Greenforest Incorporated

Consulting Arborist

TO: Darren Sandeno, Senior Planner
Parametrix
1019 39th Avenue SE, Suite 100
Puyallup WA 98374

REFERENCE: Arborist Report
South Hill Building & Technology Center

SITE ADDRESS: Puyallup WA

DATE: January 31, 2022

PREPARED BY: Favero Greenforest, ISA Certified Arborist # PN -0143A
ISA Tree Risk Assessment Qualified
ASCA Registered Consulting Arborist® #379

You contacted me pm 1/18/2022 and contracted my services as a consulting arborist. My assignment is to inspect and inventory the regulated trees at the above referenced site. The purpose of this *arborist report* is to establish the condition of the regulated trees, to satisfy City of Puyallup permit submittal requirements.

You provided me a topographic survey that included some trees on the west portion of the site. You also provided me an aerial image illustrating the area in which all regulated trees need to be identified. I visited the site 1/19/2022 and inventoried and inspected the significant trees within the specified area, which are the subject of this report.

SUMMARY

Bigleaf maple	*2*
Black cottonwood	*20*
Red alder	*5*
Willow	*2*
Douglas-fir	*53*
Western red-cedar	*23*
Total Trees	*105*

LIMITATIONS AND USE OF THIS REPORT

This tree report establishes, via the most practical means available, the existing conditions of the trees on the subject property. Ratings for health and structure/form, as well as any recommendations are valid only through the development and construction process. This report is based solely on what is readily visible and observable, without any invasive means.

There are several conditions that can affect a tree's condition that may be pre-existing and unable to be ascertained with a visual-only analysis. No attempt was made to determine the presence of hidden or concealed conditions which may contribute to the risk or failure potential of trees on the site. These conditions include root and stem (trunk) rot, internal cracks, structural defects or construction damage to roots, which may be hidden beneath the soil. Additionally, construction and post-construction circumstances can cause a relatively rapid deterioration of a tree's condition.

TREE INSPECTION – Tree Health, Condition and Viability

I marked each significant tree with an aluminum 1" x 3" tag hand embossed a number, along with a strip of white survey tape for easy location in the field.

I visually inspected each tree from the ground. I performed a Level 1 risk assessment.[1] This is the standard assessment for populations of trees near specified targets, conducted in order to identify obvious defects or specified conditions such as a pre-development inventory. This is a limited visual assessment focuses on identifying trees with imminent and/or probable likelihood of failure, and/or other visible conditions that will affect tree retention.

I recorded tree species and size (DBH). I measured the dripline of each tree. I rated the condition of each tree, both health and structure/form. A tree's structure/form is distinct from its health. This inspection identifies what is visible with each.

High-risk trees can appear healthy in that they can have a dense, green canopy. This may occur when there is sufficient sapwood or adventitious roots present to maintain tree health, but inadequate strength for structural support.

Conversely, trees in poor health may or may not be structurally stable. For example, tree decline due to root disease is likely to cause the tree to be structurally unstable, while decline due to drought or insect attack may not.

[1] Companion publication to the *ANSI A300 Part 9: Tree Shrub and Other woody Plant Management – Standard Practices, Tree Risk Assessment*. 2011. ISA.

One way that tree health and structure are linked is that healthy trees are more capable of compensating for structural defects. A healthy tree can develop adaptive growth that adds strength to parts weakened by decay, cracks, and wounds.

This report identifies unhealthy trees based on existing health conditions and tree structure/form, and specifies which trees are most suitable for preservation.[2]

No invasive procedures were performed on any trees. The results of this inspection are based on what was visible at the time of the inspection. The attached inventory summarizes my inspection results and provides the following attributes for each tree:

This report contains attributes for 105 trees. All trees in this inventory are significant, as defined by municipal code: *any tree with a trunk 15" in diameter or larger (measured at 4.5 feet above grade*.[3] Dead trees are excluded from this inventory.

Tree number as shown on the tag trees in the field, (which correspond to the general area indicated on attached exhibit).

DBH trunk size or diameter, measured 4.5 feet above the ground.

Tree Species common name.

Dripline for a tree is delineated by a vertical line extended from the outermost branch tips to the ground, or six-foot radius from the stem of the tree, whichever is greater.

Health and Structure/Form ratings '1' indicates good to excellent condition; no visible health-related problems or structural defects, '2' indicates fair condition; minor visible problems or defects that may require attention if the tree is retained, and '3' indicates poor condition; significant visible problems or defects and tree removal is recommended.

Comments on Condition obvious structural defects or diseases visible at time of inspection, for use in decisions of tree retention.

Asymmetric canopy - the tree has an asymmetric canopy from space and light competition from adjacent trees.
Branch dieback - mature branches in canopy are dying/dead.
Deadwood - large and/or multiple dead branches throughout canopy.
Decay - process of wood degradation by microorganisms resulting in weak and defective structure.

[2] Companion publication to the *ANSI A300 Part 5: Tree Shrub and Other woody Plant Maintenance – Standard Practices, Managing Trees During Construction*. 2008. ISA.
[3] https://www.cityofpuyallup.org/Faq.aspx?QID=108

Decline – visible symptoms of chronic poor vigor, tree not likely to survive construction
Diseased - foliage and trunk/stems are diseased.
Double leader - the tree has multiple stem attachments, which may require maintenance or monitoring over time.
Ivy - dense ivy prevents a thorough inspection, and other defects may be present.
Lean - angle of the trunk from vertical.
Multiple leaders - the tree has multiple stem attachments, which may lead to tree failure and require maintenance or monitoring over time.
Slender - tree lacks adequate trunk taper to stand lone.
Sweep in trunk - characterized by a leaning lower trunk and a more upright top.
Thinning foliage - low foliage density may indicate stress, or early infection/declining health.
Tree leans - trunk has significant lean from vertical.
Trunk decay - wood decay is visible in the trunk.
Wound/decay base of trunk - open wound with visible decay in trunk.
Woodpecker – indicates extensive decay in trunk.

All of the subject trees are native species. Very few show on the survey you provided me, and it is my understanding that the locations of all the trees in this inventory will be added, once surveyed. The attached exhibit shows the general locations of the trees as I moved throughout the site.

Some trees may be considered *offsite,* but are included as I don't have knowledge of the exact boundaries of the project, and it is possible that some offsite trees my be impacted by the proposed construction.

ATTACHMENTS:

1. Assumptions and Limiting Conditions
2. Certification of Performance
3. Significant Tree Inventory
4. Tree Number Exhibit

Attachment No. 1 - Assumptions & Limiting Conditions

1. A field examination of the site was made 1/19/2022. My observations and conclusions are as of that date.

2. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant/arborist can neither guarantee nor be responsible for the accuracy of information provided by others.

3. I am not a qualified land surveyor. Reasonable care was used to match any trees indicated on the survey with those growing in the field, and to include all regulated trees inside the annotated aerial image, defining the project boundaries.

4. Construction activities can significantly affect the condition of retained trees. All retained trees should be inspected after construction is completed, and then inspected regularly as part of routine maintenance.

5. Unless stated other wise: 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, or coring. There is no warranty or guarantee, expressed or implied that problems or deficiencies of the subject tree may not arise in the future.

6. All trees possess the risk of failure. Trees can fail at any time, with or without obvious defects, and with or without applied stress. A complete evaluation of the potential for this (a) tree to fail requires excavation and examination of the base of the subject tree. Permission of the current property owner must be obtained before this work can be undertaken and the hazard evaluation completed.

7. The consultant/appraiser shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made.

Attachment No. 2 - Certification of Performance

I, Favero Greenforest, certify that:

- I have personally inspected the trees and the property referred to in this report and have stated my findings accurately.
- I have no current or prospective interest in the vegetation or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved.
- The analysis, opinion, and conclusions stated herein are my own and are based on current scientific procedures and facts.
- My analysis, opinion, and conclusions were developed and this report has been prepared according to commonly accepted arboricultural practices.
- No one provided significant professional assistance to me, except as indicated within the report.
- My compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client of any other party nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member in good standing of International Society of Arboriculture (ISA), and the ISA PNW Chapter, I am an ISA Certified Arborist (#PN-0143A) and am Tree Risk Assessment Qualified, and am a Registered Consulting Arborist® (#379) with American Society of Consulting Arborists. I have worked as an independent consulting arborist since 1989.

Signed:

GREENFOREST, Inc.
By Favero Greenforest, M. S.
Favero Greenforest
Digitally signed by Favero Greenforest
DN: cn=Favero Greenforest, o, ou, email=greenforestinc@mindspring.com, c=US
Date: 2022.01.31 09:01:57 -08'00'
Date: January 31, 2022

DBH – stem diameter 4.5 feet from grade
Dripline – canopy radius from center of tree
Condition ratings '1' good to excellent, '2' fair, '3' poor
Type indicates if tree is Deciduous (D), Evergreen (E), broadleaf (B) and coniferous (C).

Attachment No. 3 – Significant Tree Inventory

No.	DBH	Species	Dripline (R')	Health	Structure	Comments on Condition	Tree Type
1	19"	Black cottonwood	30'	1	1		BD
2	25"	Douglas-fir	20'	1	1		CE
3	28"	Douglas-fir	25'	1	1		CE
4	24"	Red alder	30'	3	2	Decline health, branch dieback	BD
5	17"	Douglas-fir	16'	1	2	Asymmetric canopy	CE
6	19"	Western red-cedar	14'	1	2	Slender	CE
7	16"	Douglas-fir	18'	1	2	Multiple leaders in upper canopy	CE
8	17"	Scouler's willow	20'	1	2	Lean	BD
9	38"	Douglas-fir	28'	1	1		CE
10	32"	Black cottonwood	30'	1	1		BD
11	43"	Black cottonwood	40'	1	1		BD
12	25"	Douglas-fir	35'	1	1		CE
13	20"	Red alder	16'	3	3	Diseased, decay, decline	BD
14	30"	Douglas-fir	45'	1	2	Dense ivy obscuring trunk	CE
15	19"	Douglas-fir	16'	1	1		CE
16	19"	Douglas-fir	16'	1	1		CE
17	28"	Black cottonwood	40'	1	1		BD

No.	DBH	Species	Dripline (R')	Health	Structure	Comments on Condition	Tree Type
18	25"	Black cottonwood	40'	1	1		BD
19	19"	Douglas-fir	16'	1	1		CE
20	22"	Douglas-fir	18'	1	1		CE
21	17"	Bigleaf maple	30'	1	1		BD
22	26"	Douglas-fir	16'	1	1		CE
23	28"	Black cottonwood	25'	1	1		BD
24	30"	Western red-cedar	20'	1	1		CE
25	20"	Douglas-fir	18'	1	1		CE
26	20"	Douglas-fir	18'	1	1		CE
27	15"	Western red-cedar	16'	1	1		CE
28	21"	Douglas-fir	20'	1	1		CE
29	21"	Douglas-fir	18'	1	1		CE
30	20"	Douglas-fir	16'	1	1		CE
31	31"	Western red-cedar	18'	1	1		CE
32	21"	Western red-cedar	16'	1	1		CE
33	16"	Western red-cedar	14'	1	2	Sweep in trunk	CE
34	35"	Western red-cedar	20'	1	1		CE
35	35"	Western red-cedar	20'	1	2	Double leader	CE
36	22"	Western red-cedar	18'	1	1		CE
37	15"	Black cottonwood	30'	1	1		BD
38	34"	Western red-cedar	20'	1	1		CE
39	50"	Black cottonwood	45'	1	2	Double leader	BD

No.	DBH	Species	Dripline (R')	Health	Structure	Comments on Condition	Tree Type
40	18"	Black cottonwood	25'	1	1		BD
41	25"	Black cottonwood	30'	1	1		BD
42	26"	Black cottonwood	30'	1	1		BD
43	22,22"	Black cottonwood	20'	1	2	Double leader	BD
44	17"	Red alder	10'	3	3	Diseased, decay, decline	BD
45	23"	Douglas-fir	16'	1	1		CE
46	48"	Western red-cedar	25'	1	1		CE
47	43"	Western red-cedar	20'	1	1		CE
48	45"	Western red-cedar	25'	1	1		CE
49	28"	Black cottonwood	35'	1	1		BD
50	18"	Black cottonwood	30'	1	1		BD
51	23"	Douglas-fir	25'	1	1		CE
52	19"	Douglas-fir	18'	1	1		CE
53	27"	Western red-cedar	20'	1	1		CE
54	17"	Western red-cedar	16'	1	1		CE
55	18"	Douglas-fir	20'	1	1		CE
56	26"	Douglas-fir	25'	1	1		CE
57	50"	Black cottonwood	50'	1	1		BD
58	24"	Douglas-fir	20'	1	1		CE
59	25"	Douglas-fir	20'	1	1		CE
60	22"	Douglas-fir	18'	1	1		CE
61	25"	Douglas-fir	20'	1	1		CE

No.	DBH	Species	Dripline (R')	Health	Structure	Comments on Condition	Tree Type
62	21"	Douglas-fir	18'	1	1		CE
63	17"	Douglas-fir	16'	1	1		CE
64	16"	Douglas-fir	20'	1	2	Asymmetric canopy	CE
65	16"	Red alder	20'	2	2	Diseased, decay, decline	BD
66	18"	Douglas-fir	18'	1	1		CE
67	17"	Douglas-fir	16'	1	1		CE
68	24"	Douglas-fir	18'	1	1		CE
69	18"	Red alder	30'	3	3	Diseased, decay, decline	BD
70	26"	Douglas-fir	22'	1	1		CE
71	19"	Douglas-fir	16'	1	1		CE
72	16"	Douglas-fir	18'	1	1		CE
73	14,18"	Black cottonwood	30'	1	2	Double leader	BD
74	16"	Douglas-fir	18'	1	1		CE
75	15"	Douglas-fir	16'	1	1		CE
76	19"	Douglas-fir	18'	1	1		CE
77	15"	Douglas-fir	18'	1	1		CE
78	20"	Douglas-fir	20'	1	1		CE
79	17"	Western red-cedar	16'	1	1		CE
80	16"	Scouler's willow	15'	2	2	Diseased, decay, decline	BD
81	15"	Douglas-fir	16'	1	1		CE
82	16,20"	Black cottonwood	35'	1	2	Double leader	BD
83	20"	Western red-cedar	18'	1	1		CE

No.	DBH	Species	Dripline (R')	Health	Structure	Comments on Condition	Tree Type
84	19"	Black cottonwood	25'	1	1		BD
85	42"	Western red-cedar	25'	2	2	Tree terminal dead	CE
86	15,17"	Black cottonwood	30'	1	2	Double leader	BD
87	35"	Western red-cedar	25'	1	2	Sweep in trunk, ivy	CE
88	22"	Western red-cedar	16'	1	2	Ivy obscuring trunk	CE
89	18,32"	Western red-cedar	20'	2	2	Woodpecker holes in trunk, thin canopy	CE
90	42"	Western red-cedar	25'	1	1		CE
91	29"	Western red-cedar	20'	1	1		CE
92	21"	Douglas-fir	18'	1	1		CE
93	16"	Douglas-fir	16'	1	2	Asymmetric canopy	CE
94	32"	Douglas-fir	25'	1	1		CE
95	16"	Douglas-fir	18'	1	2	Asymmetric canopy	CE
96	19"	Douglas-fir	18'	1	2	Asymmetric canopy	CE
97	22"	Douglas-fir	20'	1	1		CE
98	26"	Douglas-fir	25'	1	1		CE
99	22"	Douglas-fir	20'	1	1		CE
100	28"	Douglas-fir	25'	1	1		CE
101	26"	Douglas-fir	20'	1	1		CE
102	18,28,28"	Bigleaf maple	20'	3	3	Diseased, trunk decay, decline	BD
103	16"	Black cottonwood	20'	1	1		BD
104	18"	Douglas-fir	25'	1	1		CE
105	17"	Douglas-fir	20'	1	1		CE

Darren Sandeno, Parametrix
RE: Arborist Report, South Hill Building & Technology Center, Puyallup WA
January 31, 2022

Attachment No. 4 - Tree Number Exhibit

TREES NOT TAGGED:
49, 83, 85 98, 99, 100, 101

ARROW SHOWS WHICH SIDE OF NON-TAGGED TREE YOU CAN FIND WHITE RIBBON TIED TO VEGETATION WTIH TREE NUMBER, SPECIES AND SIZE OF TREE. DENSE BRUSH PREVENTED ME FROM ACCESSING THE TRUNK TO AFIX A TAG. DIAGRAM IS NOT TO SCALE BUT FOR REFERENCE ONLY. GOOD LUCK!!

TREES 87-96

TREES 83-86

TREES 97-103

TREES 49-82

TREES 1-48

104, 105

1/25/2022
ARBORIST NOTES