

Lucia Pirzio-Biroli AIA, Principal

Re: Steinborn Project 8435 SE 47th PL, Mercer Island, WA. Permit 2202-225

Project Arborist: Neal Baker ISA Certified Arborist PN1075A since 1990 with the TRAQ qualification obtained when the PNW chapter of the ISA transferred from the TRACE qualification to the ISA International adopted TRAQ program.

What follows is Item 2 of the required submittals for arborists' reports per city guidelines,

A complete description of each tree's diameter, species, critical root zone, limits of allowable disturbance, health, condition, and viability.

EXISTING TREE SCHEDULE								
Arborist	NW Tree Inventory							
Tree Number	Common name	Scientific Name	# of Trunks	DBH (Inches)	Dripline (Feet)	Condition	Retain	Notes
1	DOUGLAS FIR	Pseudotsuga menziesii	1	14	19	FAIR	YES	
2	DOUGLAS FIR	Pseudotsuga menziesii	1	15	12	FAIR	YES	off site
3	DOUGLAS FIR	Pseudotsuga menziesii	1	18	12	FAIR	YES	off site
4	DOUGLAS FIR	Pseudotsuga menziesii	1	25	19	FAIR	YES	off site
5	DOUGLAS FIR	Pseudotsuga menziesii	1	21	20	FAIR	YES	
6	CHERRY	Prunus avium	1	16	12	FAIR	YES	
7	DOUGLAS FIR	Pseudotsuga menziesii	1	15	14	FAIR	YES	
8	BIG LEAF MAPLE	Acer macrophyllum		14	18	FAIR	YES	
9	BIG LEAF MAPLE	Acer macrophyllum	1	12	14	FAIR	NO	
10	BIG LEAF MAPLE	Acer macrophyllum	4	17.2	18	FAIR	YES	STUMP SPROUTED
11	BIG LEAF MAPLE	Acer macrophyllum	1	12	12	FAIR	YES	
12	BIG LEAF MAPLE	Acer macrophyllum	6	17.7	18	FAIR	YES	STUMP SPROUTED
13	BIG LEAF MAPLE	Acer macrophyllum	3	13.8	14	FAIR	YES	STUMP SPROUTED
14	BIG LEAF MAPLE	Acer macrophyllum	6	20.6	18	FAIR	YES	STUMP SPROUTED
15	BIG LEAF MAPLE	Acer macrophyllum	1	18	27	FAIR	YES	STUMP SPROUTED off site
16	BIG LEAF MAPLE	Acer macrophyllum	6	31	20	FAIR	YES	STUMP SPROUTED
17	DOUGLAS FIR	Pseudotsuga menziesii	1	16	14	FAIR	YES	
18	BIG LEAF MAPLE	Acer macrophyllum	5	17.4	14	FAIR	NO	STUMP SPROUTED
19	BIG LEAF MAPLE	Acer macrophyllum	1	10	18	FAIR	NO	
20	BIG LEAF MAPLE	Acer macrophyllum	3	13.6	18	FAIR	NO	STUMP SPROUTED
21	DOUGLAS FIR	Pseudotsuga menziesii	1	18	14	FAIR	YES	
22	SCOUCLERS WILLOW	Salix scouleriana	4	28.7	16	FAIR	Yes	CLINGING TO STEEP EDGE
23	BIG LEAF MAPLE	Acer macrophyllum	1	10	12	FAIR	YES	STUMP SPROUTED – OFF-SITE
24	DOUGLAS FIR	Pseudotsuga menziesii	1	14	14	GOOD	YES	OFF SITE
25	BIG LEAF MAPLE	Acer macrophyllum	1	6	10	FAIR	YES	OFF-SITE
26	BIG LEAF MAPLE	Acer macrophyllum	4	18.2	14	FAIR	YES	STUMP SPROUTED
27	DOUGLAS FIR	Pseudotsuga menziesii	1	8.4	10	FAIR	YES	OFF-SITE
28	BIG LEAF MAPLE	Acer macrophyllum	1	6	10	FAIR	YES	OFF-SITE
29	DOUGLAS FIR	Pseudotsuga menziesii	1	12	12	FAIR	YES	OFF SITE

30	DOUGLAS FIR	Pseudotsuga menziesii	1					
31	DOUGLAS FIR	Pseudotsuga menziesii	1	34	26	FAIR	YES	OFF SITE
		<i>Total DBH</i>		492.6				
		<i>Retained DBH</i>		439.6				
		<i>Retained Percentage</i>		89.24%				

All trees on site are viable and in fair to good condition.

Item 3, The method used to determine limits of allowable disturbance (i.e., critical root zone, root plate diameter. A site inspection was undertaken, with driplines being noted using a range finder. These driplines were also used to determine the critical root zones of the trees. It was noted that the terrain for the trees on the north side of the proposed driveway is a slope that has added distance from the trunks of the trees. This distance changes the dynamic of how far the root could grow in a horizontal plane. One 1.5" diameter root was noted at the transition line between the slope and the bottom grade.

Soil compaction reading were taken on 11/17/22 along the north edge of the proposed driveway. These reading coincide with the existing brush covered driveway. All readings were over 300PSI within 1-2" of the surface of the soil. 200PSI and below is the optimal range for root growth. It is our opinion that no significant roots will have broached this compaction boundary.

Item 4, Instructions specifically outlining any work proposed within the limits of disturbance protection areas (i.e., hand-digging, air space, tunneling, root pruning, grade changes, clearing, monitoring, and aftercare). For the excavation of the driveway area and before the tree protection fencing is installed, hand digging to 1-1.5' will be done, and roots, if any other than that reported, will be hand cut vertically with all bark still attached to the wood. Project Arborist to be on site for this hand digging and any corrective pruning required. Once the handwork by the driveway is complete, the tree protection fencing is to be installed as outlined in the project drawings. The project arborist is to be on site for this installation and the removals to ensure that no retained trees are damaged. Monthly site inspections are to be completed to ensure that all tree protection measures remain in place for the project's life.

Item 5, All the trees on site are viable short of those needing to be removed for actual construction. Tree 22 is the exception as it is perched on the side of the slope, having grown out of the hill at an angle/lean to get sunlight as larger Douglas Fir trees dominate it. It is conceivable that this tree will eventually fall to the interior of the lot, pulling its root system out of the slope. All the weight of this tree is toward the south and the root structure to the north, with the stump being undermined. Note earlier comment on existing high levels of soil compaction findings. Note attached picture.

Item 6, Impact of tree removals and construction. All the trees to the north and west are already affected by the prevailing winds and will not have any new exposure to those winds. Possible root issues, if any, will be addressed as stated above, Item 4. The remaining trees are below the top of the canopy as they all sit in a depression formed by the surrounding lands. In addition, the interior trees are stump sprouts from some historical cutting, having multiple trunks with small diameters, and even as these fail, which is a long-term possibility, the trees will resprout and continue to grow as Big Leaf Maple and Red Alders are apt to do.

Item 7, Timing, method, and installation of tree protection measures. As stated, the tree protection fencing will be done after the hand excavation at the limits of disturbance along the driveway and before any removal/clearing or building activity of any kind is started. Once the fences are in place, no activity will be allowed inside the protection zone. Not equipment materials storage or foot traffic. The design of the tree protection measures to be as outlined in the drawings.

Item 8, Discussion of replacement tree location installation and maintenance for survival. As outlined on the drawings, the trees to be replaced are to be Excelsior Cedars planted in the ESE corner/edge of the m

property. This planting is to be completed after significant construction is complete. Trees are to be mulched to assure the retention of moisture. Also, monthly inspections by the project Arborist from May to September for the first year to confirm the tree condition is in line with healthy establishment and needs. Planting of replacements and temporary irrigation to be installed during optimal conditions, Spring or fall based on construction completion. The irrigation system will consist of drip-lines for each tree with a timing and moisture controller to maintain optimal conditions without overloading the surrounding soils. The controller will be able to stop watering when soil is already moist. Levels will need to be established once installed and monitored. The irrigation to remain in place for five years.

Respectfully Submitted

Neal Baker
ArboristsNW.com
ISA Cert. PN1075A
TRAQ ISA (Tree Risk Assessment
Qualified) Member AREA & SOCA



11/30/22

T 22 picture of 6' vertical drop at very edge of stump



CITY OF MERCER ISLAND

COMMUNITY PLANNING & DEVELOPMENT

9611 SE 36TH STREET | MERCER ISLAND, WA 98040

PHONE: 206.275.7605 | www.mercergov.org



TREE INVENTORY & REPLACEMENT SUBMITTAL INFORMATION

EXCEPTIONAL TREES

Exceptional Trees- 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	N/A	<u>0</u>
List tree numbers:		<u>1</u>
Number of trees 24" or greater (including 36" or greater)	22	<u>1</u>
List tree numbers:		<u>1</u>
Number of trees from Exceptional Tree Table (MICC 19.16)	22	<u>1</u>
List tree numbers:		

LARGE REGULATED TREES

Large Regulated Trees- 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		<u>19</u>	(A)
List tree numbers:	<u>1,5-14, 16-7, 18-23, 26</u>		
Number of Large Regulated Trees on site proposed for removal		<u>4</u>	(B)
List tree number	<u>9, 18-20</u>		
Percentage of trees to be retained ((A-B)/Ax100) note: must be at least 30%		<u>78.95</u>	<u>%</u>

RIGHT OF WAY TREES

Right of Way Trees- 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		<u>5</u>
List tree numbers in right of way proposed for removal	N/A	<u></u>

N/A

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.

Diameter of Removed Tree (measured 4.5' above ground)	Tree replacement Ratio	Number of Trees Proposed for Removal	Number of Tree Required for Replacement Based on Size/Type
Less than 10"	1		
10" up to 24"	2	4	8
Greater than 24" up to 36"	3		
Greater than 36" and any Exceptional Tree	6		
TOTAL TREE REPLACEMENTS			8

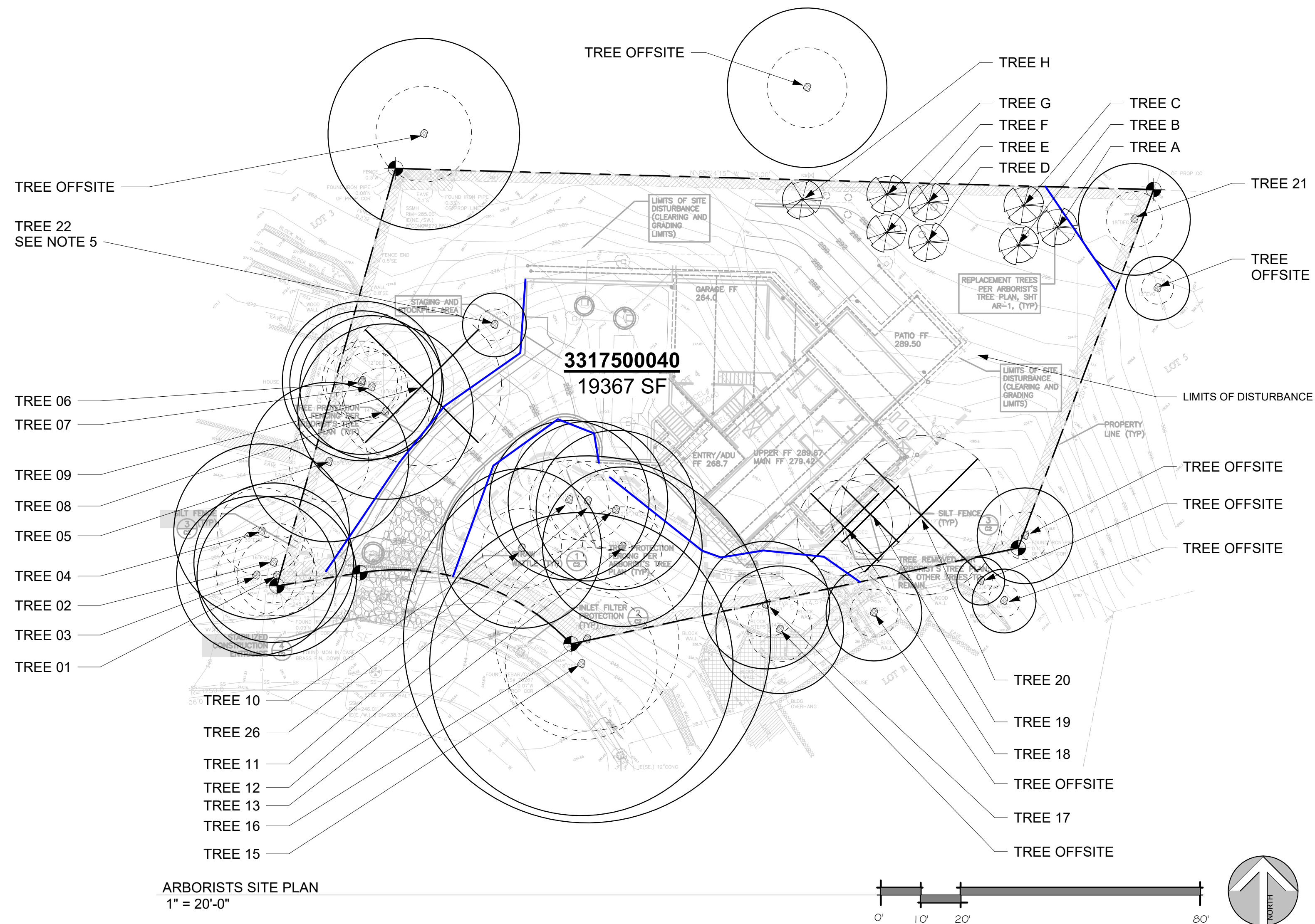
No.	Description	Date

EXISTING TREE SCHEDULE								
Arborists NW Tree Inventory								
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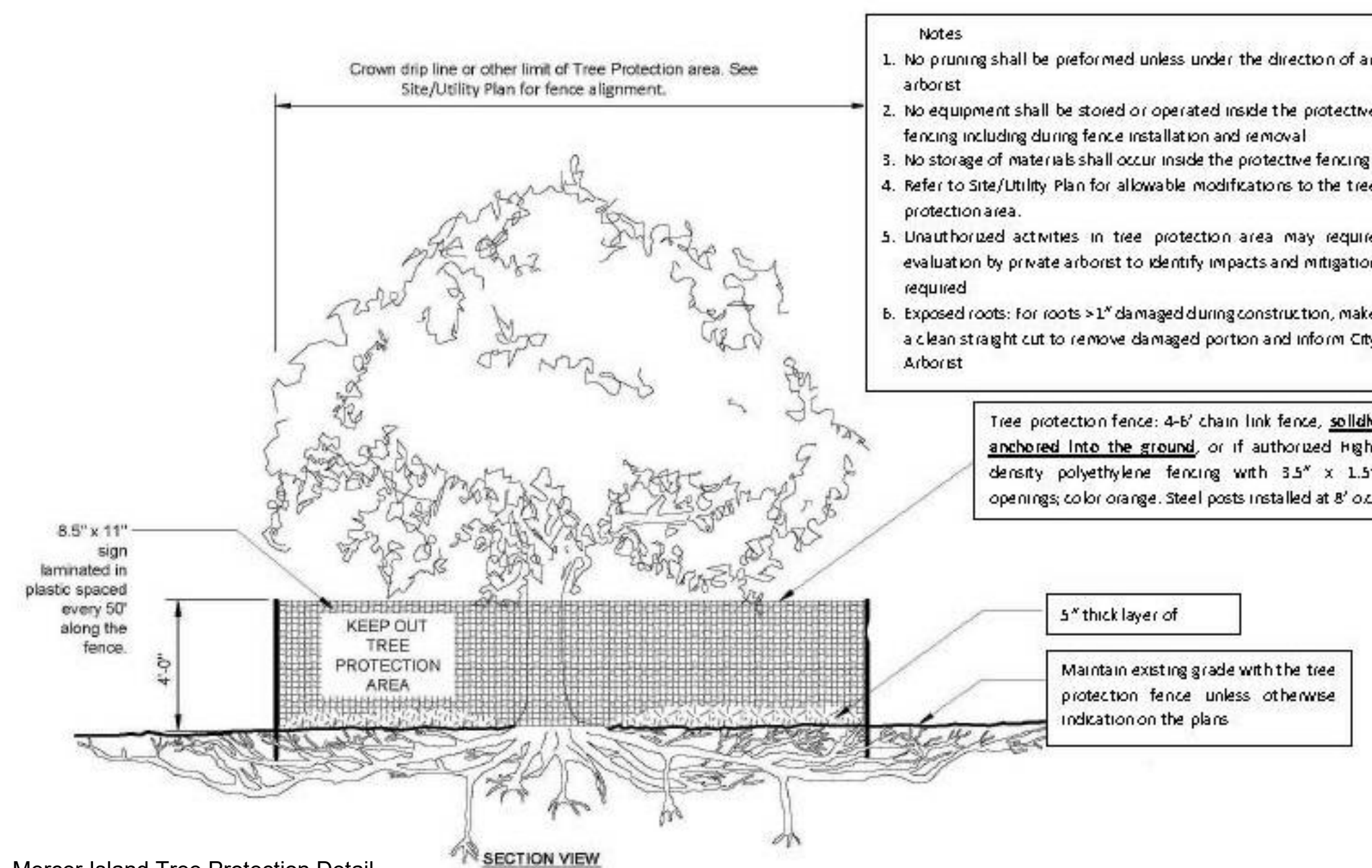
REPLACEMENT TREE SCHEDULE				
TREE #	COMMON NAME	LATIN NAME	SIZE	QTY
A	EXCELSA CEDAR	Thuja Plicata Excelsa	8'-10'	1
B	EXCELSA CEDAR	Thuja Plicata Excelsa	8'-10'	1
C	EXCELSA CEDAR	Thuja Plicata Excelsa	8'-10'	1
D	EXCELSA CEDAR	Thuja Plicata Excelsa	8'-10'	1
E	EXCELSA CEDAR	Thuja Plicata Excelsa	8'-10'	1
F	EXCELSA CEDAR	Thuja Plicata Excelsa	8'-10'	1
G	EXCELSA CEDAR	Thuja Plicata Excelsa	8'-10'	1
H	EXCELSA CEDAR	Thuja Plicata Excelsa	8'-10'	1

GENERAL ARBORISTS NOTES:

- PROJECT ARBORIST MUST BE ON-SITE DURING EXCAVATION ALONG THE DRIVEWAY.
- THE LAWN AND LANDSCAPE AREAS ARE REQUIRED TO PROVIDE POST-CONSTRUCTION SOIL QUALITY AND DEPTH IN ACCORDANCE WITH BMP T5.13. THE PROJECT ARBORIST MUST PROVIDE A LETTER OF CERTIFICATION TO ENSURE THAT THE LAWN AND LANDSCAPE AREAS ARE MEETING THE POST-CONSTRUCTION SOIL QUALITY AND DEPTH REQUIREMENTS ON THE APPROVED PLAN SET PRIOR TO FINAL INSPECTION OF THE PROJECT.
- PURSUANT TO MICC 19.10.070.D, TREES SHALL BE MAINTAINED IN A HEALTHY CONDITION FOR 5 YEARS. DEAD OR DEPRESSED TREES SHALL BE REPLACED.
- REFER TO C4 FOR THE POST-CONSTRUCTION SOIL QUALITY AND DEPTH PLAN.
- SEE ATTACHED ARBORISTS REPORT.



ARBORISTS SITE PLAN
1" = 20'-0"



2 Mercer Island Tree Protection Detail
1/4" = 1'-0"

	TREE DRIP LINE (DL)
	DIAMETER STANDARD HEIGHT (DSH)
	EVERGREEN TREE
	DECIDUOUS TREE
	TREE TO BE REMOVED
	TREE PROTECTION FENCING
	NEW TREE

PREPARED BY:
 NEAL BAKER
 ARBORISTS NW.COM
 ISA CERT. PN1075A
 TRAQ ISA (TREE RISK ASSESSMENT QUALIFIED)
 MEMBER AREA & SOCA
 PH: 206 779 2579

STEINBORN AR-1

8435 SE 47TH PL, MERCER ISLAND, WA 98040

STEINBORN AR-1

ARBORIST TREE PLAN

Project number	21029
Date	--
Drawn by	CW
Checked by	NB

AR-1

Scale As indicated