SHOFFNER CONSULTING

14515 North Creek Drive A209 Mill Creek WA, 98012 MOBILE: (206)755-9407

August 6, 2020

Scott Gibson On The Rock 98040, LLC PO Box 956 Mercer Island, WA 98040

RE: Tree Inventory 9740 SE 35th Pl., Mercer Island, WA.

Scott:

This revised report is provided to address the inventory I conducted back in 2016 on the property at the address of 9740 SE 35th PI. in Mercer Island. This report presents my prior findings and additional information as requested by the City of Mercer Island in the recent comment letter. At the time of the original report preparation, no development measures affecting tree retention had been specified, therefore no protection or replacement guidelines were provided. Since then, the project proposal has specified tree removal and retention for the development. In addition, the Mercer Island tree regulations have been revised requiring additional information not required at the time of the original report. This report provides information as required in the Mercer Island tree code found in MICC 19.10.

1. Tree Comments

The following comments issued by the City of Mercer Island are addressed in this report:

- Please refer to MICC 19.10 for our tree code (updated 11-1-2017).
- Sequential (phased) tree removal may be required (only remove trees necessary at each step of the review process).
- Chain link protection fencing required for all exceptional/groves.
- Arborist report states 4 trees previously removed. When were these removed? State what tree species and size were removed. Have these trees been replaced?
- Building pads need to take trees into consideration per MICC 19-09-0909.A.1.
- Per MICC 19.10.060.A.3 exceptional trees and exceptional groves shall be retained unless removal is justified.
- Provide the City's Mercer Island Tree Inventory Form with non-decimal percentage of tree retainage.
- Tree replanting plan is required for all proposed removed trees.
- Arborist report incomplete. No species or size or exceptional grove information in Arborist report. Provide a complete description of each

- tree's diameter, species, critical root zone, limits of allowable disturbance, health, condition and viability.
- 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).
- The suggested location and species of replacement trees to be used when required. The report shall include planting and maintenance specifications to ensure long term survival.

2. Site Conditions

The project site is located in north Mercer Island on Lake Washington in a neighborhood of single family residences. It's developed with a single family residence. The landscape is formal in character, including much turfgrass and ornamental species of trees and shrubs, but also includes several native trees.

3. Tree Inventory

I recently conducted an inventory of the trees on the property and those just offsite with driplines that extend onto the property. Using the survey, I identified each tree on the site and labeled them with numbered metal tags. These numbers shown on the Tree Inventory Plan. I also identified the trees just off-site with driplines that extend onto the project site.

The survey shows 69 trees on the property, however, 4 of these have been removed for a total of 65 trees on the property. The comments request information on when these trees were removed. These trees were numbered 6, 67, 68 and 69. Information on these trees is provided in this report. It is not known when the trees were removed, nor whether they have been replaced. One of the trees shown located just off-site to the west has also been removed. There are 35 trees just off-site with driplines that extend onto the project site.

I gathered information on each tree including species, dbh and performed visual assessments of each tree from up close to inspect the trunk and root collar and for the larger trees also from afar to observe conditions of the crown. The crown spread measurements were gathered during the site survey and are provided in the inventory plan. All of the information specific to each tree is provided on the accompanying Tree Evaluation Data spreadsheet.

Twelve trees on the property were found to be in poor condition and health. These trees are numbers 11, 12, 13, 17, 21, 22, 23, 24, 37, 41, 42 and 44. The descriptions of these trees and their conditions/defects are provided in the Tree Evaluation Data spreadsheet. These trees are recommended to be removed because of their poor health/condition or significant defects.

Eleven trees on the property meet the threshold diameter to be classified as exceptional. There are three groves on the property. All of the trees within these groves are also classified as exceptional. Within these groves, there are an additional 26 trees that are classified as exceptional. Per MICC 19.10.060.A.3

exceptional trees and exceptional groves shall be retained unless removal is justified.

The spreadsheet providing the following information on the trees is provided at end of this report.

Tree Tag # Number assigned to tree on survey tag

Species Species code

Dbh Diameter at 4.5' above ground surface CSOS Crown spread onto the site for off-site trees Maximum diameter of crown spread in feet

CRZ Critical root zone (one radial foot for each inch of trunk diameter)

Rating Condition rating

Condition General notes about health, condition and vigor

LoAD Limits of allowable disturbance, radial distance from trunk

LoADM Methods used to determine the limits of allowable disturbance,

(Small trees with low crowns, LoAD is set outside drip line. Large/ tall trees with high crowns, LoAD is set to protect root plate)

4. Tree Protection Measures

The retained trees are to be protected throughout construction on the lot from removal of the existing residence until the new residence is complete. The following protection measures are to instituted:

- Building pads need to take trees into consideration per MICC 19-09-0909.A.1.
- Tree protection fencing is to be chainlink and installed around the trees to be retained. The fencing is to be located at the dripline edge. However, so long as the excavation areas are kept to a minimum within the driplines of the trees, the protection zones could be reduced to allow more room for construction.
- The tree protection areas are to be areas of no encroachment, no construction, no dumping and no storage of materials.
- The fencing is to be left in place throughout construction and only removed upon completion of the project.
- The stump of any trees that are removed within the dripline of retained trees are to be ground down to below the soil surface as opposed to pulled out or excavated.

5. Tree Removal and Replacement

The accompanying City of Mercer Tree Inventory and Replacement Submittal form provides the requirements for tree replacement for removed trees on developing lots. Tree removal may be required to be conducted in a sequential, or phased, approach, allowing for only for removal as neccessary at each step of the review process.

A total of 7 large regulated trees are proposed to be removed for this development. Four of these, 33, 34, 35 and 36, are located within a grove and therefore classified as exceptional. Per MICC 19.10.060.A.3, exceptional trees and exceptional groves shall be retained unless removal is justified. The justification for the removal of these is that the firelane turnaround, that has been preliminarily approved by City of Mercer Island Fire Marshall, and the inherent grading needed to create grade for it encroaches into their tree protection zones to an extent that the root damage and loss will exceed the recommended maximum resulting in conditions that will greatly affect the health and render them unstable. Replacement for these trees is provided.

An additional five trees classified as small trees are also proposed to be removed. Replacement for these trees is provided.

Four trees shown on the survey were not located and therefore considered removed. Three of these trees were large regulated and one was a small tree. Replacement for the removal of these trees is provided.

As the form specifies, for the removal of the 6 trees less than 10" to be removed, 6 trees are being replaced on site; for the removal of the six trees between than 10" dbh up to 24", 12 trees are being replaced on site; for the removal of 4 trees within a grove classified as exceptional, 24 trees are being replaced on site. No non-exceptional trees between 24" and 36" dbh are being removed. A total of 42 trees are being replaced on site.

Tree Replacement Plan

Replacement trees are required for those removed on the property. As the Tree Inventory & Replacement Submittal Information form specifies, 42 trees are required to be planted as replacement. Following are the species, count and sizes of the replacement trees:

- Douglas fir (Pseudotsuga menziesii) 15 @ 6' tall
- Western hemlock (Tsuga heterophylla) 15 @ 6 tall
- Bigleaf maple (Acer macrophyllum) 12 @ 1.5" caliper

Total - 42 replacement trees

Planting and Maintenance Specifications

The following planting and maintenance specifications are to be applied to installing the replacement trees and follow up maintenance:

- All planting material is to be quality stock, planted from containers, not bare-root, healthy and in good visible condition.
- All planting is to be done between the months of March and June.
- All replacement trees are to be planted in availble space within the tree retention areas and near retained trees on the new lots.

- The planting areas are to be cleared of all invasive species, namely English ivy and Himalayan blackberry.
- If planted on slopes in exposed areas, trees may need to be staked for the first two growing seasons.
- Supplemental irrigation is to be provided for the trees during the first two growing seasons (May - September).
- Three inches of mulch (wood chip) is to be applied over the soil at the base of the trees for a distance of two feet from the trunk. No mulch is to come into contact with the trunk.
- Maintenance is to be done twice yearly in March and in September and is
 to include replacement of dead replacement trees, reapplication of mulch,
 removal of invasive species, such as ivy or Himalayan blackberry, near the
 trees, adjustment of staking straps to eliminate trunk damage.

6.0 Use of This Report and Limitations

This revised report is provided to On The Rock 98040, LLC as a means of reporting on the trees on the existing lot at 9740 SE 35th Pl. in the City of Mercer Island, WA, and to and to provide City of Mercer Island tree protection and replacement measures. Trees are dynamic and their conditions can change drastically and quickly, particularly following changes to the surrounding environment, such as in the case of development, therefore, the evaluations provided in this report only apply to the trees at the time of the assessments. While the impact assessments have found those to the trees recommended to be acceptable for retention, it is impossible to determine the affect of impacts upon trees or a tree's response to impacts, therefore Shoffner Consulting and Tony Shoffner is not responsible for the failure of retained trees and cannot be held liable for damage resulting from the failure of trees recommended to be retained.

Cordially,

Tony Shoffner

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ISA Certified Arborist #PN-0909A

TRAQ

Tree Tag #	Species	DBH	CSD	CRZ	Rating	Condition Notes	LoAd	LoADM	Size Status	Status
1	SP/Ps	20	28	40	3	Topped	10	1	Regulated	Retained
2	SM/Mxs	12	24	24	2	Generally good condition and health	14	1	Regulated	Retained
3	WRC/Tp	36	40	72	3	Stressed, sparse crown	12	2	Exceptional Size	Retained
4	WRC/Tp	40	40	80	3	Stressed, sparse crown	12	2	Exceptional Size	Retained
5	CBS/Ppgl	6	12	12	2	Generally good condition and health, leans east	7	1	Small tree	Remove
6	Pine	14"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Removed
7	GS/Sg	62	36	124	2	Generally good condition and health, large and old	12	2	Exceptional Size	Retained
8	GS/Sg	64	40	128	2	Generally good condition and health, large and old	12	2	Exceptional Size	Retained
9	DF/Pm	12	22	24	1	Very good condition and health, young and vigorous	12	1	Regulated	Retained
10	DF/Pm	12	20	24	1	Very good condition and health, young and vigorous	12	1	Regulated	Retained
11	BLM/Am	26	24	52	4	Topped and extensive trunk decay	11	2	Regulated	Retained
12	DF/Pm	8	16	16	4	Topped, considerable regrowth	9	1	Small tree	Retained
13	DF/Pm	10	24	20	4	Topped, considerable regrowth	13	1	Regulated	Retained
14	BC/Pe	8	16	16	1	Very good condition and health, young and vigorous	9	1	Small tree	Retained
15	DF/Pm	18	36	36	2	Generally good condition and health	9	1	Exceptional Grove	Retained
16	Ch/Ps	4	20	8	2	Topped, considerable regrowth	12	1	Small tree	Retained
17	DF/Pm	14	20	28	4	Very poor condition and health. Declining.	12	1	Exceptional Grove	Retained
18	DF/Pm	20	24	40	2	Generally good condition and health	10	2	Exceptional Grove	Retained
19	NF/Ap	4	16	8	1	Very good condition and health, young and vigorous	9	1	Small tree	Retained
20	WRC/Tp	16	20	32	2	Generally good condition and health	12	1	Exceptional Grove	Retained
	DF/Pm	20	36	40	4	Topped, considerable regrowth	10	2	Exceptional Grove	Retained
22	DF/Pm	30	40	60	4	Topped, considerable regrowth	12	2	Exceptional Size	Retained
23	WRC/Tp	36	34	72	4	Topped, considerable regrowth, codominant leaders	12	2	Exceptional Size	Retained
	DF/Pm	16	30	32	4	Topped, considerable regrowth	16	1	Exceptional Grove	Retained
25	DF/Pm	26	32	52	2	Generally good condition and health	12	2	Exceptional Grove	Retained
	DF/Pm	26	28	52	2	Generally good condition and health	12	1	Exceptional Grove	Retained
27	DC/Cd	18	24	36	1	Very good condition and health, young and vigorous	12	1	Exceptional Grove	Retained
28	DF/Pm	18	32	36	2	Generally good condition and health	12	1	Exceptional Grove	Retained
29	DF/Pm	10	20	20	2	Generally good condition and health	10	1	Exceptional Grove	Retained
30	DF/Pm	14	20	28	2	Generally good condition and health	12	1	Exceptional Grove	Retained
31	DF/Pm	24	40	48	2	Generally good condition and health	12	2	Exceptional Grove	Retained
32	DF/Pm	18	36	36	2	Generally good condition and health	10	1	Exceptional Grove	Retained
33	WRC/Tp	26	32	52	3	Somewhat sparse crown	12	2	Exceptional Grove	Remove
	DF/Pm	20	24	40	2	Generally good condition and health	12	2	Exceptional Grove	Remove
35	DF/Pm	20	32	40	2	Generally good condition and health	12	2	Exceptional Grove	Remove
36	DF/Pm	18	28	36	2	Generally good condition and health	10	1		
37	DF/Pm	48	32	96	4	Very sparse crown, stressed, declining	14	2	Exceptional Size	Retained
38	WRC/Tp	8	12	16	1	Very good condition and health, young and vigorous	8	1	Small tree	Remove
	WRC/Tp	8	12	16	1	Very good condition and health, young and vigorous		1	Small tree	Remove
	WRC/Tp	8	12	16	1	Very good condition and health, young and vigorous		1	Small tree	Remove
	DF/Pm	20	24	40	4	Topped, considerable regrowth	12	2	Regulated	Remove
	WRC/Tp	20	28	40	4	Very sparse crown, stressed, decay and declining	12	2	Regulated	Retained
43	DF/Pm	10	12	20	1	Very good condition and health, young and vigorous	8	1	Regulated	Retained
44	DF/Pm	42	N/A	84	4	Very sparse crown, stressed, declining	14	2	Exceptional Size	Retained
45	DF/Pm	20	24	40	3	Somewhat sparse crown	12	2	Regulated	Retained
	DF/Pm	10	16	20	1	Very good condition and health, young and vigorous		1	Regulated	Retained
	DF/Pm	50	36	100	3	Large and old	14	2	Exceptional Size	Retained
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48	WRC/Tp	10	16	20	1	Very good condition and health, young and vigorous	9	1	Exceptional Grove	Retained
48	WRC/Tp WRC/Tp	10 14	16 24	20 28	1	Very good condition and health, young and vigorous Very good condition and health, young and vigorous	13	1	Exceptional Grove	Retained Retained

Tree Tag #	Species	DBH	CSD	CRZ	Rating	Condition Notes	LoAd			Status
51	DF/Pm	28	32	56	3	Somewhat sparse crown	12	2	Exceptional Grove	Retained
52	DF/Pm	26	32	52	3	Somewhat sparse crown	12	2	Exceptional Grove	Retained
53	WRC/Tp	18	28	36	2	Generally good condition and health	10	1	Exceptional Grove	Retained
54	DF/Pm	26	36	52	2	Generally good condition and health	12	2	Exceptional Grove	Retained
55	WRC/Tp	24	36	48	2	Generally good condition and health	12	2	Exceptional Grove	Retained
56	DF/Pm	30	28	60	2	Generally good condition and health	12	2	Exceptional Size	Retained
57	WRC/Tp	8	12	16	1	Very good condition and health, young and vigorous	7	1	Small tree	Remove
58	WRC/Tp	20	32	40	2	Generally good condition and health	12	2	Regulated	Remove
59	WRC/Tp	18	32	36	1	Very good condition and health, young and vigorous	12	1	Regulated	Remove
60	WRC/Tp	38	40	76	2	Generally good condition and health	14	2	Exceptional Size	Retained
61	DF/Pm	8	16	16	1	Very good condition and health, young and vigorous	9	1	Small tree	Retained
62	WRC/Tp	22	28	44	2	Generally good condition and health	12	2	Regulated	Retained
63	DF/Pm	28	28	56	2	Generally good condition and health	12	2	Regulated	Retained
64	DF/Pm	6	16	12	1	Very good condition and health, young and vigorous	9	1	Small tree	Retained
65	BC/Pe	8	20	16	1	Very good condition and health, young and vigorous	12	1	Small tree	Retained
66	BC/Pe	8	20	16	1	Very good condition and health, young and vigorous	12	1	Small tree	Retained
67	Cherry	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Removed
68	DF/Pm	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Removed
69	DF/Pm	8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Removed
	1	-	<u> </u>							
Tree label	Species	DBH	csos	CRZ	Rating	Condition Notes				Status
OS1	GA/Fp	15	28	30	N/A	N/A		1		N/A
OS2	GA/Fp	12	28	24	N/A	N/A		1		N/A
OS3	GA/Fp	16	34	32	N/A	N/A		1		N/A
OS4	GA/Fp	15	34	30	N/A	N/A		1		N/A
OS5	NS/Pa	18	15	36	N/A	N/A		1		N/A
OS6	BC/Pe	24	19	48	N/A	N/A		2		N/A
OS7	DF/Pm	24	14	48	N/A	N/A		2		N/A
OS8	DF/Pm	19	14	38	N/A	N/A		1		N/A
OS9	CA/Ms	12	5	24	N/A	N/A		1		N/A
OS10	EL/PI	8	6	16	N/A	N/A		1		N/A
OS11	EL/PI	10	6	20	N/A	N/A		1		N/A
OS12	PP/pp	30	15	60	N/A	N/A		2		N/A
OS13	WRC/Tp	32	15	64	N/A	N/A		2		N/A
OS14	FP/Pf	8	16	16	N/A	N/A		1		N/A
OS15	DF/Pm	23	9	46	N/A	N/A		2		N/A
OS16	DF/Pm	36	22	72	N/A	N/A		2		N/A
OS17	BLM/Am	33	25	66	N/A	N/A		2		N/A
OS18	DC/Cd	9	4	18	N/A	N/A		1		N/A
OS19	DF/Pm	8	6	16	N/A	N/A		1		N/A
OS20	BC/Pe	24	9	48	N/A	N/A		2		N/A
OS21	WRC/Tp	30	13	60	N/A	N/A		2		N/A
OS22	WRC/Tp	24	9	48	N/A	N/A		2		N/A
OS23	DF/Pm	24	15	48	N/A	N/A		2		N/A
OS24	DF/Pm	9	7	18	N/A	N/A		1		N/A
OS25	DF/Pm	25	0	50	N/A	N/A		2		N/A
OS26	DF/Pm	6	4	12	N/A	N/A		1		N/A
OS27	DF/Pm	9	5.5	18	N/A	N/A		1		N/A
OS28	DF/Pm	16	11	32	N/A	N/A		1		N/A
OS29	NM/Ap	12	2	24	N/A	N/A		1		N/A
OS29 OS30	<u> </u>	12	10	24	N/A	N/A		1		
OS31	DF/Pm	8	10	16	N/A N/A	N/A N/A		1		N/A N/A
0331	DF/Pm	lo	110	10	lin/A	IN/A		'	l	IN/A

OS32	DF/Pm	16	3	32	N/A	N/A	1	N/A
OS33	DF/Pm	8	2	16	N/A	N/A	1	N/A
OS34	BC/Pt	17	4	34	N/A	N/A	1	N/A
OS35	DF/Pm	6	4	12	N/A	N/A	1	N/A

Tree Tag # Number assigned to tree on survey tag

Species Species code:

BC/Pe=Bittercherry (Prunus emarginata)
BC/Pt=Black cottonwood (Populus trichocarpa)
BLM/Am=Bigleaf maple (Acer macrophyllum)

CA/Ms=Crabapple (Malus species)

CBS/Ppgl=Colorado blue spruce (Picea pungens 'glauca')

Ch/Ps=Cherry (Prunus species)

DC/Cd=Deodar cedar (Cedrus deodara)

DF/Pm=Douglas fir (Pseudotsuga menziesii)

EL/PI=English laurel (Prunus laurocerasus)

GA/Fp=Green ash (Fraxinus pennsylvanica)

NF/Ap=Noble fir (Abies procera)

NM/Ap=Norway maple (Acer platanoides)

NS/Pa=Norway spruce (Picea abies)

PP/Pp=Ponderosa pine (Pinus ponderosa)

SM/Mxs=Saucer magnolia (Magnolia x. soulangeana)

SP/Ps=Scot's pine (Pinus sylvestris)

WRC/Tp=Western red cedar (Thuja plicata)

Dbh Diameter at 4.5' above ground surface

CSOS (off-site trees only) Crown Spread Onto Site

CSD Maximum diameter of crown spread in feet

CRZ Critical root zone (1 radial foot for each inch of trunk diameter

Rating Condition rating (1=Excellent condition and health; 2=Generally good condition and health; 3=fair condition and health, minor defects or stress

4=Poor condition and/or health)

Condition Notes General notes about health, condition and vigor

LoAD Limits of Allowable disturbance in radial feet from tree trunk

LoADM Methods used to determine the limits of allowable disturbance

1 = Tree with low crown, LoAD to protect low crown

2 = Large tree with high crown. LoAD to protect root plate.