

# SHOFFNER CONSULTING

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December 15, 2020

Noah Allen  
BHC Consultants  
1601 Fifth Avenue, Suite 500  
Seattle, WA  
98101

RE: Tree Inventory Report - Wastewater Pump Station No. 12 Replacement - Redmond.

Noah:

This report is provided to address the tree inventory for the wastewater pump station #12 replacement in the City of Redmond, WA. Please see the attached Tree Inventory Map showing the numbers of the trees included in my inventory and the accompanying Tree Evaluation Data spreadsheet for reference to this report.

## 1.0 Existing Conditions

The property of the proposed pump station #12 replacement is in a grassy planting strip near and apartment building. Five trees in the vicinity of the force main construction are located just off-site to the east.

## 2.0 Tree Inventory and Condition Assessments

I conducted visual evaluations of the tree according to ISA standards and based upon many years conducting such evaluations on trees in the Pacific Northwest. I observed the tree up close to inspect conditions of the trunk and from afar to inspect conditions in the crown. All assessments were conducted according to the methods specified in the ISA Tree Risk Assessment Manual (Dunster, Julian A., E. Thomas Smiley, Nelda Matheny, and Sharon Lily. 2013. Tree Risk Assessment Manual. Champaign, Illinois: International Society of Arboriculture) and on nearly 20 years experience conducting such evaluations.

The investigations involved the gathering of the following information:

- Tree species
- Trunk diameter
- Crown spread diameter
- Location factors
- Health and condition notes (general level of vigor, defects, disease or pest problems)

Most of the trees in the study area are small, not significant, and stressed. There is only one significant tree on the site and one within the easement to the west. Four trees located off-site to the east will be impacted by the force main construction within their drip lines.

### 3.0 Summary of Tree Retention

Per the Redmond Community Development Guide (RCDG), a minimum of 35% of existing, healthy significant trees and all landmark trees are to be retained on developing properties. The following Summary of Tree Retention Table provides a breakdown of the retention numbers of trees on the property of the proposed project to be developed.

	Remove	Impacted	Relocated	Total Retained	
Landmark	0 (0%)	2 (100%)	0 (0%)	2 (100%)	
Significant	<del>1 (20%)</del>	4 (80%)	0 (0%)	4 (80%)	retention lower than 35% requires 3:1 replacement ratio
Other	21 (23%)	0 (0%)	0 (0%)	73 (77%)	
Total	22 (21%)	6 (5%)	0 (0%)	79 (74%)	
Replacement	<del>1</del> 3	10	N/A	N/A	

With 1 tree on the property, one is required to be retained. The proposed retention does not meet the required retention percentage. To replace the 1 removed significant tree and to account for the 4 impacted trees, 11 trees are required to be planted. Replacement trees are to be 6' tall if evergreen and 2" caliper if deciduous.

Impacted trees are off the Alexan property but in the project's area of work.

### 4.0 Impact Assessment - Off-Site Trees

Six trees located off-site to the east classify as impacted as the force main construction for the pumpstation will take place within their drip lines/drip line setbacks. These trees are identified as numbers 24, 25, 26, 27, 28 and 29. All are medium to large Douglas firs in good condition and health.

Given the nature of the impact associated with the work in their vicinity and the considerable distances from the trees, the impacts to these trees will be minor and will have very little effect upon their condition and health. RZC 21.72.060.C.3 requires description of additional measures for tree protection to ensure the long term viability of the tree.

### 5.0 Use of This Report

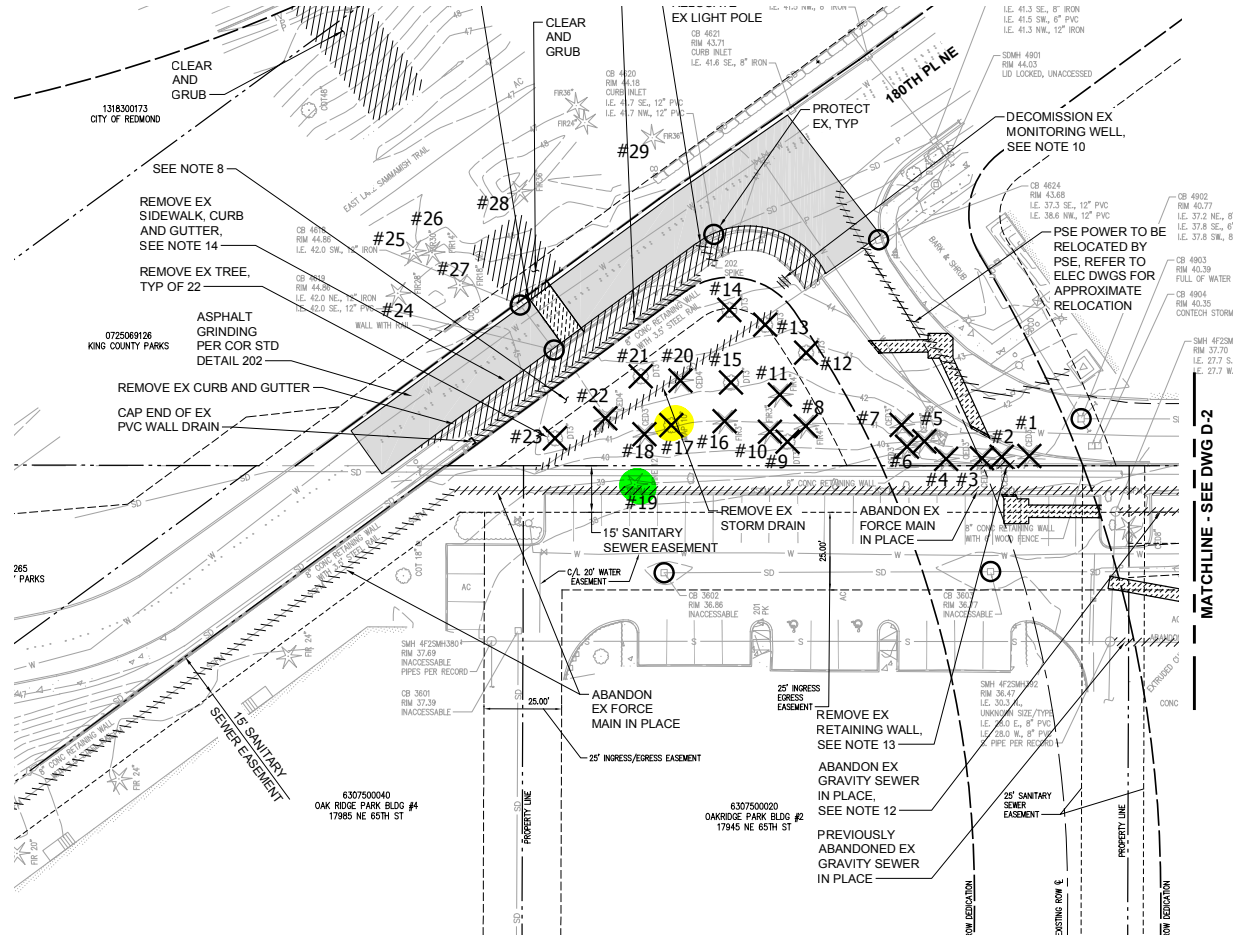
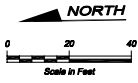
This report is provided to BHC Consulting as a means of providing an inventory of the trees on the Wastewater Pump Station No. 12 Replacement property as required by the City of Redmond. This report addresses only those trees on the project site and within the right of way as well as five trees in the vicinity of force main construction off-site to the east. Trees are dynamic and their conditions and health can be quickly affected by environmental events such as weather and the clearing of surrounding forest cover. Shoffner Consulting cannot be held liable for the failure of any retained trees. The health and condition warranted is only that on the day of the original assessment.

Cordially,



Tony Shoffner  
ISA Certified Arborist #PN-0909A, TRAQ

retention requirement is about Alexan. Report indicates a 0% significant tree retention on Alexan property requiring a 3:1 replacement ratio.



MATCHLINE - SEE DWG D-2

Path: S:\CAD\Redmond\17-10545\_P01\_12\Design\dwg\_2\_Files\dwg\_17-10545\_D-1-2\_P01.dwg, Dec 16, 2020, 10:48:04am, CAD User: jasonm.  
Xref Filepaths: |X17-10545\_TB |Allen |X17-10545\_Prelim |Gibson |Dahl |X17-10545\_EX\_Top |Franco |

	<b>BHC Consultants, LLC</b> 1801 Fifth Avenue, Suite 500 Seattle, Washington 98101 206.505.3400 206.505.3406 (fax) www.bhcconsultants.com	<b>TREE RETENTION PLAN</b>	 <b>City of Redmond Public Works</b> 15670 NE 85th Street Redmond, Washington 98073 (425) 556-2884
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**TREE EVALUATION DATA**

**BHC Consultants - Pump Station 12**

**December 15, 2020**

Tree #	Species	dbh	Dripline	Condition	Notes	Status
1	Western red cedar ( <i>Thuja plicata</i> )	2"	5'	2	Stressed. Not significant.	To be removed.
2	Western red cedar ( <i>Thuja plicata</i> )	2"	5'	2	Stressed. Not significant.	To be removed.
3	Western red cedar ( <i>Thuja plicata</i> )	2"	4'	2	Stressed. Not significant.	To be removed.
4	Western red cedar ( <i>Thuja plicata</i> )	2"	5'	2	Stressed. Not significant.	To be removed.
5	Western red cedar ( <i>Thuja plicata</i> )	2"	5'	2	Stressed. Not significant.	To be removed.
6	Western red cedar ( <i>Thuja plicata</i> )	2"	4'	2	Stressed. Not significant.	To be removed.
7	Western red cedar ( <i>Thuja plicata</i> )	2"	5'	2	Stressed. Not significant.	To be removed.
8	Douglas fir ( <i>Pseudotsuga menziesii</i> )	3"	6'	2	Stressed. Not significant.	To be removed.
9	Katsura ( <i>Cercidiphyllum japonica</i> )	2"	8'	1	Good condition and health. Not significant.	To be removed.
10	Douglas fir ( <i>Pseudotsuga menziesii</i> )	2"	4'	2	Stressed. Not significant.	To be removed.
11	Douglas fir ( <i>Pseudotsuga menziesii</i> )	2"	5'	2	Stressed. Not significant.	To be removed.
12	Katsura ( <i>Cercidiphyllum japonica</i> )	3"	7'	1	Good condition and health. Not significant.	To be removed.
13	Katsura ( <i>Cercidiphyllum japonica</i> )	3"	7'	1	Good condition and health. Not significant.	To be removed.
14	Katsura ( <i>Cercidiphyllum japonica</i> )	3"	8'	1	Good condition and health. Not significant.	To be removed.
15	Katsura ( <i>Cercidiphyllum japonica</i> )	3"	7'	1	Good condition and health. Not significant.	To be removed.
16	Douglas fir ( <i>Pseudotsuga menziesii</i> )	2"	5'	2	Stressed. Not significant.	To be removed.
17	Willow ( <i>Salix species</i> )	12"	22'	3	Declining. Considerable dieback. Significant.	To be removed.
18	Western red cedar ( <i>Thuja plicata</i> )	2"	5'	2	Stressed. Not significant.	To be removed.
19	Austrian black pine ( <i>Pinus nigra</i> )	12"	20'	1	Good condition and health. Significant.	To be retained.
20	Western red cedar ( <i>Thuja plicata</i> )	3"	5'	2	Stressed. Not significant.	To be removed.
21	Katsura ( <i>Cercidiphyllum japonica</i> )	2"	6'	1	Good condition and health. Not significant.	To be removed.
22	Western red cedar ( <i>Thuja plicata</i> )	2"	5'	2	Stressed. Not significant.	To be removed.
23	Katsura ( <i>Cercidiphyllum japonica</i> )	2"	5'	1	Good condition and health. Not significant.	To be removed.
24	Douglas fir ( <i>Pseudotsuga menziesii</i> )	28"	36'	2	Good condition and health. Significant. Off-site.	Impacted
25	Douglas fir ( <i>Pseudotsuga menziesii</i> )	30"	38'	2	Good condition and health. Significant. Off-site.	Impacted
26	Douglas fir ( <i>Pseudotsuga menziesii</i> )	14"	30'	1	Good condition and health. Significant. Off-site.	Impacted
27	Douglas fir ( <i>Pseudotsuga menziesii</i> )	18"	32'	1	Good condition and health. Significant. Off-site.	Impacted
28	Douglas fir ( <i>Pseudotsuga menziesii</i> )	36"	42'	2	Good condition and health. Landmark. Off-site.	Impacted
29	Douglas fir ( <i>Pseudotsuga menziesii</i> )	36"	44'	2	Good condition and health. Landmark. Off-site.	Impacted

off-site

Tree # - Number of tree as assigned on inventory map

Species - Genus and species

Size - Diameter in inches at 4.5' above grade

Dripline - Diameter in feet of tree crown spread/dripline

Condition - Rating scale of tree condition

1=Excellent condition and health; 2=Generally good condition and health, large and older;

3=Fair condition and health, some defects; 4=Poor condition and health or dead, to be removed.

Notes - Notes on general tree condition and health and any defects present in the trunk or crown.

Status - To be removed or retained