

Arborist Report

TO: Rouslana & Leonid Yaroslavsky
SITE: 9319 SE 43rd Street, Mercer Island, WA 98040
DATE: March 31, 2021
PROJECT ARBORISTS: Joseph Sutton-Holcomb
ISA Certified Arborist #PN- 8397A
ISA Qualified Tree Risk Assessor

REVIEWED BY: Josh Petter
ISA Board Certified Master Arborist #PN-8406B
ISA Qualified Tree Risk Assessor

REFERENCED PLANS: "Combined Permit Set" Métrica LLC, dated 03.31.2021
ATTACHED: Table of Trees, Annotated Survey

Summary

We assessed 15 trees at the above addressed job site, four of which were exceptional.¹ Based on the Mercer Island City Code, trees greater than 10 inches in Diameter at Standard Height (DSH) are considered large trees and regulated.² Given this threshold, I inventoried eight total large regulated trees and seven non-regulated trees on the site.

I tagged each tree with an aluminum tree tag. Tree identifier corresponds to the number on each tag. Some non-significant trees were tagged for information purposes, they are noted as such on the annotated survey. Depending on the proposed construction, alternative construction methods and arborist supervision may be necessary to properly protect retained trees.

Trees 617, 618, 625, and 627 were exceptional and therefore must be retained unless they meet exceptions outlined in section 3 of Mercer Island City Code 19.10.060.³

I have attached a Site Map and Table of Trees.

Assignment and Scope

This report outlines the site inspection by Joseph Sutton-Holcomb, of Tree Solutions Inc, on April 16, 2019. I was asked to visit the site and assess large regulated trees and Exceptional trees. I was asked to produce an Arborist Report documenting our findings and management recommendations. Rouslana

¹ Mercer Island City Code. 19.10.060. Tree Removal – Associated with a development proposal.

² Mercer Island City Code. 19.10.010. Tree Code – Overview.

³ Mercer Island City Code. 19.10.060. Tree Removal – Associated with a development proposal.

and Leonid Yaroslavsky, the property owners, requested these services as part of the planning and permitting process for redeveloping the parcel.

Specifics for each tree can be found in the Table of Trees. A site map showing tree locations and corresponding numbers is also attached. Photographs are followed by a glossary and list of references. Assumptions and limiting conditions can be found in Appendix A. Methods can be found in Appendix B. Standard Tree Protection Specifications are included in Appendix C. The Mercer Island City Code: Tree Removal (19.10.060) is cited in Appendix D.

Observations

The Site and History

A 3,390 square foot house is located on the 10,625 square foot parcel (tax #5459900050). The parcel is in an R-9.6 zone.

The south end of the parcel abuts a steeply sloping ravine full of Himalayan blackberry (*Rubus bifrons*). The southern portion of this lot is considered an Environmentally Critical Area and is protected under Mercer Island City Code (Figure 1).

The parcel contained a mix of native tree species, ornamental trees, shrubs, and perennials. The site has been maintained as an ornamental garden. I observed bark mulch placed in the root zones of many trees, as well as permeable landscaping fabric near the soil surface. Many trees bore evidence of extensive pruning done over a protracted timeframe.

The front of the property, toward the northern end of the parcel, is paved and serves as a parking lot. Several large trees are growing in planting strips surrounded by pavement, with roots buckling the asphalt and pushing it upward.

The Trees

Tree 617 is a Japanese maple (*Acer palmatum*) of unusual size. It is Exceptional by size under Mercer Island City Code and is likely one of the largest of its species growing on the island. The tree is growing in a small planting strip surrounded by impervious concrete and asphalt. I observed buckling of the asphalt, suggesting it is being lifted by the tree's large structural roots. I observed compacted soil and landscape fabric near the base of the tree and noted impervious surface in the form of asphalt and concrete well within the dripline.

Tree 618, a vine maple (*Acer circinatum*) is Exceptional by size. I observed a wound at the base of the trunk with decay, and some dieback in the canopy. I rated the tree's health and structure as fair.

Tree 619 is a Hinoki cypress (*Chamaecyparis obtusa*) growing approximately two feet from the foundation of the existing house. The trunk is currently impacting the roof of the house. The City of Mercer Island granted a permit to remove the tree, and it has since been removed.

Trees 620-624 are all non-significant trees according to the 10-inch diameter threshold in the Mercer Island Code. I tagged these trees to provide information about them to the client and the developers if they wish to retain them. The trees are growing on the western edge of the property line. Trees 620,

621, 622, and 623 are all Leyland cypresses (*x Cupressocyparis leylandii*) which have been maintained as a hedge.

Tree 625 is an Exceptional Grand fir (*Abies grandis*) in the southwestern corner of the property. I assigned it a health and structural rating of Excellent. I observed fencing and ivy surrounding the base of the tree. There also appeared to be good extension of new shoots throughout the tree's canopy, which is an indicator of good vigor. It has a live crown ratio of approximately 85%, suggesting that it has not had its crown significantly raised via pruning.

Tree 627 is an Exceptional western redcedar (*Thuja plicata*) growing at the top of the steep slope on the south edge of the property. It has an unusual stilted trunk form, likely the result of establishing itself on that steep grade. The two main stems divide into nine codominant leaders at approximately 20 feet, and multiple reiterated scaffold branches are also present. The tree is in good health and while the codominant structure warrants a rating of fair, this architecture is typical of the species. It has a live crown ratio of 100% and appears to have been pruned only minimally in the recent past.

Tree 628 is a moss cypress (*Chamaecyparis pisifera* 'Squarrosa'). The tree appeared to be in good health and structural condition overall. I observed multiple large-diameter pruning cuts made recently on this tree.

Tree 629 is an over-mature plum (*Prunus* sp.) tree with extensive decay cavities throughout its structure. Approximately 20% of the tree's canopy was dead at the time of my assessment. I observed numerous epicormic sprouts present on the tree, indicating that the tree still retains some vigor.

Tree 631 is a semi-mature Douglas-fir (*Pseudotsuga menziesii*) growing on the northeast corner of the parcel. It is 17.5 feet to the east of the existing house. The main trunk divides into three codominant stems at approximately 13 feet above the base. I observed cracking and lifting of asphalt near the tree's basal root flare, which is likely caused by large structural roots lifting the pavement as they grow in diameter over time.

Discussion—Construction Impacts

I have reviewed construction documents for this project dated March 5, 2021. All comments on construction impacts are derived from my review of those plans. General guidelines for tree protection are in Appendix C. The following paragraphs serve as supplementary information to those guidelines.

The Table of Trees attached to this report provides limits of disturbance for all retained site trees. Any impacts within those limits of disturbance must be reviewed by the Project Arborist, as impacts within those limits could potentially destabilize the trees or lead to a decline in their health.

The general guidelines for tree protection must be observed for all trees on site to the greatest extent feasible. If the plans require deviation from any of the tree protection specifications below or in appendix C, consult a qualified arborist before performing the work.

Tree 617

Limits of Disturbance

17 foot radius from trunk. Project arborist must monitor excavation for proposed new building near limits of disturbance. Project arborist must monitor removal of existing hardscape within limits of disturbance and installation of new hardscape.

Recommended Action Items

Application of woodchip mulch and supplemental irrigation should be specified on the tree protection plan.

Removal of any hardscape within the dripline of this tree must be done with extreme care to avoid damaging the roots of the tree. The plans I have reviewed show removal of existing asphalt and installation of a hardscape path in close proximity to the tree.

All work within the limits of disturbance is called out for monitoring on the Tree protection plan. In my opinion, if all demolition of existing hardscape and installation of new hardscape is monitored, and the builders work with the project arborist to minimize tree impacts, this tree can be successfully retained on the site.

Grade cuts within the tree protection zone for this tree must be minimized to the greatest extent feasible. Any fill installed within the tree protection area should be free draining (sand, clear gravel with no fines, or sandy loam topsoil), and limited to the greatest extent feasible to avoid depriving the tree roots of oxygen. Sand set pavers or a raised walkway on piles are potential options. I recommend the landscape plan be updated to include details and specifications for this hardscape and given to the project arborist for review and approval.

The existing hardscape within the dripline can act as soil protection during construction if retained during the project. If left in place, it can reduce the amount of soil compaction in the root zone caused by foot and machine traffic. If any hardscape near the tree is proposed to be removed or replaced, this should be done at the end of the project so the roots are protected as much as possible.

At the conclusion of the project, I recommend creating a large planting "island" of hardscape free rooting area for the tree by removing as much of the asphalt as possible within the limits of disturbance. An expanded "island" mulched with coarse woody material will allow greater amounts of air and water into the root zone, which can help ensure the health and longevity of this impressive specimen.

Tree 618

Limits of Disturbance

16 foot radius from trunk. Arborist monitoring and careful excavation required for removal of landscape features within limits of disturbance.

Recommended Action Items

Application of woodchip mulch and supplemental irrigation should be specified on the tree protection plan.

This tree is Exceptional by size under the Mercer Island City Code. Because this tree showed some symptoms of declining health at the time of my inspection, I believe the tree will have a low tolerance to construction-related damage.

If this tree is to be retained, it should be mulched with 3-4 inches of coarse woody mulch and provided supplemental water 3-4 times a month during periods of drought. See attached watering guidelines handout for more information. Landscape improvements within the limits of disturbance must minimize grade changes and be done in coordination with the project arborist.

The tree is shown as fenced at the recommended limits of disturbance on the tree protection plan. If all work within the limits of disturbance, including demolition of existing hardscape, and any new excavation or grade change, is monitored by the project arborist, this tree can be successfully retained on the site.

Tree 625

Limits of Disturbance

20 foot radius from trunk. Potential for reduction on northwest side due to previous impacts from existing house. All work within 20 feet of trunk requires arborist monitoring.

Recommended Action Items

Removal of invasive species and debris near trunk, application of woodchip mulch, and irrigation should be specified on the tree protection plan.

The existing house to be demolished is approximately 10.5 feet from the trunk of this tree. Because of this existing disturbance in close proximity to the tree, the construction impacts shown on the plans within the 20 foot radius in this area are allowable in my opinion, provided the builders follow all tree protection measures described below and shown on the plans.

The plans I reviewed call out arborist monitoring for all demolition and construction work within the limits of disturbance, and show only minimal impacts beyond the footprint of the existing house. These impacts are for installation of stairs and retaining walls associated with the back yard and accessory dwelling area on the lower level.

The excavation for this work shall be done carefully, and any roots encountered shall be cleanly cut by the project arborist. The project arborist may require that roots greater than 1 inch diameter be retained.

If the project arborist monitors all work within the limits of disturbance, including demolition of existing hardscape, and all new excavation or grade changes, this tree can be successfully retained on the site.

At the time of my inspection, Ivy and the fencing material were present around the base of this tree. These must be removed prior to construction. These materials prevent air circulation around the base of the trunk, cause chronic stress which can make the tree more vulnerable to insects and pathogens.

Because a tree of this size and stature provides extraordinary wildlife habitat and will be sensitive to construction-related disturbance, it should be protected to the greatest extent feasible.

Tree 627

Limits of Disturbance

20 foot radius from trunk. Landscaping improvements within this radius may be allowed with arborist monitoring and approval.

Recommended Action Items

Application of woodchip mulch and irrigation should be specified on landscape plan.

The plans I've reviewed show no impacts within the provided limits of disturbance. A landscape wall is proposed immediately outside of the limits of disturbance. In my opinion, this impact is acceptable, provided the tree is mulched with woodchips and irrigated.

As this tree is in good health and western redcedars are moderately tolerant of construction disturbance⁴, some encroachment within the limits of disturbance may be feasible for landscape improvements. Grade cuts within the limits of disturbance should be avoided.

Recommendations

- Obtain all necessary permits and approval from the City prior to commencement of site work.
- Update plan sets as discussed above to include:
 - tree protection fencing (expand protection where indicated)
 - areas for arborist monitoring
 - alternate excavation requirements
 - tree protection measures such as application of mulch and irrigation.
- Tree protection consisting of chain-link fencing or high visibility mesh fencing should be installed at the dripline of all retained trees. Trees growing in a group should be protected at the edge of their shared driplines. General tree protection specifications can be found below.
- All offsite trees must be protected during construction.
- Any pruning should be conducted by an ISA certified arborist and following ANSI A300 specifications.⁵

⁴ 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

⁵ 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, 2017.

Maps & Plans

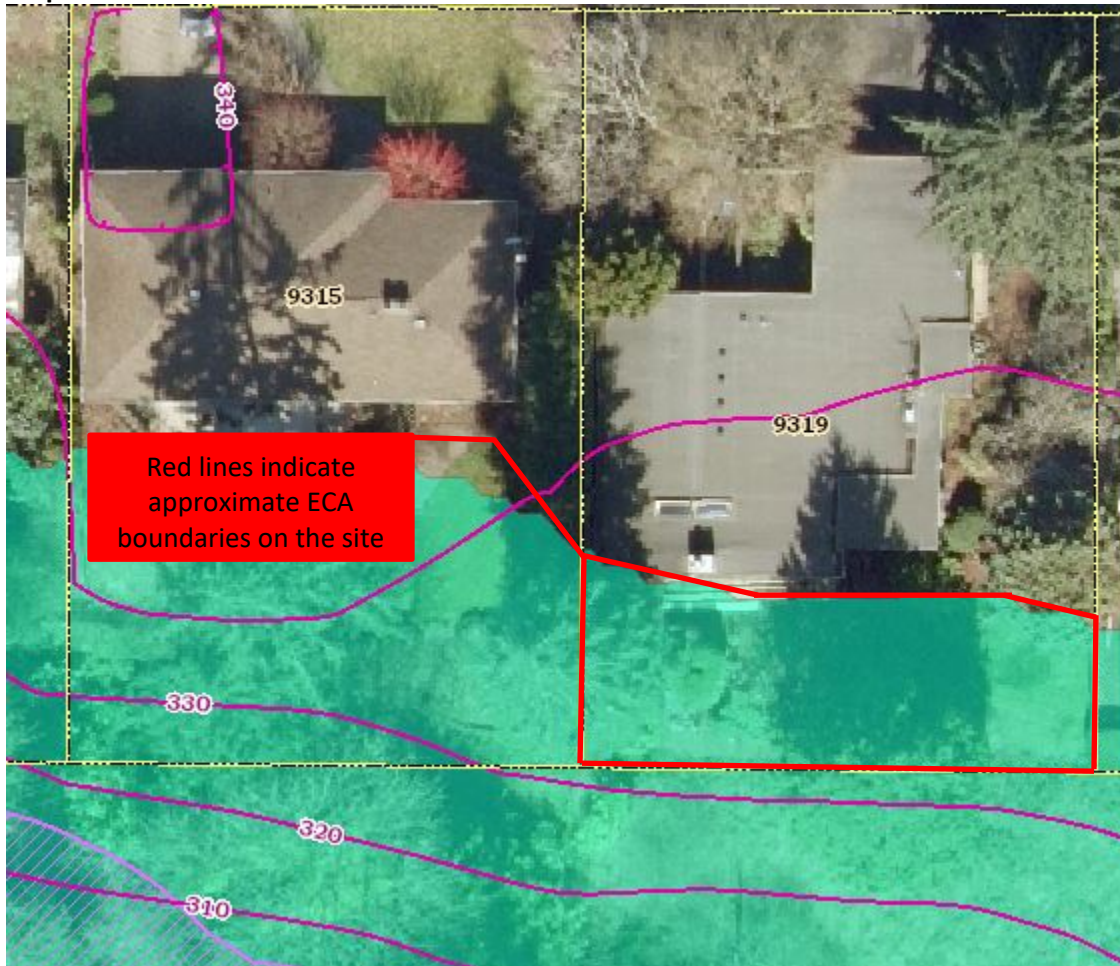


Figure 1. A map of the site with property lines and ECA boundaries shown in green.
(source: City of Mercer Island) Red lines and call out added by Tree Solutions for clarity.

Photographs



Photo 1: Exceptional Japanese maple tree 617. Red lines indicate area of asphalt which should be removed and converted to an expanded tree well area. This will allow more space for root growth and allow air and water into the soil in the tree's critical root zone.



Photo 2: Tree 619, a Hinoki cypress impacting the roof of the house. The red circle indicates the area of contact. This tree was permitted for removal and has been removed.



Photo 3. The base of Grand fir tree 625. The red circle indicates a mass of old fencing material and ivy which should be removed from the base of the tree as soon as possible.



Photo 4. Tree 631, a semi-mature Douglas-fir proposed for removal.

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)

cabling: installation of hardware in a tree to help support weak branches or crotches (Lilly 2001)

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)

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)

epicormic: arising from latent or adventitious buds (Lilly 2001)

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

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)

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)

snag: a tree left partially standing for the primary purpose of providing habitat for wildlife

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

Dunster, Julian A., E. Thomas Smiley, Nelda Matheny, and Sharon Lilly. Tree Risk Assessment Manual. Champaign, Illinois: International Society of Arboriculture, 2013

E. Smiley, N. Matheny, S. Lilly. Best Management Practices: TREE RISK ASSESSMENT. ISA 2011.

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 - Assumptions & Limiting Conditions

1. Consultant has agreed to undertake Services on the subject Site. Consultant assumes that the Client owns or is the agent for the owner of the Site and that the legal description of the Site provided by the Client is accurate. Consultant assumes that Client has granted a license over, under, upon, and across the Site for the limited purpose of providing Services.
2. Consultant assumes that the Site and its use do not violate and is in compliance with all applicable codes, ordinances, statutes or regulations.
3. The Client is responsible for making all relevant records and related information available to the Consultant and for the accuracy and completeness of that information. Consultant may also obtain information from other sources that it considers reliable. Nonetheless, Client is responsible for the accuracy and completeness of that additional information and Consultant assumes no obligation for the accuracy and completeness of that additional information.
4. The Consultant may provide 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.
5. Any report by 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.
6. Ownership of any documents produced passes to the Client only when all fees have been paid.
7. All photographs included in our reports were taken by Tree Solutions, Inc. during the documented Site visit, unless otherwise noted. Sketches, drawings and photographs in any report by Consultant, 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.
8. 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.
9. Consultant makes no warranty or guarantee, express or implied, that the problems or deficiencies of the plants or Site in question may not arise in the future. Any report is based on the observations and opinions of the authoring arborist, and does not provide guarantees regarding the future performance, health, vigor, structural stability or safety of the plants described assessed. Neither the Arborist nor Tree Solutions, Inc. has assumed any responsibility for liability associated with the trees on or adjacent to this project site, their future demise and/or any damage which may result therefrom. Any changes to an established tree's environment can cause its decline, death and/or structural failure.
10. Measurements are subject to typical margins of error, considering the oval or asymmetrical cross-section of most trunks and canopies.
11. 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.
12. Our assessments are made in conformity with acceptable evaluation/diagnostic reporting techniques and procedures, as recommended by the International Society of Arboriculture.

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 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 reinforce weak areas, while depriving less stressed parts (Mattheck & Breloer 1994). An understanding of the uniform stress allows me to make informed judgments about the condition of a tree.

I measured the diameter at standard height (DSH) of each tree, typically at 54 inches above grade. If a tree had multiple stems, I measured each stem individually at standard height and determined a single-stem equivalent diameter by taking the average of the stem diameters, as established by the RZC.

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, I assigned a single condition rating for ease of clarity.

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 percent of the canopy. Normal to less than $\frac{3}{4}$ of 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 percent 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 is clearly visible. Obvious signs of pest problems contributing to a lesser condition. Control might be possible. I found some decay areas in the main stem and branches. Below average safe useful life expectancy

Poor

Lacking full crown, more than 50 percent 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 – 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 shall be the area within the Limits of disturbance for all retained site trees as defined in the Table of Trees. Trees shall be fenced at their limits of disturbance throughout the duration of the project. In some cases, the TPZ may extend outside tree protection fencing. Work within the TPZ must be approved and monitored 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.
 1. 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 grove.
 2. Per arborist approval, TPZ fencing may be placed at the edge of existing hardscape within the TPZ to allow for staging and traffic.
 3. 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.
 4. 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, with 3" tall text. 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 at the edge of or 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 4 to 6 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 at the edge of or 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 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 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

Appendix D: Mercer Island City Code (Updated August 18, 2018)

19.10.060 Tree removal – Associated with a development proposal.

A. Single-Family Zoning Designations.

1. In the R-8.4, R-9.6, R-12, and R-15 zoning designations, tree retention is required for the following development proposals:

- a. An addition or remodel to an existing single-family dwelling that will result in the addition of more than 500 square feet of gross floor area on a lot with a net lot area of 6,000 square feet or more;
- b. A new single-family dwelling on a lot with a net lot area of 6,000 square feet or more;
- c. A subdivision or short subdivision.

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

a. A minimum of 30 percent of trees with a diameter of 10 inches or greater, or that otherwise meet the definition of large tree, shall be retained over a rolling five-year period.

b. In addition to the retention required in subsection (A)(2)(a) of this section, the development proposal shall be designed to further minimize the removal of large trees and maximize on-site tree retention as follows:

i. Site improvements, including but not limited to new single-family homes, additions to a single-family home, appurtenances, accessory structures, utilities, and driveways, shall be designed and located to minimize tree removal during and following construction.

ii. The following trees shall be prioritized for retention:

- (a) Exceptional trees;
- (b) Trees with a diameter of more than 24 inches;
- (c) Trees that have a greater likelihood of longevity; and
- (d) Trees that are part of a healthy grove.

iii. Trees shall not be removed outside the area of land disturbance except where necessary to install site improvements (e.g., driveways, utilities, etc.).

iv. Tree removal for the purposes of site landscaping should be limited to those trees that will pose a future safety hazard to existing or proposed site improvements.

c. Provide tree replacement pursuant to MICC 19.10.070.

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

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

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

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

4. Calculation of Rolling Five-Year Period. For the purposes of this section, the rolling five-year period begins five years prior to the date of application for a development approval that is subject to tree retention.

5. Compliance Required. Development proposals on lots that have removed more than 70 percent of large trees within the rolling five-year period, such that the 30 percent tree retention requirement under subsection (A)(2) of this section cannot be met, shall not receive approval unless and until compliance has been achieved. For example, a lot that has removed all of the trees in year "one" may not receive a preliminary subdivision approval in year "four." However, the preliminary subdivision approval may be granted in year "six," such that the rolling five-year period does not include the tree removal in year "one."

B. Commercial or Multifamily Zoning Designations – Tree Removal.

1. In the PI, B, C-O, PBZ, TC, MF-2, MF-2L, and MF-3 zoning designations a tree permit is required and will be granted if it meets any of the following criteria:

a. It is necessary for public safety, removal of hazardous trees, or removal of diseased or dead trees;

b. It is necessary to enable construction work on the property to proceed and the owner has used reasonable best efforts to design and locate any improvements and perform the construction work in a manner consistent with the purposes set forth in MICC 19.10.005;

c. It is necessary to enable any person to satisfy the terms and conditions of any covenant, condition, view easement or other easement, or other restriction encumbering the lot that was recorded on or before July 31, 2001; and subject to MICC 19.10.090(B);

d. It is part of the city's forest management program or regular tree maintenance program and the city is the applicant;

e. It is desirable for the enhancement of the ecosystem or slope stability based upon professional reports in form and content acceptable to the city arborist.

2. Design Commission Review Required in Commercial Zones. A tree permit for a development proposal, resulting in regulated improvements located in a commercial zone, that has previously received design commission approval must first be reviewed and approved by the city's design commission prior to permit issuance by the city. (Ord. 18C-05 § 1 (Att. A); Ord. 17C-15 § 1 (Att. A)).

19.10.070 Tree replacement.

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

A. Tree Replacement Ratio. Removed trees shall have the following base replacement ratio:

Diameter of removed tree	Number of replacement trees required
Less than 10 inches	1
10 inches up to 24 inches	2
24 inches up to 36 inches	3
More than 36 inches and any exceptional tree(s)	6

B. Replacement Trees.

1. Location. Replacement trees shall be located in the following order of priority from most important to least important:

- a. On-site replacement adjacent to or within critical tree areas as defined in Chapter 19.16 MICC;
- b. On-site replacement outside of critical tree areas adjacent to other retained trees making up a grove or stand of trees;
- c. On-site replacement outside of critical tree areas; and
- d. Off-site in adjacent public right-of-way where explicitly authorized by the city.

2. Species. Replacement trees shall primarily be those species native to the Pacific Northwest. In making a determination regarding the species of replacement trees, the city arborist shall defer to the species selected by the property owner unless the city arborist determines that the species selected is unlikely to survive for a period of at least 10 years, represents a danger or nuisance,

would threaten overhead or underground utilities or would fail to provide adequate protection to any critical tree area.

3. Size.

- a. Coniferous trees shall be at least six feet tall; and
- b. Deciduous trees shall be at least one and one-half inches in caliper.

The city arborist may authorize the planting of smaller-sized replacement trees if the applicant can demonstrate that smaller trees are more suited to the species, the site conditions, neighborhood character, and the purposes of this section, and that such replacement trees will be planted in sufficient quantities to meet the intent of this section. The city arborist shall not authorize the planting of shrubs or bushes in lieu of required replacement trees.

4. Reduction. The city arborist may reduce the number of replacement trees as follows, where other measures designed to mitigate the tree loss by restoring the tree canopy coverage and its associated benefits are considered to be effective and consistent with the purposes of this chapter. The city arborist may consider, but is not limited to, the following measures:

- a. Replacement of hazardous, undesired, or short-lived trees with healthy new trees that have a greater chance of long-term survival;
- b. Restoration of critical tree areas with native vegetation; and
- c. Protection of small trees to provide for successional stages of tree canopy.

5. Timing. Replacement trees shall be planted in the wet season (October 1 through April 1), following the applicable tree removal or, in the case of a development proposal, completion of the development work, provided the city arborist may authorize an extension to ensure optimal planting conditions for tree survival.

C. Fee-in-Lieu. If the city arborist determines there is insufficient area to replant on the site or within the adjacent public right-of-way, the city arborist may authorize payment of a fee-in-lieu provided:

1. There is insufficient area on the lot or adjacent right-of-way for proposed on-site tree replacement to meet the tree replacement requirements of this chapter; or
2. Tree replacement or management provided within public right-of-way or a city park in the vicinity will be of greater benefit to the community.
3. Fees provided in lieu of on-site tree replacement shall be determined based upon:
 - a. The expected tree replacement cost including labor, materials, and maintenance for each replacement tree; and
 - b. The most current Council of Tree and Landscaper Appraisers Guide for Plant Appraisal.

4. Any fee-in-lieu is also optional for the applicant and requires an explicit written agreement.

D. Maintenance of Replacement Trees. The applicant shall maintain all replacement trees in a healthy condition for a period of five years after planting. The applicant shall be obligated to replant any replacement tree that dies, becomes diseased, or is removed during this five-year time period.

E. Private Utility Company. If the permit is granted to a private utility company and the property owner is unwilling to place any replacement trees on the owner's property, the private utility company shall pay to the city the amount necessary to purchase and plant replacement trees on public property necessary to mitigate the impact of the removed trees based upon arborist industry standards. Monies paid to the city for replacement trees shall be used for that purpose. (Ord. 17C-15 § 1 (Att. A)).

19.10.080 Tree protection standards.

A. To ensure long-term viability of trees identified for protection, permit plans and construction activities shall comply with the then-existing Best Management Practices (BMP) – Managing Trees During Construction, published by the International Society of Arboriculture, adopted by reference. The tree protection plan shall be prepared by a qualified arborist and the plan shall be reviewed for adequacy by the city arborist. All minimum required tree protection measures shall be shown on the development plan set and tree replanting/restoration/protection plan.

B. Alternative Methods. The city arborist may approve construction-related activity or work within the tree protection barriers if the city arborist concludes:

1. That such activity or work will not threaten the long-term health of the retained tree(s); and
2. That such activity or work complies with the protective methods and best building practices established by the International Society of Arboriculture. (Ord. 17C-15 § 1 (Att. A)).

Table of Trees

9313 SE 43rd St, Mercer Island, WA

Arborist: Joseph Sutton-Holcomb
Date of Inventory: April 16, 2019
Table Prepared: March 31, 2021

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, published by the Council of Tree and Landscape Appraisers

Letters are used to identify trees on neighboring property with overhanging canopies.

Dripline is measured from the center of the tree to the outermost extent of the canopy.

Exceptional trees	Non-significant trees	Significant trees
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Tree ID	Code	Scientific Name	Common Name	DSH (inches)	DSH multistem (inches)	Health Condition	Structural Condition	Drip line Radius (ft)				Exceptional Threshold (inches)	Exceptional	Proposed Action	Limits of Disturbance	Notes
								N	E	S	W					
617		<i>Acer palmatum</i>	Japanese maple	12.1, 14.6, 13.5, 10.6	25.9	Excellent	Good	24	23	19	22	12.0	Yes	Retain	17 feet from trunk, arborist monitoring for hardscape replacement required, alternate excavation or use of hand tools may be needed	Enormous specimen of this species; Growing in planting strip surrounded by impervious surface; surface roots and landscape fabric in planting strip
618		<i>Acer circanatum</i>	Vine maple	6.7, 9.9, 8.2, 6.1	15.7	Fair	Fair	18	8	17	18	8.0	Yes	Retain	16 feet from trunk, arborist monitoring for demo of landscape features within limits of disturbance, alternate excavation or use of hand tools may be needed	wound with response growth at base; approx. 10% dieback in canopy. Internal foliage removed via pruning; buried root flare
619		<i>Chamaecyparis obtusa</i>	Hinoki cypress	15.2		Good	Fair	11	13	6	15	36.0	No	Remove	N/A	trunk base approx. 2 feet from house. Stems are impacting roof. Trunk splits to 7 codominant stems at approx. 13 feet. Tree is permitted for removal by City of Mercer Island
620		× <i>Cuprocyparis leylandi</i>	Leyland cypress	4.6, 7.1	8.5	Good	Fair	6	4	6	8	36.0	No	Remove	N/A	part of hedgerow; previously topped; not significant by size
621		× <i>Cuprocyparis leylandi</i>	Leyland cypress	8.1		Good	Fair	6	4	6	8	36.0	No	Remove	N/A	part of hedgerow; previously topped; not significant by size
622		× <i>Cuprocyparis leylandi</i>	Leyland cypress	9.4		Good	Fair	6	4	6	8	36.0	No	Remove	N/A	part of hedgerow; previously topped; not significant by size

Table of Trees
9313 SE 43rd St, Mercer Island, WA

Arborist: Joseph Sutton-Holcomb
Date of Inventory: April 16, 2019
Table Prepared: March 31, 2021

Tree ID	Code	Scientific Name	Common Name	DSH (inches)	DSH multistem (inches)	Health Condition	Structural Condition	N	E	S	W	Exceptional Threshold (inches)	Exceptional	Proposed Action	Limits of Disturbance	Notes
623		<i>× Cuprocypris leylandi</i>	Leyland cypress	9.2		Good	Fair	6	4	7	8	36.0	No	Remove	N/A	part of hedgerow; previously topped; not significant by size
624		<i>Picea omorika</i>	Serbian spruce	8.8		Good	Good	6	6	6	6	36.0	No	Remove	N/A	adjacent to leyland cypress hedge; not significant by size
625		<i>Abies grandis</i>	Grand fir	43.4		Excellent	Excellent	22	22	17	18	24.0	Yes	Retain	20 feet from trunk. Edge of existing building foundation 11 feet from trunk may allow encroachment up to that point to northeast with adequate tree protection. Arborist monitoring required for any impacts within 20 feet of trunk. Alternative excavation techniques may be	Ivy and fencing pressing against trunk should be removed; stilted roots from growing on slope, compacted soil within dripline; overhangs neighboring property; good shoot extension throughout canopy; LCR 85%, Height = 95 feet
626		<i>Thuja plicata</i>	Western redcedar	4.8, 6.3	7.8	Fair	Fair	5	5	5	5	30.0	No	Remove	N/A	has been repeatedly sheared, topped, maintained as a large shrub; limited retention value long term; not significant by size
627		<i>Thuja plicata</i>	Western redcedar	28, 35.4	45.1	Good	Fair	22	19	23	21	30.0	Yes	Retain	20 feet from trunk. Arborist monitoring required for any impacts within that threshold. Alternative excavation techniques may be	splits into 9 codominant stems with bark inclusion at 20 feet; possibly previously topped; multiple reiterated branches present
628		<i>Chamaecyparis pisifera 'Squarrosa'</i>	Moss cypress	17.9		Good	Good	13	12	18	15	36.0	No	Remove	N/A	6+ recent pruning cuts ranging 2-6 inches diameter.

Table of Trees
9313 SE 43rd St, Mercer Island, WA

Arborist: Joseph Sutton-Holcomb
Date of Inventory: April 16, 2019
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Tree ID	Code	Scientific Name	Common Name	DSH (inches)	DSH multistem (inches)	Health Condition	Structural Condition	N	E	S	W	Exceptional Threshold (inches)	Exceptional	Proposed Action	Limits of Disturbance	Notes
629		<i>Prunus sp.</i>	Plum tree	13.2,12,13.3		Fair	Poor	14	14	12	11	36.0	No	Remove	N/A	Cavities with decay in all stems; approx. 20% of canopy dead; swollen tissues on trunk; history of overpruning which has caused a significant watersprout response; tree displays good vigor considering its old age and structural defects; I observed multiple large diameter pruning cuts, which is an inadvisable pruning approach for a tree of this age
630		<i>Malus sp.</i>	Apple tree	7.5		Good	Fair	8	5	5	7	36.0	No	Remove	N/A	Pruned with many heading cuts resulting in a dense canopy and many watersprouts. Landscape fabric within dripline. Not significant by size.
631		<i>Pseudotsuga menziesii</i>	Douglas-fir	27.0		Good	Fair	27	24	26	29	36.0	No	Remove	N/A	large structural roots underneath paved area adjacent to tree; remove asphalt around these roots carefully by hand during construction; stem splits into 3 leaders at approx. 13 feet perhaps due to prior topping; leader to north slightly perched

Total large regulated site trees: 8
Total Exceptional trees: 4
Regulated trees proposed for removal: 4
Regulated trees proposed for retention: 4
Retention percentage: 50%

TOPOGRAPHIC & BOUNDARY SURVEY

LEGAL DESCRIPTION

(PER STATUTORY WARRANTY DEED, RECORDING# 20190301000525)

LOT 10, MERCERWOOD DIVISION NO. 5, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 57 OF PLATS, PAGE 28, RECORDS OF KING COUNTY, WASHINGTON.

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

BASIS OF BEARINGS

N88°28'12" W BETWEEN SURVEY MONUMENT FOUND AND HELD AS SHOWN HEREON, PER R4.

REFERENCES

- R1 ANDERSON PARK, RECORDED IN VOLUME 51 OF PLATS, PAGE 53, RECORDS OF KING COUNTY, WASHINGTON.
- R2 MERCERWOOD DIVISION NO. 5, RECORDED IN VOLUME 57 OF PLATS, PAGE 28, RECORDS OF KING COUNTY, WASHINGTON.
- R3 ANDERSON PARK REPLAT, RECORDED IN VOLUME 57 OF PLATS, PAGE 99, RECORDS OF KING COUNTY, WASHINGTON.
- R4 RECORD OF SURVEY, RECORDED IN BOOK 102 OF SURVEYS, PAGE 87, RECORDS OF KING COUNTY, WASHINGTON.
- R5 RECORD OF SURVEY, RECORDED IN BOOK 129 OF SURVEYS, PAGE 147, RECORDS OF KING COUNTY, WASHINGTON.
- R6 RECORD OF SURVEY, RECORDED IN BOOK 132 OF SURVEYS, PAGE 227, RECORDS OF KING COUNTY, WASHINGTON.

VERTICAL DATUM

NAVD(89) PER MERCER ISLAND BENCHMARK NO. 2155 FOUND CASED CONCRETE MONUMENT @ INTX. OF S.E. 43RD ST. & 93RD AVE. S.E.
ELEV: 344.82'

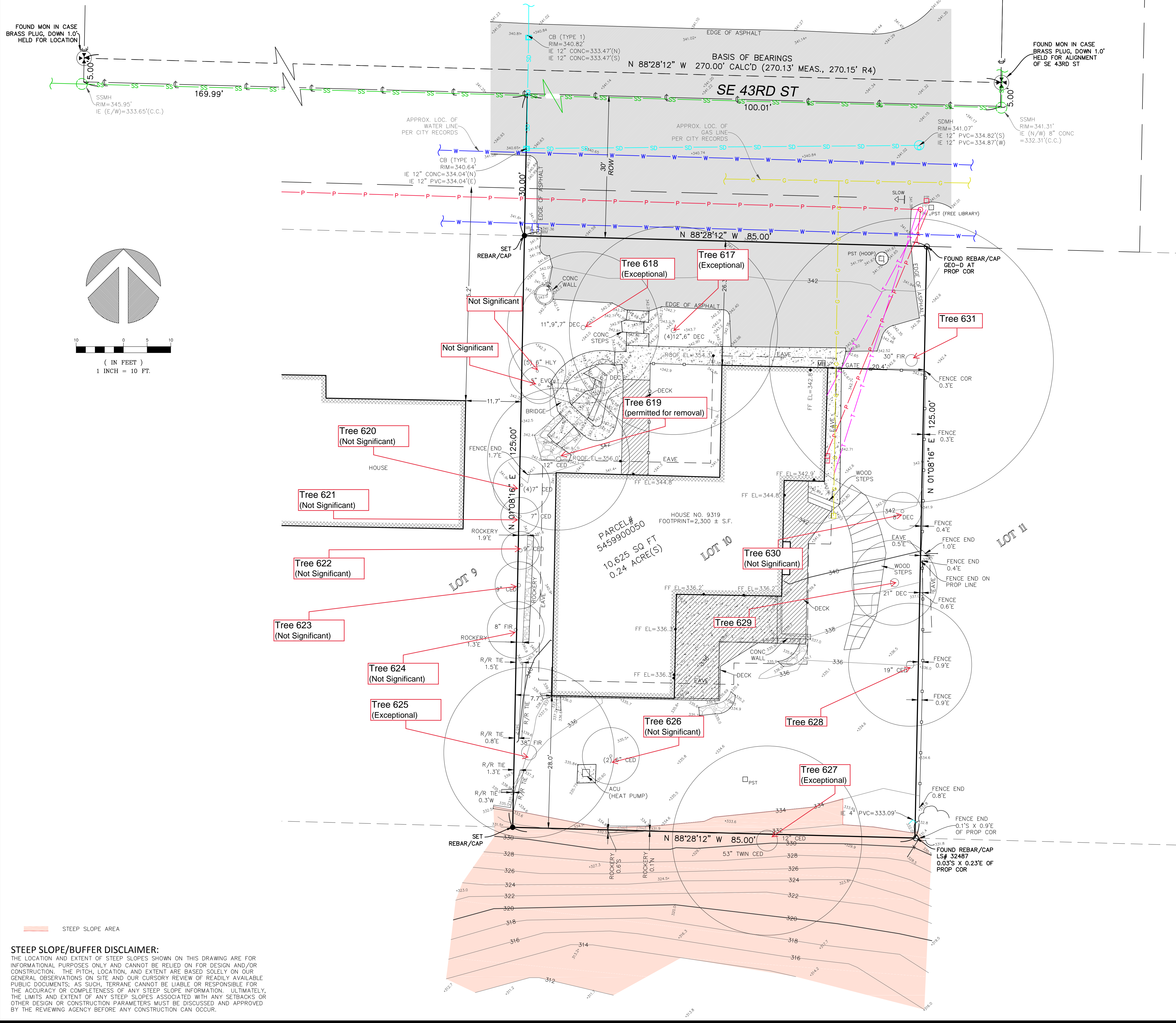
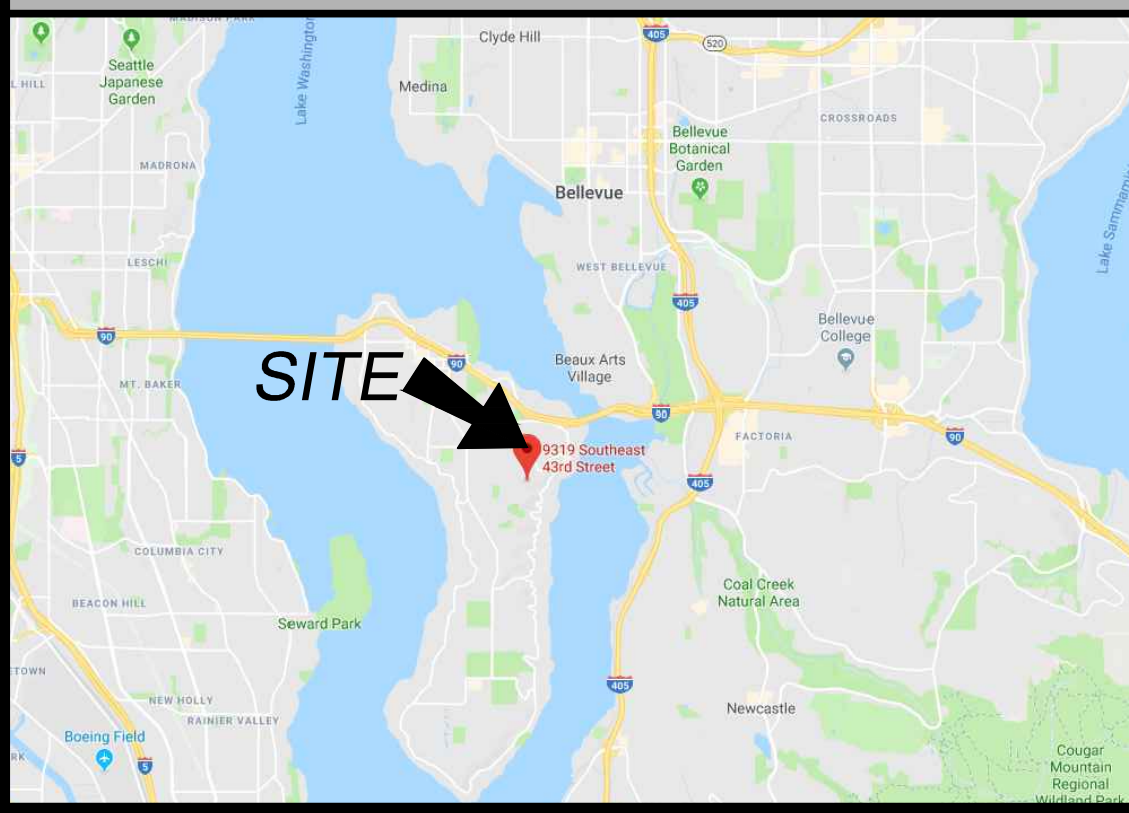
SURVEYOR'S NOTES

1. THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PERFORMED IN MARCH OF 2019. THE FIELD DATA WAS COLLECTED AND RECORDED ON MAGNETIC MEDIA THROUGH AN ELECTRONIC THEODOLITE. THE DATA FILE IS ARCHIVED ON DISC OR CD. WRITTEN FIELD NOTES MAY NOT EXIST. CONTOURS ARE SHOWN FOR CONVENIENCE ONLY. DESIGN SHOULD RELY ON SPOT ELEVATIONS.
2. ALL MONUMENTS SHOWN HEREON WERE LOCATED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED.
3. THE TYPES AND LOCATIONS OF ANY UTILITIES SHOWN ON THIS DRAWING ARE BASED ON INFORMATION PROVIDED TO US, BY OTHERS OR GENERAL INFORMATION READILY AVAILABLE IN THE PUBLIC DOMAIN INCLUDING, AS APPLICABLE, IDENTIFYING MARKINGS PLACED BY UTILITY LOCATE SERVICES AND OBSERVED BY TERRANE IN THE FIELD. AS SUCH, THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY AND SHOULD NOT BE RELIED ON FOR DESIGN OR CONSTRUCTION PURPOSES; TERRANE IS NOT RESPONSIBLE OR LIABLE FOR THE ACCURACY OR COMPLETENESS OF THIS UTILITY INFORMATION. FOR THE ACCURATE LOCATION AND TYPE OF UTILITIES NECESSARY FOR DESIGN AND CONSTRUCTION, PLEASE CONTACT THE SITE OWNER AND THE LOCAL UTILITY LOCATE SERVICE (800-424-5555).
4. SUBJECT PROPERTY TAX PARCEL NO. 545990-0050.
5. SUBJECT PROPERTY AREA PER THIS SURVEY IS 10,625 ± S.F. (0.24 ACRES)
6. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST THAT ARE NOT SHOWN HEREON.
7. FIELD DATA FOR THIS SURVEY WAS OBTAINED BY DIRECT FIELD MEASUREMENTS WITH A CALIBRATED ELECTRONIC 5-SECOND TOTAL STATION AND/OR SURVEY GRADE GPS OBSERVATIONS. ALL ANGULAR AND LINEAR RELATIONSHIPS ARE ACCURATE AND MEET THE STANDARDS SET BY WAC 332-130-090.

LEGEND

	ASPHALT SURFACE		POST
	BUILDING		POWER METER
	CENTERLINE ROW		POWER (OVERHEAD)
	CULVERT PIPE		POWER POLE
	CONCRETE SURFACE		POWER TRANSFORMER
	RETAINING WALL		REBAR AS NOTED (FOUND)
	DECK		REBAR & CAP (SET)
	FENCE LINE (CHAIN LINK)		ROCKERY
	FENCE LINE (WOOD)		SEWER LINE
	GAS LINE		SEWER MANHOLE
	GAS METER		SIGN (AS NOTED)
	GUY ANCHOR		STORM MANHOLE
	HEDGE FOLIAGE LINE		STORM DRAIN LINE
	INLET (TYPE 1)		TELEPHONE (OVERHEAD)
	MAILBOX (RESIDENTIAL)		TREE (AS NOTED)
	MONUMENT IN CASE (FOUND)		WATER LINE

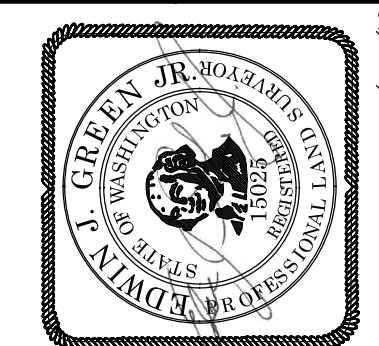
VICINITY MAP



STEEP SLOPE/BUFFER DISCLAIMER:
THE LOCATION AND EXTENT OF STEEP SLOPES SHOWN ON THIS DRAWING ARE FOR INFORMATIONAL PURPOSES ONLY AND CANNOT BE RELIED ON FOR DESIGN AND/OR CONSTRUCTION. THE PITCH, LOCATION, AND EXTENT ARE BASED SOLELY ON OUR GENERAL OBSERVATIONS ON SITE AND OUR CURSORY REVIEW OF READILY AVAILABLE PUBLIC DOCUMENTS; AS SUCH, TERRANE CANNOT BE LIABLE OR RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ANY SETBACKS OR INFORMATION. ULTIMATELY, THE LIMITS AND EXTENT OF ANY STEEP SLOPES ASSOCIATED WITH ANY SETBACKS OR OTHER DESIGN OR CONSTRUCTION PARAMETERS MUST BE DISCUSSED AND APPROVED BY THE REVIEWING AGENCY BEFORE ANY CONSTRUCTION CAN OCCUR.

measure success

TOPOGRAPHIC & BOUNDARY SURVEY
SW 1/4 OF NE 1/4 SEC 18, TWP. 24N., RGE 06E., W1M.
PARCEL NO. 5459900050



Terrane
10801 Main Street, Suite 102, Bellevue, WA 98004
phone 425.458.4488 support@terrane.net
www.terrane.net

JOB NUMBER:	190381
DATE:	03/17/2019
DRAFTED BY:	RSN
CHECKED BY:	EJG/TMM
SCALE:	1" = 10'
REVISION HISTORY	
SHEET NUMBER	
1 OF 1	