.

RLOD (Recommend Limits of Disturbance): As outlined in ISA Best Management Practices: Managing Trees During Construction, this is calculated as a radial distance 8 times the trunk diameter or greater depending on tree species and/or condition. For the purpose of this report, this represents the critical root zone (CRZ) or tree protection zone (TPZ).

Visual Tree Assessment (VTA): method of evaluating structural defects and stability in trees by noting the pattern of growth (Mattheck & Breloer 1994)

Appendix B **References**

Accredited Standards Committee A300 (ASC 300). ANSI A300 (Part 1) Tree, Shrub, and Other Woody Plant Management – Standard Practices (Pruning). Londonderry: Tree Care Industry Association, 2017.

Council of Tree and Landscape Appraisers, Guide for Plant Appraisal, 10th Edition Second Printing. Atlanta, GA: The International Society of Arboriculture (ISA), 2019.

Fite, Kelby and Dr. E. Thomas Smiley. Best Management Practices: Managing Trees During Construction, Second Edition. Champaign, IL: International Society of Arboriculture (ISA), 2016.

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

Mercer Island Municipal Code (MICC) 19.16.010. Definitions

Mercer Island Municipal Code (MICC) 19.10. Trees

Appendix C **Photographs**

Photograph 1. The northern trunk of tree 214 leaning to the south.

Photograph 2. Photo taken looking over the fence on the southern property line. The south trunk of tree 214 is indicated by the red arrow.

Photograph 3. The base of tree 219 in relation to the fence on the southern property line. The red line indicates the approximate level of fill against the fence to the south.

Photograph 4. The base and trunk of tree 219 with the area of trunk bulge circled in red.

Photograph 5. The partially failed base of tree 220 with the uplifted side circled in red.

Photograph 6. The base of tree 226 showing the swept base and lower trunk lean.

Photograph 7. Photo of tree 226 taken in the direction of the lower trunk lean. The tree targets immediately to the right of the garage in the photo. Three phase power lines are immediately out of frame above the photo.

Appendix D **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 E **Methods**

Measuring

I measured the diameter of each tree at 54 inches above grade, diameter at standard height (DSH). If 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, 10th Edition Second Printing published by the Council of Tree and Landscape Appraisers. A tree is regulated based on this single-stem equivalent diameter value. Because this value is calculated in the office following field work, some unregulated trees may be included in our data set. These trees are included in the tree table for informational purposes only and not factored into tree totals discussed in this report.

Tagging

I tagged each tree with a circular aluminum tag at eye level. I assigned each tree a numerical identifier on our map and in our tree table, corresponding to this tree tag. I used alphabetical identifiers for trees off-site.

Evaluating

I evaluated tree health and structure utilizing visual tree assessment (VTA) methods. The basis behind VTA is the identification of symptoms, which the tree produces in reaction to a weak spot or area of mechanical stress. A tree reacts to mechanical and physiological stresses by growing more vigorously to re-enforce weak areas, while depriving less stressed parts. An understanding of the uniform stress allows the arborist to make informed judgments about the condition of a tree.

Rating

When rating tree health, I took into consideration crown indicators such as foliar density, size, color, stem and shoot extensions. When rating tree structure, I evaluated the tree for form and structural defects, including past damage and decay. Tree Solutions has adapted our ratings based on the Purdue University Extension formula values for health condition (*Purdue University Extension bulletin FNR-473-W - Tree Appraisal*). These values are a general representation used to assist arborists in assigning ratings.

Health

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 ¾ 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.

Structure

Excellent - Root plate undisturbed and clear of any obstructions. Trunk flare has normal development. No visible trunk defects or cavities. Branch spacing/structure and attachments are free of any defects.

Good - Root plate appears normal, with only minor damage. Possible signs of root dysfunction around trunk flare. Minor trunk defects from previous injury, with good closure and less than 25% of bark section missing. Good branch habit; minor dieback with some signs of previous pruning. Codominant stem formation may be present, requiring minor corrections.

Fair - Root plate reveals previous damage or disturbance. Dysfunctional roots may be visible around the main stem. Evidence of trunk damage or cavities, with decay or defects present and less than 30% of bark sections missing on trunk. Co-dominant stems are present. Branching habit and attachments indicate poor pruning or damage, which requires moderate corrections.

Poor - Root plate disturbance and defects indicate major damage, with girdling roots around the trunk flare. Trunk reveals more than 50% of bark section missing. Branch structure has poor attachments, with several structurally important branches dead or broken. Canopy reveals signs of damage or previous topping or lion-tailing, with major corrective action required.

Appendix F **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 Zone (TPZ):** The TPZ is the recommended limits of disturbance listed in the Table of Trees produced by Tree Solutions Inc. In some cases, the TPZ may extend outside tree protection fencing. Work within the TPZ must be approved by the project arborist.
3. **Tree Protection Fencing:** Tree protection shall consist of 6-foot chain-link fencing installed at the TPZ 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, TPZ fencing may be placed at the edge of existing hardscape within the TPZ to allow for staging and traffic.
    c. Where work is planned within the TPZ, install fencing at edge of TPZ and move to limits of disturbance at the time that the work within the TPZ is planned to occur. This ensures that work within the TPZ 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 TPZ, 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 will note: "Tree Protection Area – Do Not Enter: Entry into the tree protection area is prohibited unless authorized by the project manager." Signage shall include the contact information for the project manager and instructions for gaining access to the area.
6. **Filter / Silt Fencing:** Filter / silt fencing within the TPZ 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 within the TPZ, including where the TPZ extends beyond the tree protection fencing.
8. **Soil Protection:** No parking, foot traffic, materials storage, or dumping (including excavated soils) are allowed within the TPZ. Heavy machinery shall remain outside of the TPZ. 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 applying 3/4-inch plywood over 6 to 8 inches of wood chip mulch or use of AlturnaMats® (or equivalent product approved by the project arborist). Retain existing paved surfaces within or at the edge of the TPZ for as long as possible.
9. **Soil Remediation:** Soil compacted within the TPZ 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 TPZ, 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 five 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 TPZ to prevent compaction and evaporation. TPZ 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 TPZ 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 TPZ.
13. **Fill:** Limit fill to 1 foot of uncompacted well-draining soil, within the TPZ 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 plastic 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 TPZ. Where equipment must traverse the newly exposed soil, apply soil protection as described in section 8. Replace fencing at edge of TPZ 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 TPZ 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 TPZ 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 TPZ 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 onsite and available for use during work in the TPZ:
    - **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**

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Table of Trees

9619 SE 34th St, Mercer Island, WA

Arborist: TB
Date of Inventory: 2/8/2022
Table Prepared: 6/24/2022

DSH (Diameter at Standard Height) is measured 4.5 feet above grade, or as specified in the Guide for Plant Appraisal, 10th Edition , published by the Council of Tree and Landscape Appraisers.
DSH for multi-stem trees are noted as a single stem equivalent, which is calculated using the method defined in the Guide for Plant Appraisal, 10th Edition .
Letters are used to identify trees on neighboring property with overhanging canopies.
Minimum Limit of Disturbance (MLOD) is defined as 5 times trunk diameter or 6 feet, whichever is greater.
Recommended Limit of Disturbance (RLOD) is 8 times trunk diameter or greater depending on tree species and/or condition.
Dripline is measured from the center of the tree to the outermost extent of the canopy.

							Dripline Radius (feet)												
Tree ID	**Scientific Name**	**Common Name**	**DSH** (inches)	**DSH Multistem**	**Health Condition**	**Structural Condition**	**N**	**E**	**S**	**W**	**Exceptional Threshold**	**Exceptional - Size**	**Exceptional - Grove**	**24-Inch DSH or Greater**	**MLOD** (feet)	**RLOD** (feet)	**Proposed Action**	**Number of Replacements Required**	**Notes**
201	*Betula pendula*	*European White Birch*	21.0		Good	Good	17.9	17.9	17.9	21.4	*24.0*			-	9	14	Retain	-	Upper canopy dieback, likely bronze birch borer
202	*Crataegus monogyna*	*Common hawthorn*	11.5		Good	Good	11.0	18.0	12.0	10.0	-			-	6	8	Retain	-	
203	*Crataegus monogyna*	*Common hawthorn*	17.1	7, 11, 11	Good	Fair	9.7	12.7	14.7	24.2	-			-	7	11	Retain	-	narrow unions
204	*Thuja plicata*	*Western Redcedar*	23.0		Good	Good	14.0	19.0	11.0	15.5	*30.0*			-	10	15	Retain	-	
205	*Thuja plicata*	*Western Redcedar*	25.4		Good	Good	14.6	14.1	15.1	11.6	*30.0*			Yes	11	21	Retain	-	growing next to raised shed on surface concrete footings
206	*Thuja plicata*	*Western Redcedar*	19.9		Fair	Good	15.8	13.8	5.8	11.8	*30.0*		Exceptional - Grove	-	8	17	Retain	-	sparse canopy, surface roots
207	*Thuja plicata*	*Western Redcedar*	11.8		Fair	Good	8.5	10.5	7.0	13.5	*30.0*		Exceptional - Grove	-	6	10	Retain	-	sparse canopy, surface roots
208	*Chamaecyparis lawsoniana*	*Lawson Cypress*	11.0		Good	Good	6.5	12.5	9.5	7.5	*30.0*		Exceptional - Grove	-	6	9	Retain	-	swept base
209	*Abies grandis*	*Grand Fir*	19.6		Good	Good	8.8	12.8	12.8	12.8	*24.0*		Exceptional - Grove	-	8	16	Retain	-	surface roots
210	*Pseudotsuga menziesii*	*Douglas-fir*	29.0		Good	Good	19.7	17.7	21.7	18.7	*30.0*		Exceptional - Grove	Yes	12	19	Retain	-	large surface roots
211	*Prunus lusitanica*	*Portuguese cherry laurel*	10.3		Good	Good	14.4	13.9	16.9	18.4	-		Exceptional - Grove	-	6	7	Retain	-	
212	*Photinia serratifolia*	*Chinese photinia*	12.8	11.6, 5.4	Fair	Good	18.5	19.5	9.5	13.5	-		Exceptional - Grove	-	6	9	Retain	-	leaf spot, sparse canopy
213	*Aesculus hippocastanum*	*Horsechestnut*	16.5		Good	Good	20.7	17.7	17.2	14.2	-		Exceptional - Grove	-	7	11	Retain	-	codominant at 6 and 12 feet with good unions
214	*Prunus cerasifera*	*Flowering Plum*	17.0	12.1, 12	Good	Poor	32.2	8.7	30.7	28.2	*21.0*		Exceptional - Grove	-	7	11	Retain	-	shared Tree, one trunk on property one off, union at base appears partially failed many years ago, does not appear to have moved recently
215	*Aesculus hippocastanum*	*Horsechestnut*	14.7		Good	Good	13.6	17.6	15.6	12.6	-		Exceptional - Grove	-	6	10	Retain	-	measured at narrowest point below branch collars
216	*Robinia pseudoacacia*	*Black locust*	20.7		Good	Good	18.4	38.4	32.9	4.9	-		Exceptional - Grove	-	9	14	Retain	-	phototropic southeast
217	*Betula pendula*	*European White Birch*	18.8	11, 15.2	Fair	Good	22.3	17.3	34.3	15.8	*24.0*		Exceptional - Grove	-	8	13	Retain	-	dieback in upper canopy, likely bronze birch borer
218	*Betula pendula*	*European White Birch*	15.3		Fair	Good	21.6	7.6	8.1	24.6	*24.0*		Exceptional - Grove	-	6	10	Retain	-	dieback in upper canopy, likely bronze birch borer

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Table of Trees

9619 SE 34th St, Mercer Island, WA

Arborist: TB
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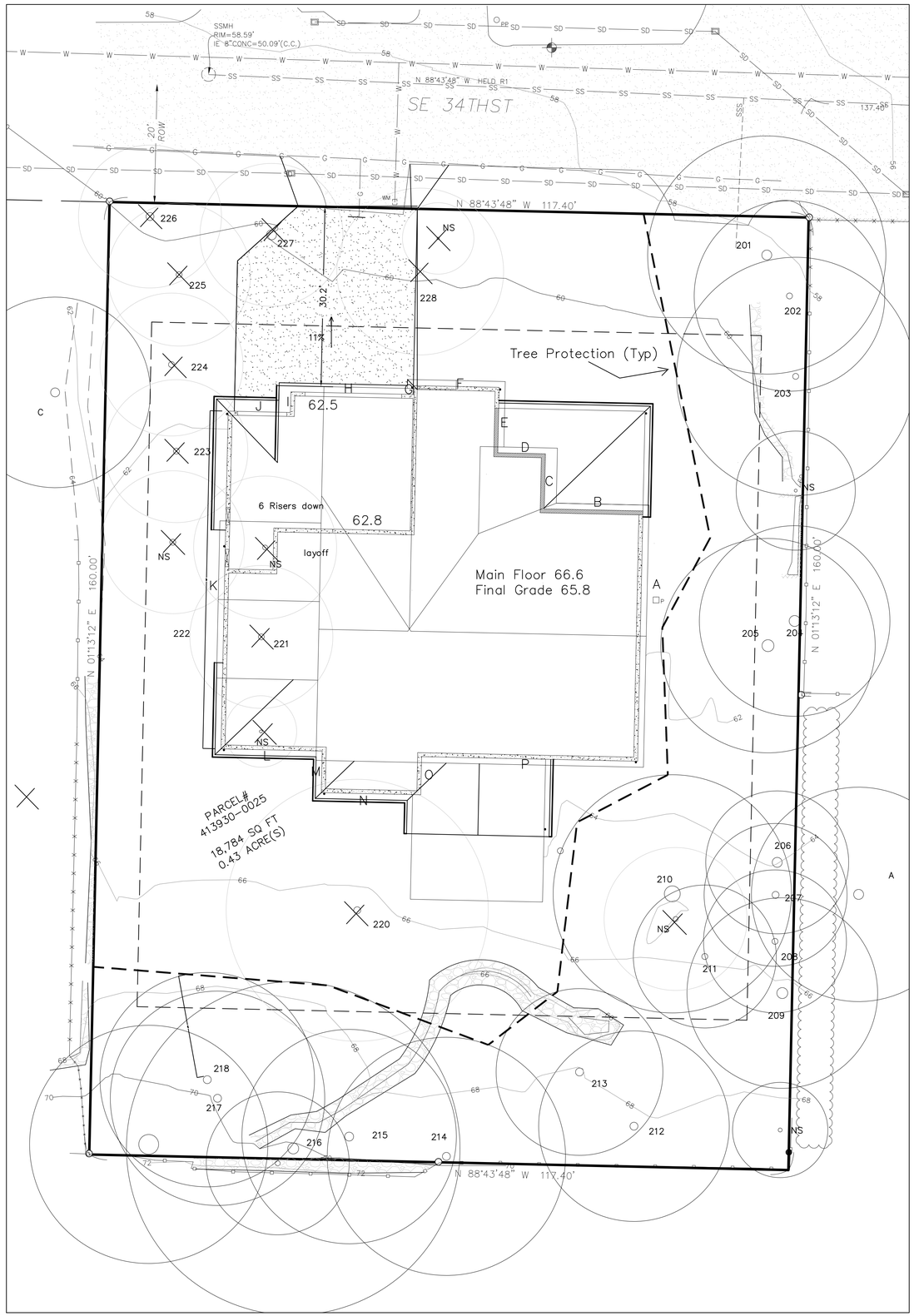
Table Prepared: 6/24/2022

Tree ID	Scientific Name	Common Name	DSH (inches)	DSH Multistem	Health Condition	Structural Condition	N	E	S	W	Exceptional Threshold	Exceptional - Size	Exceptional - Grove	24-Inch DSH or Greater	MLOD (feet)	RLOD (feet)	Proposed Action	Number of Replacements Required	Notes
219	*Thuja plicata*	*Western Redcedar*	40.1		Fair	Fair	21.7	16.7	16.7	23.7	*30.0*	Exceptional - Size	Exceptional - Grove	Yes	17	27	Retain	-	sounds hollow from base to 6 feet with some bulging of trunk at approximately 5 feet, recommend advanced testing if planned for retention, slightly sparse canopy, appears shared based on corner marker, 3 feet of fill south of fence, Tree is short for size
220	*Robinia pseudoacacia*	*Black locust*	15.0		Good	Fair	21.6	13.6	15.1	27.1	-		Exceptional - Grove	-	6	10	Remove	6	codominant at 7 feet, appears partially failed at base many years ago, currently appears stable, lean from partial failure appears corrected at approximately 25 feet or half Tree height
221	*Malus sp.*	*Apple*	12.0		Good	Good	9.0	12.0	13.5	9.5	*20.0*			-	6	8	Remove	2	measured at narrowest point below union, well pruned to maintain 10 foot height
222	*Malus sp.*	*Apple*	13.0		Good	Good	11.0	11.0	12.5	12.0	*20.0*			-	6	9	Remove	2	measured at narrowest point below union, well pruned to maintain 10 foot height
223	*Malus sp.*	*Apple*	11.3		Good	Good	8.5	12.0	11.0	9.5	*20.0*			-	6	8	Remove	2	measured at narrowest point below union, well pruned to maintain 10 foot height
224	*Malus sp.*	*Apple*	12.8		Good	Good	9.0	10.5	12.5	13.0	*20.0*			-	6	9	Remove	2	measured at narrowest point below union, well pruned to maintain 10 foot height
225	*Malus sp.*	*Apple*	10.5		Good	Good	12.4	14.9	10.9	8.4	*20.0*			-	6	7	Remove	2	measured at narrowest point below union, well pruned to maintain 10 foot height, some decay at large pruning wounds on trunk
226	*Chamaecyparis lawsoniana*	*Lawson Cypress*	14.0		Good	Fair	9.6	12.6	1.6	1.6	*30.0*			-	6	12	Remove	2	swept base, lean northeast corrected at 12 feet, large surface roots extend~35 feet south, adjacent tree failure in last couple years, moderate risk to power lines, possible high significant
227	*Chamaecyparis lawsoniana*	*Lawson Cypress*	18.9		Good	Good	8.3	11.8	12.8	9.8	*30.0*			-	8	16	Remove	2	
228	*Crataegus monogyna*	*Common hawthorn*	16.6		Good	Good	16.7	13.7	13.7	17.7	-			-	7	11	Remove	2	narrow unions
A	*Acer macrophyllum*	*Bigleaf Maple*	22.0		Good	Good	20.9	22.9	23.9	16.9	*30.0*		Exceptional - Grove	-	9	15			
B	*Prunus lusitanica*	*Portuguese cherry laurel*	10.3	6.5, 8	Good	Good	19.9	14.4	14.4	15.9	-		Exceptional - Grove	-	6	7			growing out of small rock wall
C	*Picea pungens*	*Colorado spruce*	16.0		Good	Good	13.7	12.7	14.7	12.7	-			-	7	11			base partially buried to west



HEIGHT TABLE							
Loc.	El:	Length	Product	Loc.	El:	Length	Product
A	61.8	42	2,596	M	65	7	455
B	63.2	16.5	1,043	N	64.8	16.6	1,076
C	63.2	9.2	581	O	64	6.4	410
D	63.8	8	510	P	63.3	36	2,279
E	61.7	11	679				
F	61.7	14.4	888				
G	61.6	1.5	92				
H	61.7	20.5	1,265				
I	61.7	3.5	216				
J	61.8	10.5	649				
K	63	56.6	3,566				
L	65	17	1,105				
Sub Totals		210.7	13,190			66	4,219
			Total			Length	277
						Products	17,409
AEG = Product/Length						ABE	62.9
Maximum Height					30		
Maximum Elevation					92.9		
Proposed Ridge Height					92.04'		

TREE TABLE

ID	Species	DHS	DSH Multistem	Dripline	Exceptional Threshold	Exceptional Size	Exceptional Grove	RETAIN	REMOVE
201	European White Birch	21		21.4	24			x	
202	Hawthorn	11.5		12	-			x	
203	Hawthorn	17.1	7,11,11	14.7	-			x	
204	Western Red Cedar	23		14	30			x	
205	Western Red Cedar	25.4		14	30			x	
206	Western Red Cedar	19.9		15.8	30		YES	x	
207	Western Red Cedar	11.8		10	30		YES	x	
208	Lawson Cypress	11		7.5	30		YES	x	
209	Grand Fir	19.6		12.8	24		YES	x	
210	Doug-Fir	29		19	30		YES	x	
211	Cherry Laurel	10.3		17	-		YES	x	
212	Chinese photinia	12.8	11.6,5.4	14	-		YES	x	
213	Horsechestnut	16.5		20	-		YES	x	
214	Flowering Plumb	17	12.1,12,	32	21		YES	x	
215	Horsechestnut	14.7		13.6	-		YES	x	
216	Black Locust	20.7		18.4	-		YES	x	
217	European White Birch	18.8	11,15.2,	22.3	24		YES	x	
218	European White Birch	15.3		21.6	24		YES	x	
219	Western Red Cedar	40.1		21.7	30	Yes	YES	x	
220	Black Locust	15.0		21	-		YES		X
221	Apple	12		12	20				X
222	Apple	13		11	20				X
223	Apple	11.3		12	20				X
224	Apple	12.8		10.5	20				X
225	Apple	10.5		14.9	20				X
226	Lawson Cypress	14		12.6	30				x
227	Lawson Cypress	12.8		11.8	30				X
228	Hawthorn	16.6		16.7					X
				Percentage Saved				67.9%	

JayMarc Homes, LLC
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425 281 2706

Site Plan
9619 SE 34th St
Mercer Island, WA

Drawn by
GU
6-10-22

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