Tree Solutions Inc
Consulting Arborists

Project No. TS - 6172

Arborist Report

TO:	Ed Talerman
SITE:	3879 W Mercer Way, 98040
RE:	Inventory and Assessment of Site Trees
DATE:	August 21, 2018
PROJECT ARBORIST:	Michael Tomco ISA Certified Arborist #PN- 8432A
REVIEWED BY:	Katie Hogan ISA Certified Arborist #PN- 8078A ISA Qualified Tree Risk Assessor
	Josh Petter ISA Certified Arborist #PN-8406A
ATTACHED:	Table of Trees, Site Map, Proposed Driveway Site Map

Summary
Nineteen (19) trees were tagged and assessed at the above-addressed site that meet the definition of a large tree. Based on the City of Mercer Island Municipal Code (MICC 19.10) a large (Regulated) tree is defined as a tree measuring ten (10) inches or greater in diameter. Five (5) additional trees were tagged and assessed that measured less than ten (10) inches, specifics for all trees are located in the attached Table of Trees.

In accordance with MICC 19.10.060 thirty (30) percent of large regulated trees on a site associated with property development must be retained.

Of the trees assessed on site, nine (9) meet the criteria for exceptional trees (1335, 1336, 1337, 1341, 1344, 1348, 1350, 1352, 1356). Exceptional trees are defined as trees with a diameter of more than thirty-six (36) inches, or with a diameter that is equal to or greater than the diameter listed in the Exceptional Tree Table (MICC 19.16.010).

Thirteen (13) additional trees were captured in this assessment that are located off-site but had canopies overhanging the subject property. These trees are labeled as trees A through M in the attached Table of Trees.

Tree 1340 is located approximately 6 feet south of the existing structure and has an average drip line of 18 feet. This tree is not a good candidate for retention due to the likely disturbance to the critical root zone from construction related activity.

Based on a Critical Area map provided by the City of Mercer Island, the west portion of the property is located in a steep slope critical area.

Based on the map provided by the City of Mercer Island Information and Geographic Services this site is located within 660 feet of a bald eagle nest. According to the online permit recommendation tool provided by the U.S. Department of Fish and Wildlife a permit may be necessary for carrying out tree removal. The need for a permit may vary depending on whether the removal takes place during bald eagle nesting season. I recommend using the online tool provided by the U.S. Department of Fish and Wildlife at: https://www.fws.gov/pacific/eagle/permit_types/do_i_need_a_permit.html.

Assignment & Scope of Report

This report outlines the site inspection by Michael Tomco, of Tree Solutions Inc, on 12/5/2017. I was asked to visit the site and assess the trees on site. I was asked to produce an Arborist Report documenting my findings and management recommendations. Ed Talerman, owner of the property, requested these services for project planning purposes.

Specifics for each tree can be found in the attached table of trees. Site maps and photographs are followed by a glossary and list of references. Limits of assignment can be found in Appendix A. Methods can be found in Appendix B. Assumptions and limiting conditions can be found in Appendix C.

Observations

The Site and History

The 30,000 square foot site fronts W Mercer Way and is located within the City of Mercer Island. One single-family residence currently exists on site.

A driveway is proposed to be constructed on the site which would likely require the removal of exceptional trees. The proposed driveway would also likely require the removal of city owned trees located in the right of way adjacent to W Mercer Way.

The Trees

Twenty four trees exist on site, nine of which are exceptional. Nineteen trees are large (Regulated) trees. Five trees are small trees, under ten inches, these trees were tagged and assessed with approximate location noted on the attached site map.

The majority of trees on site are Douglas-fir (*Pseudotsuga menziesii*). Additional trees on site include western white pine (*Pinus monticola*), grand fir (*Abies grandis*), pin oak (*Quercus palustris*), red maple (*Acer rubrum*), western redcedar (*Thuja plicata*), Pacific madrone (*Arbutus menziesii*), red alder (*Alnus rubra*), and apple (*Malus* sp.).

Trees 1335 through 1341 are Douglas-fir (*Pseudotsuga menziesii*) trees in good health and structural condition.

Tree 1340 is located approximately 6 feet south of the residence, the tree has a bulge at the base and a buried trunk to the east (Photo 2).

Trees 1338 and 1341 are Douglas-fir trees located adjacent to the existing asphalt driveway. Based on conversations with the Client the existing asphalt driveway will be removed, the area will be regraded, and a retaining wall will be constructed.

Tree 1345 is a pin oak (*Quercus palustris*) in fair health and structural condition. The tree has Ganoderma fruiting bodies emerging on the trunk at the base and a lean to the north. The tree has been heavily pruned in the past with large pruning cuts that have not sealed over. The tree demonstrates low vigor (Photo 3).

Tree 1347 is a western redcedar in good health and structural condition. A sprinkler head is located near the tree and is spraying water on the trunk at approximately four feet.

Trees 1350 and 1351 are located at the edge of a steep slope leading to Lake Washington. These trees are likely contributing to the stability of the slope.

Discussion

The attached Table of Trees includes the recommended Limits of Disturbance for the site trees. These limits are the radial area that is recommended for protection to limit impacts to the trees critical root zones. This area was determined using guidelines outlined in the International Society of Arboriculture (ISA) Best Management Practices: Managing Trees During Construction. These numbers are based on species tolerance to construction damages, relative tree age, and trunk diameter. I applied a factor of five (5) times the trunk diameter for the species of trees found on site.

Encroachment within the limits of allowable disturbance for protected trees may be feasible without damaging trees if appropriate tree protection measures are in place. This should be determined on a case-by-case basis by a qualified arborist.

Based on proposed site plans tree 1340 is not a good candidate for retention due to likely construction impacts. The tree is located approximately six feet south of the existing residence. The root flare of the tree was buried by approximately 12 to 16 inches which could negatively impact the health of the tree.

Tree 1345 demonstrates low vigor, had approximately 50 percent of the canopy removed, and has Ganoderma fruiting bodies emerging on the trunk. In my opinion, this tree is not a good candidate for retention.

Tree 1347 should have the sprinkler head nearby adjusted so the water is not spraying the trunk of the tree.

<u>Driveway construction</u>

Trees 1337, 1338, and 1341 have drip lines overhanging the existing asphalt driveway. Based on the proposed site plans the asphalt driveway will be removed allowing for the construction of a proposed retaining wall to be placed approximately 14 feet from tree 1338 and 17 feet from tree 1341. The existing driveway area beyond the retaining wall to the west is proposed to be regraded.

In my opinion, trees 1337, 1338 and 1341 can likely be retained if proper tree protection measures are implemented. If possible, I recommend not encroaching within the minimum limit of allowable disturbance of 12 feet for tree 1338 and 15 feet for tree 1341.

It is likely that tree roots will be encountered under the asphalt as it is removed from the area near the trees. I recommend proceeding with caution when removing the existing asphalt. If possible, the asphalt should be pulled back in slabs away from the adjacent trees without requiring heavy equipment to enter the drip line of the trees. If this is not possible, the asphalt should be broken using hand tools working away from the trunk of the tree. Heavy equipment could potentially rip and shatter tree roots causing unnecessary wounding and decay in structural roots. Soil compaction within the drip line of trees 1337, 1338, and 1341 should be avoided as it could potentially negatively impact the long term health of the trees.

When excavating next to a tree a hand tools should be used when possible. To the extent possible do not cut roots over 3 inches. If root cuts are required, roots should be exposed by hand then cleanly cut with a sharp implement to promote occlusion of the wound and encourage re-growth. Any root cuts 3 inches and greater should be monitored and assessed by a qualified arborist.

Douglas-fir trees demonstrate poor / good relative tolerance to development impacts, they are tolerant of fill soil if limited to one-quarter of the root zone, they are tolerant of root pruning, but intolerant to poor drainage.

Detailed grading plans are not yet available for the driveway. In order to minimize impacts to retained trees adjacent to the proposed driveway, the existing grade should be maintained or raised if feasible. Lowering the grade may result in root loss to adjacent trees. Alternative construction practices such as air or hydro-excavation may be necessary within tree protection areas to minimize ripping or tearing of roots. If it is necessary to lower the grade slightly to achieve compaction rates and prepare the subgrade, the soil could be removed using air or hydro-excavation to reach the desired grade while allowing roots to be retained. Crushed gravel or rock can then be layered on top of the surface and compacted to prepare the subgrade.

Tree Replacement

Tree replacement is required following the removal of trees on development sites. Tree replacement for this site is calculated as follows based on the below table.

Exceptional trees that are removed are required to be replaced at a ratio of 6:1. Tree 1338 has a DSH of 29.9 inches and if removed would require replacement trees at 3:1. It is possible that additional site trees or adjacent trees with overhanging canopies could be disturbed depending on the final placement of the driveway and the disturbance caused by construction activity.

Bald Eagle Nesting Site

Based on a map provided by the City of Mercer Island, the site is located within 660 feet of a bald eagle nest. It is possible that removing trees on the site would require approval from the U.S. Department of Fish and Wildlife. Removals may be restricted to months outside of the bald eagle nesting season of

January 1st through August 31st. The U.S. Department of Fish and Wildlife maintains a permit recommendation tool at: https://www.fws.gov/pacific/eagle/permit_types/do_i_need_a_permit.html.

Figure 1. Tree Replacement Ratios (MICC 19.10.070)

Tree Replacement Ratios	
Diameter of Removed Tree (measured 4.5' above ground)	**Number of Replacement Trees Required**
Less than 10 inches	1
10 inches up to 24 inches	2
24 up to 36 inches	3
More than 36 inches and any exceptional tree(s)	6

Recommendations

- Obtain permits from the City of Mercer Island prior to beginning site work.
- Obtain all necessary permits from the U.S. Department of Fish and Wildlife pertaining to the bald eagle nest within 660 feet of the site. Tree removal may be restricted.
- Obtain permission from the City Arborist to remove tree 1340.
- Obtain permission from the City Arborist before carrying out any site work that may disturb the trees located in the right of way adjacent to W Mercer Way.
- Remove or reduce tree 1345 to a wildlife snag.
- Adjust the sprinkler head to avoid tree 1347.
- Protect and retain all trees located on adjacent properties with overhanging canopies.
- Establish tree protection around all trees adjacent to development.
    - Tree protection fencing should encompass the entire Limits of Allowable Disturbance Area as shown in the attached Table of Trees unless alternative tree protection measures are determined by a qualified arborist to be suitable to ensure tree viability.

Photographs

Photo 1: The blue arrow indicates grouping of trees labeled as tree B on the site map.

Photo 2: Tree 1340 showing buried trunk and bulge at the base. The tree should be monitored for any change in health condition.

Photo 3: Tree 1347 showing Ganoderma fruiting bodies on the trunk of the tree at the base.

Glossary

ANSI A300: American National Standards Institute (ANSI) standards for tree care
basic assessment: detailed visual inspection of a tree and surrounding site that may include the use of simple tools. It requires that a tree risk assessor walk completely around the tree trunk looking at the site, aboveground roots, trunk, and branches (ISA 2013)
chlorotic: foliage with whitish or yellowish discoloration caused by lack of chlorophyll
codominant stems: stems or branches of nearly equal diameter, often weakly attached (Matheny *et al.* 1998)
cracks: defects in trees that, if severe, may pose a risk of tree or branch failure (Lilly 2001)
crown: the aboveground portions of a tree (Lilly 2001)
DBH or DSH: diameter at breast or standard height; the diameter of the trunk measured 54 inches (4.5 feet) above grade (Matheny *et al.* 1998)
deciduous: tree or other plant that loses its leaves sometime during the year and stays leafless generally during the cold season (Lilly 2001)
evergreen: tree or plant that keeps its needles or leaves year round; this means for more than one growing season (Lilly 2001)
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)
level(s) of assessment: categorization of the breadth and depth of analysis used in an assessment (ISA 2013)
limited visual assessment: a visual assessment from a specified perspective such as foot, vehicle, or aerial (airborne) patrol of an individual tree or a population of trees near specified targets to identify specified conditions or obvious defects (ISA 2013)
mitigation: process of reducing damages or risk (Lilly 2001)
moment: a turning, bending, or twisting force exerted by a lever, defined as the force (acting perpendicular to the lever) multiplied by the length of the lever (ISA 2013)
monitoring: keeping a close watch; performing regular checks or inspections (Lilly 2001)
owner/manager: the person or entity responsible for tree management or the controlling authority that regulates tree management (ISA 2013)
pathogen: causal agent of disease (Lilly 2001)
phototropic growth: growth toward light source or stimulant (Harris *et al.*1999)
retain and monitor: the recommendation to keep a tree and conduct follow-up assessments after a stated inspection interval (ISA 2013)
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 - Limits of Assignment

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

Tree Solutions did not review any reports or perform any tests related to the soil located on the subject property unless outlined in the scope of services. Tree Solutions staff are not and do not claim to be soils experts. An independent inventory and evaluation of the 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.

A **Hazard Tree** is defined as a tree that has been assessed and determined to have characteristics that make it an unacceptable risk for continued retention. A hazard tree, or a hazardous component, exist when the sum of the risk factors equals or exceeds a predetermined threshold of risk. The predetermined threshold for risk and the actions required to reduce the risk below that threshold is established by the risk manager.

As a Qualified Tree Risk Assessor, my job is to provide the risk manager, in most cases the property owner, with technical information required to make informed decisions. The risk manager must make the decision about how to implement the actions required to reduce risk to acceptable levels.

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 using the method outlined in the Guide for Plant Appraisal, 9th Edition.

I used a steel soil probe to test soil depths. I used binoculars to inspect the upper parts of the trees.

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 ¾ 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 - Assumptions & Limiting Conditions

1. Consultant assumes that any legal description provided to Consultant is correct and that title to property is good and marketable. Consultant assumes no responsibility for legal matters. Consultant assumes all property appraised or evaluated is free and clear, and is under responsible ownership and competent management.

2. Consultant assumes that the property and its use do not violate applicable codes, ordinances, statutes or regulations.

3. Although Consultant has taken care to obtain all information from reliable sources and to verify the data insofar as possible, Consultant does not guarantee and is not responsible for the accuracy of information provided by others.

4. Client may not require Consultant to testify or attend court by reason of any report unless mutually satisfactory contractual arrangements are made, including payment of an additional fee for such Services as described in the Consulting Arborist Agreement.

5. Unless otherwise required by law, possession of this report does not imply right of publication or use for any purpose by any person other than the person to whom it is addressed, without the prior express written consent of the Consultant.

6. Unless otherwise required by law, no part of this report shall be conveyed by any person, including the Client, the public through advertising, public relations, news, sales or other media without the Consultant's prior express written consent.

7. This report and any values expressed herein represent the opinion of the Consultant, and the Consultant's fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event or upon any finding to be reported.

8. All photographs included in this report were taken by Tree Solutions Inc. during the documented site visit, unless otherwise noted.

9. Sketches, drawings and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by Consultant as to the sufficiency or accuracy of the information.

10. Unless otherwise agreed, (1) information contained in this report covers only the items examined and reflects the condition of the those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, climbing, or coring. Consultant makes no warranty or guarantee, express or implied, that the problems or deficiencies of the plans or property in question may not arise in the future.

11. Loss or alteration of any part of this Agreement invalidates the entire report.

Tree Solutions Inc
Consulting Arborists

Table of Trees

3879 West Mercer Way
Mercer Island, 98040

Date of Inventory: 12/5/2017
Table Prepared: 2/1/2018

						Drip line Radius (feet)								
Tree ID	**Scientific Name**	**Common Name**	**DSH** (inches)	**Health Condition**	**Structural Condition**	**North**	**East**	**South**	**West**	**Average Drip Line** (feet)	**Exceptional Threshold**	**Exceptional (y/n)**	**Minimum Limits of Allowable Disturbance** (feet)	**Notes**
1335	*Pseudotsuga menziesii*	Douglas-fir	30.7	Good	Good	16	21	20	17	19	30	Yes	13	Normal vigor, ivy at base, proposed driveway going to north of this tree.
1336	*Pseudotsuga menziesii*	Douglas-fir	33.7	Good	Good	16	17	17	18	17	30	Yes	14	Old crack at base up to 6 feet on north side. Ivy on trunk.
1337	*Pseudotsuga menziesii*	Douglas-fir	34.7	Good	Good	18	18	20	20	19	30	Yes	14	Old wound at 5 feet on north, crack on north, ivy at base.
1338	*Pseudotsuga menziesii*	Douglas-fir	29.9	Good	Good	20	20	21	20	20	30	No	12	Old wound at 20 feet on north.
1339	*Pseudotsuga menziesii*	Douglas-fir	19.0	Good	Fair	16	6	6	20	12	30	No	8	Kink at 30 feet, suppressed.
1340	*Pseudotsuga menziesii*	Douglas-fir	29.3	Good	Good	17	18	21	17	18	30	No	12	Bulge at base to east, buried trunk to east, approximately 6 feet south of the residence.
1341	*Pseudotsuga menziesii*	Douglas-fir	34.8	Good	Good	20	17	16	15	17	30	Yes	15	At edge of driveway, ivy at base.
1342	*Pinus monticola*	Western white pine	8.5	Good	Good	4	4	10	10	7	24	No	4	Ivy on trunk.
1343	*Pinus monticola*	Western white pine	8.8	Good	Good	12	3	4	12	8	24	No	4	Ivy on trunk, phototropic lean to the west.
1344	*Abies grandis*	Grand fir	37.0	Good	Good	18	18	16	16	17	24	Yes	15	
1345	*Quercus palustris*	Pin oak	25.4	Fair	Fair	22	20	18	14	19	30	No	11	Ganoderma conks at base, large pruning cuts, approximately 50 percent of the canopy removed. Low vigor. Approximately 20 feet to the deck of the residence to the north.
1346	*Acer Rubrum*	Red maple	7.4	Good	Good	16	10	12	12	13	25	No	3	
1347	*Thuja plicata*	Western redcedar	19.2	Good	Good	14	14	14	14	14	30	No	8	Fungus on trunk up to 4 feet due to excess moisture form sprinkler head nearby.
1348	*Thuja plicata*	Western redcedar	30.0	Good	Good	18	16	14	17	16	30	Yes	13	
1349	*Acer rubrum*	Red maple	8.8	Good	Good	16	10	6	3	9	25	No	4	
1350	*Arbutus menziesii*	Pacific madrone	32.7	Good	Good	14	14	15	30	18	6	Yes	14	At cliff edge, possible former slide area.
1351	*Pseudotsuga menziesii*	Douglas-fir	26.0	Good	Good	18	18	18	18	18	30	No	11	On cliff edge, no tag, normal vigor.
1352	*Arbutus menziesii*	Pacific madrone	26.4	Good	Fair	16	12	14	26	17	6	Yes	11	Large canker at base.
1353	*Pseudotsuga menziesii*	Douglas-fir	27.3	Good	Good	18	17	4	12	13	30	No	11	Former crack on southwest.

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Table of Trees
3879 West Mercer Way
Mercer Island, 98040

Date of Inventory: 12/5/2017
Table Prepared: 2/1/2018

Tree ID	Scientific Name	Common Name	DSH (inches)	Health Condition	Structural Condition	North	East	South	West	Average Drip Line (feet)	Exceptional Threshold	Exceptional (y/n)	Minimum Limits of Allowable Disturbance (feet)	Notes
1354	*Pseudotsuga menziesii*	Douglas-fir	27.4	Good	Good	5	14	15	15	12	30	No	11	Flat side on north, adjacent to 1353.
1355	*Alnus rubra*	Red alder	10.8	Good	Fair	4	14	11	7	9	36	No	5	Wound at base.
1356	*Pseudotsuga menziesii*	Douglas-fir	33.7	Good	Good	21	15	15	20	18	30	Yes	14	Corrected lean to the north, approximately 10 feet from neighbors porch.
1357	*Quercus palustris*	Pin Oak	7.0	Good	Fair	12	3	4	8	7	30	No	3	Heavy former pruning, over deck of neighbor.
1358	*Malus domestica*	Apple	11.7	Good	Good	10	4	10	6	8	20	No	5	
Adjacent Site Trees														
A	*Thuja plicata*	Western redcedar	20.0	Good	Good	17	17	17	17	17	30	No		Adjacent to fence on south property line.
B	*Robinia pseudoacacia*	Black locust	19.1	Good	Fair	4	18	16	16	14	36	No		Adjacent to W. Mercer.
C	*Robinia pseudoacacia*	Black locust	13.6	Good	Fair	3	18	16	0	9	36	No		Adjacent to W. Mercer.
D	*Robinia pseudoacacia*	Black locust	14.4	Good	Fair	10	14	12	3	10	36	No		Adjacent to W. Mercer.
E	*Pseudotsuga menziesii*	Douglas-fir	16.8	Good	Good	12	12	14	10	12	30	No		Adjacent to W. Mercer, 8 feet west of pavement.
F	*Pseudotsuga menziesii*	Douglas-fir	17.3	Good	Good	10	12	12	12	12	30	No		6 feet west of the pavement.
G	*Pseudotsuga menziesii*	Douglas-fir	16.0	Good	Good	8	12	10	12	11	30	No		Ivy at base.
H	*Pinus ponderosa*	Ponderosa pine	17.0	Good	Good	6	12	10	10	10	30	No		6 feet west of the pavement.
I	*Pseudotsuga menziesii*	Douglas-fir	6.0	Good	Fair	6	6	6	6	6	30	No		Suppressed.
J	*Thuja plicata*	Western redcedar	4.0	Good	Good	6	6	6	6	6	30	No		Approximately 14 feet tall.
K	*Thuja plicata*	Western redcedar	20.0	Good	Good	15	16	5	10	12	30	No		10 feet west of Mercer.
L	*Thuja plicata*	Western redcedar	7.4	Good	Poor	12	10	0	8	8	30	No		Suppressed.
M	*Thuja plicata*	Western redcedar	2.5	Good	Good	6	6	6	6	6	30	No		Approximately 8 feet tall.

Additional notes:

DSH (Diameter at Standard Height) is measured 4.5 feet above grade.
Multi-stem trees are noted, and a single stem equivalent is calculated using the method defined in the *Guide for Plant Appraisal, 9th Edition*
Drip line is measured from the center of the tree to the outermost extent of the canopy
MICC 19.10 defines Exceptional Trees (>36" DBH) or with a diameter equal to or greater than the diameter listed in the Exceptional Tree Table
Minimum Limits of Allowable Disturbance (LOD) *was calculated using guidelines outlined in the ISA Best Management Practices: Managing Trees During Construction and is calculated as a radial distance five (5) times the trunk diameter. Tree Protection Areas may be reduced on a case-by-case basis depending on type of disturbances proposed and tree protection measures implemented to ensure tree survival.*

LEGEND

- FOUND MONUMENT AS DESCRIBED
- FOUND REBAR AS DESCRIBED
- TACK IN LEAD FOUND
- SET 5/8" X 24" IRON ROD W/1" YELLOW PLASTIC CAP
- POWER METER
- UTILITY POLE
- GAS METER
- SANITARY SEWER CLEANOUT
- SANITARY SEWER MANHOLE
- WATER VALVE
- FIRE HYDRANT
- WATER METER
- SIGN
- APPROXIMATE LOCATION SANITARY SEWER LINE
- APPROXIMATE LOCATION STORM DRAIN LINE
- OVERHEAD UTILITIES
- CHAINLINK FENCE
- WOOD FENCE
- CONCRETE WALL
- ROCKERY
- ASPHALT SURFACE
- CONCRETE SURFACE
- GRAVEL SURFACE

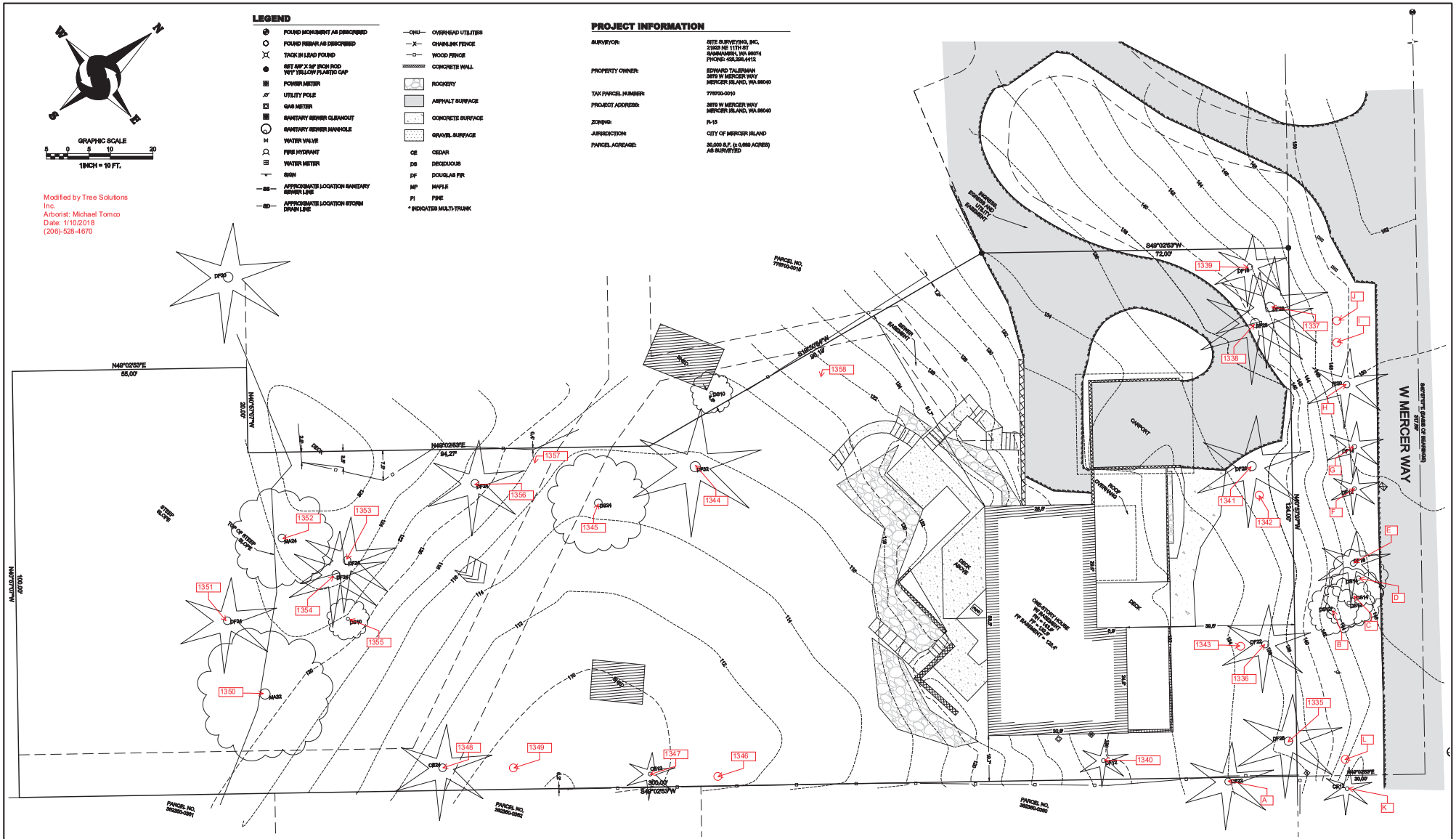
CE CEDAR
DB DECIDUOUS
DF DOUGLAS FIR
MP MAPLE
PI PINE
* INDICATES MULTI-TRUNK

GRAPHIC SCALE
5 0 5 10 20
1INCH = 10 FT.

Modified by Tree Solutions Inc.
Arborist: Michael Tomco
Date: 1/10/2018
(206)-528-4670

PROJECT INFORMATION

SURVEYOR:	SITE SURVEYING, INC. 21923 NE 11TH ST SAMMAMISH, WA 98074 PHONE: 425.298.4412
PROPERTY OWNER:	EDWARD TALERMAN 3879 W MERCER WAY MERCER ISLAND, WA 98040
TAX PARCEL NUMBER:	7789000-0010
PROJECT ADDRESS:	3879 W MERCER WAY MERCER ISLAND, WA 98040
ZONING:	R-15
JURISDICTION:	CITY OF MERCER ISLAND
PARCEL ACREAGE:	30,000 S.F. (± 0.689 ACRES) AS SURVEYED



BASIS OF BEARINGS

PLAT ALTERATION BY TRIAD ASSOCIATES AS RECORDED UNDER RECORDING NUMBER 20110902000835, RECORDS OF KING COUNTY, WASHINGTON.

VERTICAL DATUM & CONTOUR INTERVAL

DATUM

ELEVATIONS SHOWN ON THIS DRAWING WERE DERIVED FROM INFORMATION PROVIDED BY THE WSS SURVEY DATA WAREHOUSE.

POINT ID NO. 9003
CONCRETE MONUMENT IN CASE AT THE CENTERLINE OF W MERCER WAY, 162' NORTH OF THE INTERSECTION WITH SE 40TH STREET.

ELEVATION: 143.51 FEET NAVD 88

2.0' CONTOUR INTERVAL - THE EXPECTED VERTICAL ACCURACY IS EQUAL TO 1/3 THE CONTOUR INTERVAL OR PLUS / MINUS 1.0' FOR THIS PROJECT.

GENERAL NOTES

1. THIS SURVEY WAS COMPLETED WITHOUT BENEFIT OF A CURRENT TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST ON THIS PROPERTY THAT ARE NOT SHOWN HEREON.
2. INSTRUMENTATION FOR THIS SURVEY WAS A 3-SECOND NIKON NIVO 5.C TOTAL STATION. PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET BY WAC 332-130-090.
3. THE INFORMATION ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE IN SEPTEMBER 2017 AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
4. UTILITIES SHOWN ON THIS SURVEY ARE BASED UPON ABOVE GROUND OBSERVATIONS AND AS-BUILT PLANS WHERE AVAILABLE. ACTUAL LOCATIONS OF UNDERGROUND UTILITIES MAY VARY AND UTILITIES NOT SHOWN ON THIS SURVEY MAY EXIST ON THIS SITE.
5. ALL MONUMENTS WERE LOCATED DURING THIS SURVEY UNLESS OTHERWISE NOTED.

LEGAL DESCRIPTION

PARCEL A OF CITY OF MERCER ISLAND LOT LINE REVISION NO. 94-0079, AS RECORDED UNDER RECORDING NUMBER 9509129002, IN KING COUNTY, WASHINGTON.

SITUATE IN THE CITY OF MERCER ISLAND, COUNTY OF KING, STATE OF WASHINGTON.

PROJECT NO.	17-332
DRAWN BY:	EFJ
CHECKED BY:	TNW
DATE:	9/8/17
SHEET	1 OF 1

TOPOGRAPHIC SURVEY

EDWARD TALERMAN
3879 W MERCER WAY
MERCER ISLAND, WA 98040

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DATE	REVISION	DRN

NE 1/4 NW 1/4 & SE 1/4, SW 1/4, SEC 12, TWP 24N, RNG 4E, W.M.

THOMAS N. WOLDSCHOOD
STATE OF WASHINGTON
PROFESSIONAL LAND SURVEYOR

Site Surveying, Inc.
www.sitesurveymapping.com 21923 NE 11th Street Sammamish, WA 98074 Phone: 425.298.4412