

Tree Assessment For Seascape Homes At Lot 3, 5208 Forest Ave SE Mercer Island, Washington



Date 2/25/2021

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## Addenda

### I. Tree Location Map

- II. Tree Assessment Summary Table
- III. Basic Tree Risk Assessment Forms
  - IV. Tree Replacement Plan
  - V. Tree Replanting Detail
  - VI. Mercer Island Check list
- VII. Mercer Island Tree Inventory Form

## **1. Introduction**

I was contacted by Jon Tellefson of Seascape Homes to describe and assess the condition, viability and protection of trees on Lot 3, 5208 Forest Avenue, Mercer Island, WA. This report summarizes my observations and conclusions.

## 2. Competence

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

# 3. Client

The client to whom this report is addressed is:

Jon Tellefson Seascape Homes PO Box 40568 Bellevue, WA 98105 Jmt1231@gmail.com

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

The assignment is to describe and assess the condition and viability of on-site trees and to provide protection recommendations in conformance with the City of Mercer Island "Tree Submittal Check List", attached.

# 5. Limits of Assignment

The assignment is limited to the information gathered during the site visit June 21, 2020 (date of assessment) and references noted in this report. No excavation or sampling was undertaken to determine unseen defects. No inspection of trees not reported herein was made.

A site plan indicating a proposed development plan was provided and is included in the Addenda with tree locations noted.

## 6. Site Description

Lot 3, 5208 Forest Ave SE, Mercer Island, WA, King County Parcel No. 1410300061. The subject property is heavily forested, undeveloped and is16,538 square feet in area.

A new single-family replacement residence is planned for the site.

# 7. Methodology

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

Each tree was assessed as to its condition, or vigor and viability:

### Vigor or condition:

Health: Biotic

- Good: No evidence of fungal infection or decay; expected to survive without disturbance to its normal life expectancy. (40-100 years in this case)
- Fair: Tree has initial fungal decay or evidence of insect habitat and is less likely to survive to normal life expectancy. Some with minor defects, are rated viable,
- Poor: Tree has significant fungal decay and defects that render it not likely to survive three years.

Structural: Abiotic

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

### Viability:

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

# 8. Tree Description

Refer to the attached Tree Assessment Summary Form. A total of twenty on-site trees as indicated on the Site Plan provided were found. They are classified by the City Municipal Code (MICC) 19.10 – "Trees" as indicated following in Table 1.

Species	Exceptional	Large	Small	Not Viable
W. red cedar	1			
Bigleaf maple	2			1
W. Hemlock		1		2
Douglas-fir	2	7	1	2

 Table 1- Tree Classifications-On-site tree

The Exceptional tree category does not double count the "large" trees. Non-viable trees are not counted in the classifications.

Trees, No. 301 and 317, both Douglas-fir, trees 305 and 308 both hemlocks and tree 320 a big leaf maple are non-viable. No replacement is required per (MCC 19.10.070). Basic Tree Risk Assessment forms are attached for these trees.

All of the on-site trees except No. 310 are within the proposed building footprint and will be removed. The total replacement trees needed is 39.

# 9. Root Zone Impacts

The limits of disturbance are determined on a case-by-case basis for each tree in consideration of the tree size, estimate of the extent of the root zone and consideration of the planned root zone disturbance per Distances from the face of each tree to the excavation limit were provided by the client. Trees No. 311-313 and offsite tree (NGPA) No. 110 near the footing excavation were measured for dripline (root zone) impacts. As seen following in Table 2, it is unlikely that any impact will occur.

No.	Species	Facing	Measured	Excavation	Root	Critical Root
		Dripline	Distance to	Туре	Zone	Zone Impact
			Excavation		Impact	
			Limit			
311	Douglas-fir	16'	16.5'	Footing	0%	0%
312	Douglas-fir	8'	24.8'	Footing	0%	0%
313	Bigleaf maple	34'	25.5'	Footing	0%	0%
110	W. hemlock	2'	30'	Footing	0%	0%

The tree removal plan will remove 18 viable trees, leaving 1 viable tree on site.

### **10. Replacement Trees**

No trees are required to replace trees No. 301, 305, 308, 317 and 320 as these are dead standing or non-viable and will constitute high risk hazards, post construction, yet 39 trees are required to replace those to be removed per Mercer Island Code 19.10.070. Due to the large number of on-site trees to be removed and lack of replacement space the client is offering to pay a fee-in-lieu for 20 trees and planting 19 on site as seen in the Addenda, Tree Replacement Plan. The code language is:

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

1. There is insufficient area on the <u>lot</u> or adjacent <u>right-of-way</u> for proposed on-site <u>tree</u> replacement to meet the <u>tree</u> replacement requirements of this chapter; or

2. <u>Tree</u> replacement or management provided within public <u>right-of-way</u> or a <u>city</u> 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 <u>tree</u> replacement cost including labor, materials, and maintenance for each <u>replacement tree</u>; and

b. The most current Council of <u>Tree</u> and Landscaper Appraisers Guide for Plant Appraisal.

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

The client is offering \$20,000 in lieu of planting the 20 trees.

The selected native replacements to be planted on site as indicated on the attached plan in the addenda is indicated following.

Common name	Scientific name	Number	Size
Bigleaf maple	Acer macrophyllum	8	1.5" caliper
Douglas-fir	Psuedotsuga menziesii	5	6' height
Western red cedar	Thuja plicata	6	6' height
Total		19	

Table 3 – Replacement Trees

Per MCC 19.10.070 replacement trees must be at least 6-feet tall for the Douglas-fir and Western red cedar and 1.5-inches in diameter at the base for the Dogwood and Cascara, all spaced 20-feet apart. These are to be maintained for a period of 5 years after establishment. The planting detail is found in the addenda.

## 11. Summary

Tree protections for those to be retained include:

- Certified Arborist on site during excavation activities within the defined root zone of all trees.
- All trees to be retained are to be fenced at the edge of the recommended tree protection zone with 6-foot high cyclone type fencing.
- Utility lines should be bored. Bore access pits to be developed with 18" buckets or hand dug.
- Retaining wall footings to be minimally deep, no more than 12-inches.
- Tree roots over 1-1/2 inches in diameter encountered in all excavations are to be cut cleanly to the trench wall with clean sharp tools. Roots to be covered with soil or wetted burlap if they must remain exposed.
- Supplemental irrigation is to be provided during summer months (generally June-September) for all trees in the construction zones.
- Recommended protected tree root zones are to be covered with 4-inches of hog fuel at all times. Where machinery access is needed, the root zones should be covered with 12-inches of hog fuel, plywood or steel sheets.
- Stumps for trees to be removed are to be ground out (not excavated).

# **12.** Assumptions and Limiting Conditions

- 1. Any legal description provided to the consultant is assumed to be correct. Ownership of the subject trees as provided by the client is assumed to be correct. No responsibility is assumed for legal matters. No opinion as to the property line location is made.
- 2. Care has been taken to obtain all information from reliable sources. The consultant can neither guarantee nor be responsible for the accuracy of information provided by others.
- 3. The consultant shall not be required to give testimony or attend court by reason of this report unless subsequent contractual arrangements are made, including additional fees.
- 4. This report and any values expressed herein represent the opinion of the consultant, and the consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.
- 5. The exhibits in this report are included to assist the reader and are not necessarily to scale.

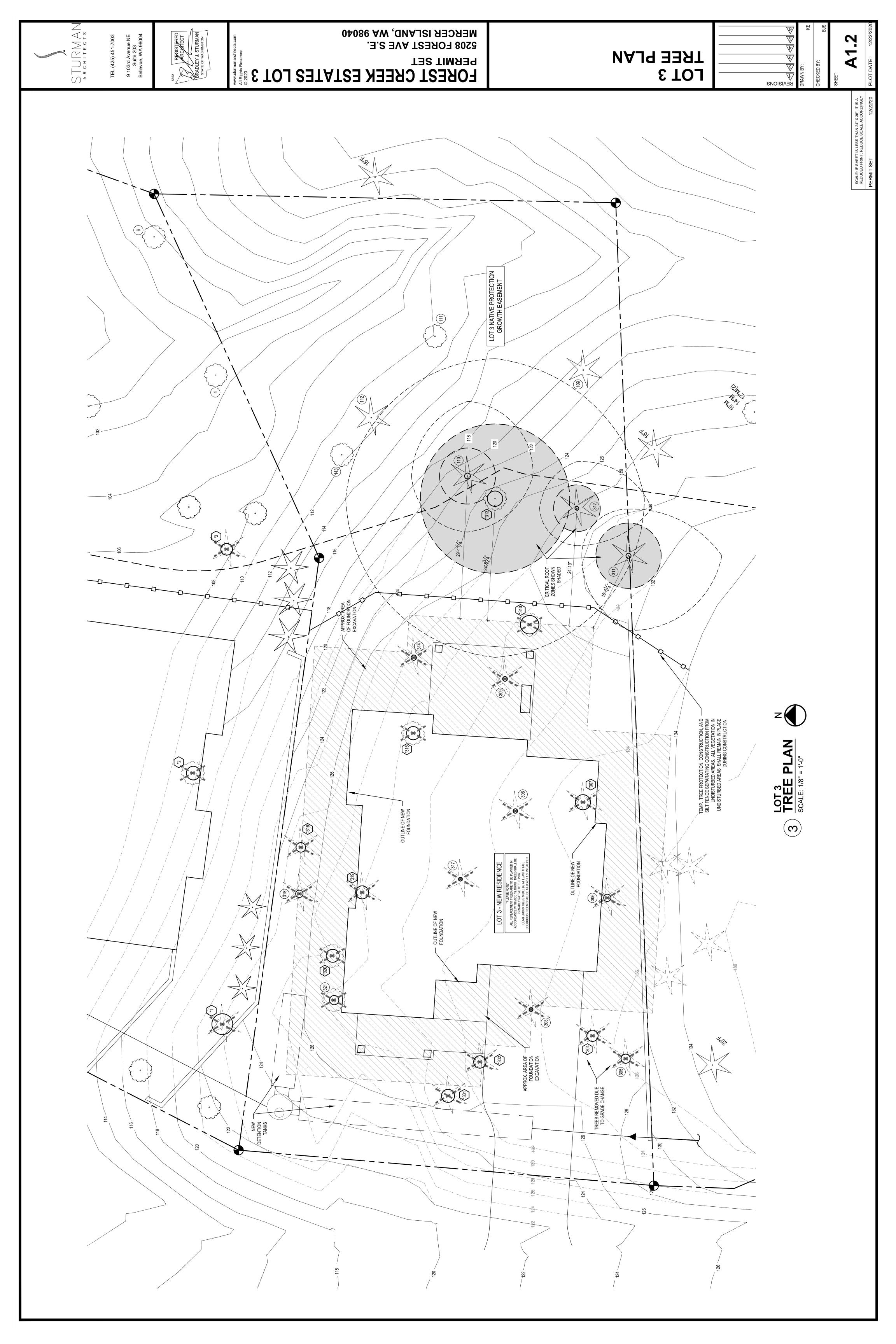
- 6. Unless expressed otherwise, information in this report covers only items that were examined, and reflects the condition of those items at the time of inspection. The subject site was cleared of all vegetation at the time of inspection therefore the extent of removals is inferred from adjacent undisturbed areas. The inspection is limited to visual examination of accessible portions of the trees and plants.
- 7. Loss or alteration of any part of the report invalidates the entire report. Ownership of any documents related to this report passes to the client only.
- 8. The liability of ArborInfo LLC its contractors and employees is limited to the client only and only up to the amount of the fee actually received for the assignment.
- 9. There is no warranty suggested for any of the trees subject to this report. Weather, latent tree conditions, and future man-caused activities could cause physiologic changes and deteriorating tree condition. Over time, deteriorating tree conditions may appear and there may be conditions, which are not now visible which, could cause tree failure. This report or the verbal comments made at the site in no way warrant the structural stability or long-term condition of any tree, but represent my opinion based on the observations made.
- 10. Nearly all trees in any condition standing within reach of improvements or human use areas represent hazards that could lead to damage or injury. The assessment is valid for two years from the date of inspection, only.
- 11. PERTINENT JURISDICTION RULES AND REGULATIONS SHOULD BE CONSULTED PRIOR TO THE REMOVAL OF ANY TREE.

Respectfully Submitted,

For Hanna

Thomas M. Hanson, CF, RCA

- I. Tree Location Map
- II. Tree Assessment Summary Table
- III. Basic Tree Risk Assessment Forms
- IV. Replacement Plan
- V. Planting Detail
- VI. Mercer Island Check list
- VII. Mercer Island Tree Inventory Form



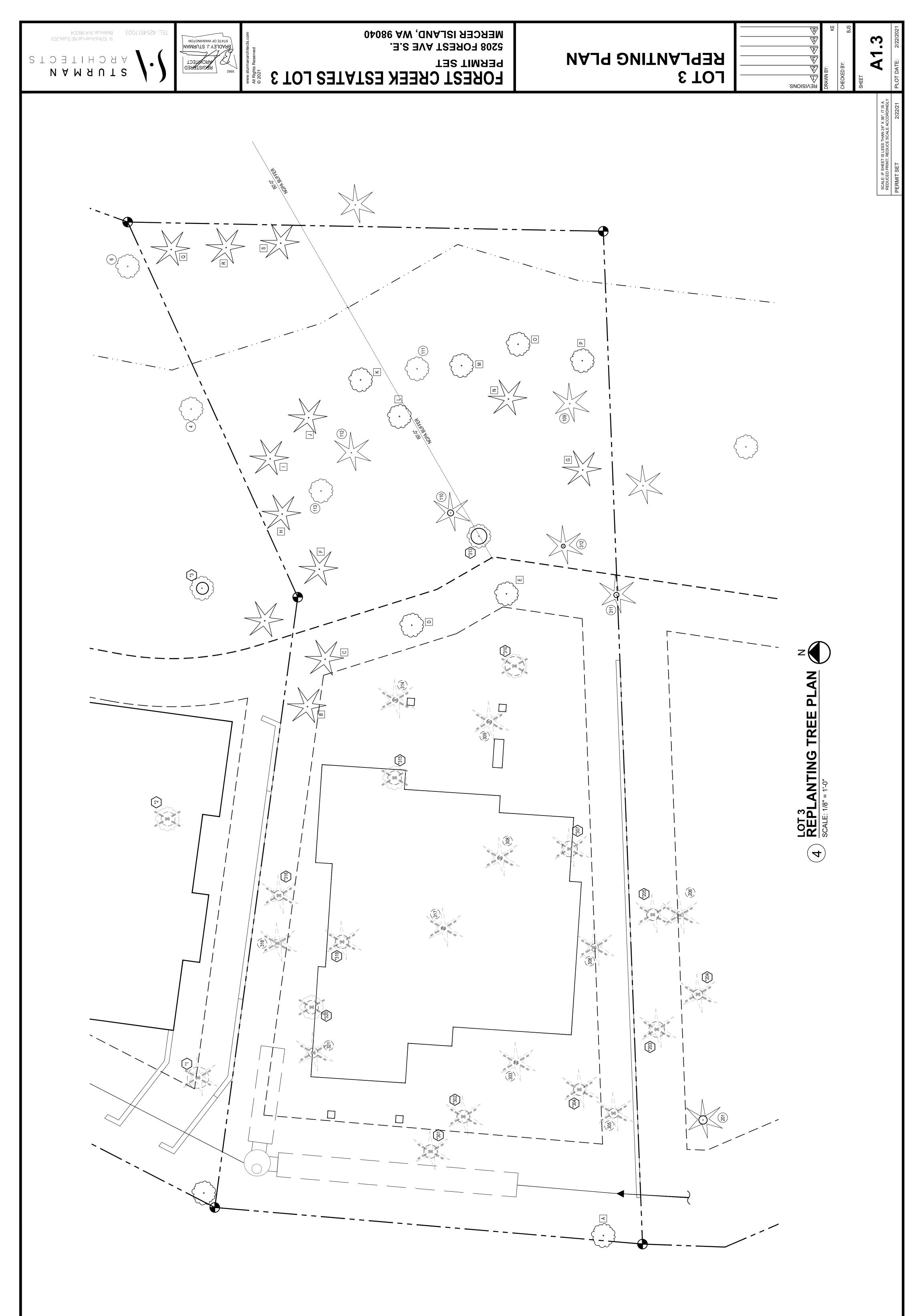
								Tre	Tree Assessment	sment							
Site:	, Lot 3, Forest	Site: , Lot 3, Forest Ave , Mercer Island WA									Date: 6	721/2020	) (rev 2/	Date: 6/21/2020 (rev 2/22/2021)			
Tree #		Species	DBH	Height	Сгомп		Dripline	ine		LOD/Critical	Vi	Vigor	Viable	Status	Replacement	Retain	Defects/Comments
:	Common	Scientific	(inches)	(feet)	Ratio (%)	Z	s	Э	M	e	Health	Health Structure Yes/No	Yes/No		No.	Remove	
									On Site	te							
301	Douglas-fir	Psuedotsuga menziesii	33.7	100	40	18	12	18	18	ø	Fair	Poor	No	Hazard	0	Remove	Broken top, 2'x4'cavity
302	W. red cedar	Thuja plicata	31.8	125	60	12	22	18	22	6	Good	Fair	Yes	Exceptional	3	Remove	Heart rot to 8'
303	Douglas-fir	Psuedotsuga menziesii	9.9	55	60	12	13	13	9	9	Good	Good	Yes	Small	1	Remove	
304	Douglas-fir	Psuedotsuga menziesii	29.1	125	60	16	16	20	18	6	Good	Fair	Yes	Large	3	Remove	Heart rot to 4'
305	W. hemlock	Tsuga heterophylla	23.5	40	0	0	0	0	0	0	0	0	No	Hazard	0	Remove	Dead
306	Douglas-fir	Psuedotsuga menziesii	18.7	110	09	18	14	12	18	8	Good	Fair	Yes	Large	2	Remove	Heart rot to 3', top out
307	Douglas-fir	Psuedotsuga menziesii	38.9	125	50	18	24	20	24	11	Good	Good	Yes	Exceptional	9	Remove	
308	W. hemlock	Tsuga heterophylla	11.5	65	20	0	12	0	4	2	Poor	Fair	No	Hazard	0	Remove	Dying
309	Douglas-fir	Psuedotsuga menziesii	12.4	65	20	8	8	9	10	4	Fair	Good	Yes	Large	2	Remove	Suppressed
310	Bigleaf maple	Acer macrophyllum	47.5	110	02	34	36	30	32	17	Good	Good	Yes	Exceptional	9	Remove	Sweep east
311	Douglas-fir	Psuedotsuga menziesii	13.1	70	09	10	20	10	16	7	Good	Good	Yes	Large	0	Retain	
312	Douglas-fir	Psuedotsuga menziesii	9.8	60	40	8	16	10	8	5	Good	Good	Yes	Small	0	Retain	
313	Bigleaf maple	Acer macrophyllum	39.4*	110	50	32	32	30	34	16	Good	Good	Yes	Exceptional	0	Retain	leans east
314	W.hemlock	Tsuga heterophylla	13.5	70	50	16	14	25	12	8	Good	Good	Yes	Large	2	Remove	
315	Bigleaf maple	Acer macrophyllum	34.2	105	60	28	28	18	28	13	Good	Good	Yes	Exceptional	3	Remove	
316	Douglas-fir	Psuedotsuga menziesii	24.5	125	40	14	14	18	12	7	Good	Fair	Yes	Large	3	Remove	Minor heart rot
317	Douglas-fir	Psuedotsuga menziesii	9.4	70	20	10	8	10	4	4	Poor	Good	No	Small	0	Remove	Dying, suppressed
318	Douglas-fir	Psuedotsuga menziesii	19.1	95	50	10	24	12	14	8	Good	Good	Yes	Large	2	Remove	
319	Douglas-fir	Psuedotsuga menziesii	33.6	115	40	24	24	24	24	12	Good	Good	Yes	Exceptional	3	Remove	Top out
320	Bigleaf maple	Acer macrophyllum	33.5	95	40	28	28	28	30	14	Fair	Fair	No	Hazard	0	Remove	Thinning crown, dying
321	Douglas-fir	Psuedotsuga menziesii	23.7	105	60	16	20	22	18	10	Good	Good	Yes	Large	2	Remove	Top out, sweep west
													# Rep	# Replacement trees	38		
							Ņ	ative Gr	owth Pr	Native Growth Protection Area							
109	W.hemlock	Tsuga heterophylla	22.5	110	0	0	0	0	0	0	0	0	0	Large		Retain	Dead
110	W.hemlock	Tsuga heterophylla	15.2	65	30	12	14	16	2	9	Poor	Poor	No	Large		Retain	Dying
111	W.hemlock	Tsuga heterophylla	15.0	105	0	0	0	0	0	0	0	0	0	Large		Retain	Dead
112	W.hemlock	Tsuga heterophylla	12.5	55	0	0	0	0	0	0	0	0	0	Large		Retain	Dead
113	W.hemlock	Tsuga heterophylla	18.9	95	0	0	0	0	0	0	0	0	0	Large		Retain	Dead

						Tree As	Tree Assessment						
t Ave , M	Site: , Lot 3, Forest Ave , Mercer Island WA							Date: 6/21/2020 (rev 2/22/2021)	) (rev 2/22	/2021)			
Species	s Scientific	DBH (inches)	Height (feet)	Crown Ratio (%)	N S	Dripline S E W	LOD/Critical Inner Root Zone	LOD/Critical Vigor Visor Visor Visor Xoo I	Viable Yes/No	Status	Replacement No.	Retain Remove	Defects/Comments
						ō	On Site						
	*	* multiple stems adjusted to single	s adjusted to	single									



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		Double com out Troop		
		<u>Replacement Trees</u>	D	
<u>Map</u>			<u>Deciduous</u>	<u>Conifer</u>
Location			<u>Caliper</u>	<u>Height</u>
Α	Bigleaf maple	Acer macrophyllum	1.5	
В	W. red cedar	Thuja plicata		6
С	W. red cedar	Thuja plicata		6
D	Bigleaf maple	Acer macrophyllum	1.5	
Е	Bigleaf maple	Acer macrophyllum	1.5	
F	Douglas-fir	Psuedotsuga menziesii		6
G	Douglas-fir	Psuedotsuga menziesii		6
Н	Douglas-fir	Psuedotsuga menziesii		6
I	Douglas-fir	Psuedotsuga menziesii		6
J	Douglas-fir	Psuedotsuga menziesii		6
К	Bigleaf maple	Acer macrophyllum	1.5	
L	Bigleaf maple	Acer macrophyllum	1.5	
М	Bigleaf maple	Acer macrophyllum	1.5	
Ν	W. red cedar	Thuja plicata		6
0	Bigleaf maple	Acer macrophyllum	1.5	
Р	Bigleaf maple	Acer macrophyllum	1.5	
Q	W. red cedar	Thuja plicata		6
R	W. red cedar	Thuja plicata		6
S	W. red cedar	Thuja plicata		6

# **CITY OF MERCER ISLAND**

# **COMMUNITY PLANNING & DEVELOPMENT**

9611 SE 36TH STREET | MERCER ISLAND, WA 98040

PHONE: 206.275.7605 | www.mercergov.org

Inspection Requests: Online: <u>www.mybuildingpermit.com</u> VM: 206.275.7730

# TREE SUBMITTAL CHECKLIST

If a box is checked, please provide the information in your next submittal

#### SUBMITTAL ITEMS 1. The Mercer Island Tree Inventory Form Provide the City's Mercer Island Tree Inventory Form 2. Arborist report/tree inventory Provide an Arborist report, prepared by a qualified Arborist. Include the following information in the arborist report. 1. Description of how the arborist meets the threshold requirements for Qualified Arborist. $\square$ 2. A complete description of each tree's diameter, species, critical root zone, limits of allowable disturbance, health, condition, and viability. 3. A description of the method(s) used to determine the limits of allowable disturbance (i.e., critical root zone, root plate diameter, or a case-by-case basis description for individual trees). $\square$ 4. Any special instructions specifically outlining any work proposed within the limits of disturbance protection areas (i.e. hand-digging, air space, tunneling, root pruning, any grade changes, clearing, monitoring, and aftercare). 5. For trees not viable for retention, a description of the reason(s) for removal based on poor health, high risk of failure due to structure, defects, unavoidable isolation, windfirmness, unsuitability species, etc. If there is no reasonable alternative action (pruning, cabling, etc.) possible, replacement recommendations must be given. $\square$ 6. Describe the impact of necessary tree removal on the remaining trees, including those in a grove or on adjacent properties. 7. Describe timing and installation of tree protection measures. Such measures must include fencing and be in accordance with the tree protection standards as outlined in MICC 19.10. The suggested location and species of replacement trees to be used when required. The report 8. shall include planting and maintenance specifications to ensure long term survival. 9. A Tree Inventory containing the following: a. A numbering system of all existing large trees on the property (with corresponding tags on trees). The inventory shall also include large trees on adjacent property with driplines or critical root zones extending into the property. b. Tree size (diameter). c. Proposed tree status (retained or proposed for removal). d. Tree type or species. e. Identify all Exceptional trees and differentiate between those less than 24 inches and those greater than or equal to 24 inches in diameter. $\square$ f. Brief general health or condition rating of each tree (i.e. poor, fair, good, etc.).

### 3. Site/tree retention plan

Indicate the following on all civil/utility and grading sheets. If there are no civil sheets indicate on the architectural site plan



- □ 1. Location of all proposed improvements (building footprint, access, utilities, buffers, required landscape areas).
- □ 2. Surveyed location of all large trees and Exceptional trees on the property
- Show the critical root zone of Large trees on adjacent properties if driplines extend over the subject property line.
- Trees labeled corresponding to the tree inventory numbering system on the Mercer Island Tree Inventory Form.
- 5. Identify Exceptional trees using different symbols for trees less than 24 inches and trees greater than or equal to 24 inches.
- □ 6. Location of tree protection measures.
- 7. Limits of excavation near potential saved trees (e.g. excavation limits for building foundation).
- 8. Indicate clearing limits/limits of disturbance (LOD) around all trees potentially impacted by site disturbances grading, demolition, construction activities (including approximate LOD of off-site trees with overhanging driplines), etc.
- 9. Proposed tree status (trees to be removed or retained) noted by an 'X' for removal.

### 4. Replanting plan

□ Provide the Replanting plan showing proposed locations of any required replacement trees.

### PEER REVIEW AND CONFLICT OF INTEREST

A peer review of the tree permit application by a qualified arborist may be required to verify the adequacy of the information and analysis. **The applicant shall bear the cost of the peer review.** 

The City Arborist may require the applicant retain a replacement qualified arborist or may require a peer review where the City Arborist believes a conflict of interest may exist.

For example, if an otherwise qualified arborist is employed by a tree removal company and prepares the arborist report for a development proposal, a replacement qualified arborist or peer review may be required.

### **ARBORIST QUALIFICATION**

For tree reviews associated with a development proposal, a qualified arborist must have

- A minimum of three (3) years' experience working directly with the protection of trees during construction
- Have experience with the likelihood of tree survival after construction
- Be able to prescribe appropriate measures for the preservation of trees during land development
- ISA Tree Risk Assessment Qualification
- □ Your qualified arborists must have at least one (1) of the following credentials:
  - ISA Certified Arborist;
  - ISA Certified Arborist Municipal Specialist;
  - ISA Board Certified Master Arborist;
  - American Society of Consulting Arborists (ASCA) registered Consulting Arborist;
  - Society of American Foresters (SAF) Certified Forester for Forest Management Plans;

### ADDITIONAL INFORMATION

Additional Information. The City Arborist or Code Official may require additional documentation, plans, or information as needed to ensure compliance with applicable City regulations.

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**COMMUNITY PLANNING & DEVELOPMENT** 

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# TREE INVENTORY & REPLACEMENT SUBMITTAL INFORMATION

### **EXCEPTIONAL TREES**

<u>Exceptional Trees</u>- means a tree or group of trees that because of its unique historical, ecological or aesthetic value constitutes an important community resource. A tree that is rare or exceptional by virtue of its size, species, condition, cultural/historical importance, age, and/or contribution as part of a tree grove. Trees with a diameter of more than 36 inches, or with a diameter that is equal to or greater than the diameter listed in the Exceptional Tree Table shown in MICC 19.16 under Tree, Exceptional.

List the total number of trees for each category and the tree identification numbers from the arborist report.

Number of trees 36" or greater

List tree numbers:

Number of trees 24" or greater (including 36" or greater)

List tree numbers:

Number of trees from Exceptional Tree Table (MICC 19.16)

List tree numbers:

### LARGE REGULATED TREES

<u>Large Regulated Trees</u>- means any tree with a diameter of 10 inches or more, and any tree that meets the definition of an Exceptional Tree.

Number of Large Regulated Trees on site	(A)
List tree numbers:	
Number of Large Regulated Trees on site proposed for removal List tree numbers:	(B)
Percentage of trees to be retained ((A-B)/Ax100) note: must be at least 30%	%

### **RIGHT OF WAY TREES**

<u>Right of Way Trees</u>- means a tree that is located in the street right of way adjacent to the project property.

Number of Large Regulated Trees in right of way

List tree numbers:

Number of Large Regulated Trees in right of way proposed for removal

\\chfs1\share\CPD\FORMS\1Current Forms\Engineering Forms\TreeInventoryReplacementSubmittalInformation.docx 1/2019



List tree numbers:

Reason for removal:

#### TREE REPLACEMENT

Tree replacement- removed trees must be replaced based on the ratio in the table below. Replacement trees shall be conifers at least six feet tall and or deciduous at least one and one-half inches in diameter at base.

			Number of Tree
	Tree	Number of	Required for
Diameter of Removed Tree (measured 4.5'	replacement	Trees Proposed	Replacement Based
above ground)	Ratio	for Removal	on Size/Type
Less than 10"	1		
10" up to 24"	2		
Greater than 24" up to 36"	3		
Greater than 36" and any Exceptional Tree	6		

TOTAL TREE REPLACEMENTS