

TREE PROTECTION AND REMOVAL PLAN

For

HEDGES CREEK

PHELON DEVELOPMENT

For Service At



December 21, 2021

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City of Tualatin, Oregon – Hedges Creek Arboricultural Assessment and Tree Protection/ Removal Plan

Report Summary.

This report includes the location and status of the trees that fall within the perimeters of the proposed development of the project. The trees are marked on the site plan (Appendix C), including their location and corresponding number. This report is created following the development code of the City of Tualatin. The City Code pertaining to this site is:

- TDC-74.720 Protection of trees during development

General Information.

Project Location and Identification

The property is in the City of Tualatin, Oregon. The physical address is:

- 11345 SW Herman Road, Oregon

Proposal

The project proposes the development of the south side of the lot with 3 commercial buildings. The construction proposed includes site improvements in the form of utilities and new landscaping.

Assignment:

- Locate and identify the trees that will be affected based on the proposed construction according to the provided site plan (Appendix C)
- Assess the overall condition of the trees and provide a rating associated with the individual trees. Ratings are determined by comparing the structural integrity, abnormalities and expected growth habits versus current growth habits.
- Provide findings/ recommendations pertaining to the trees.

The data collected in the field is used to determine the viability and survivability of the trees during and after construction.

Tree Inventory and assessment

On 11/15/2021 a pre- construction site visit was conducted. The trees in question were evaluated for the impacts by the construction project, their overall condition, and verified in comparison to the site plan provided by Phelan Development which indicates the site improvements (Appendix C). The data collected for each tree includes the tree number, trunk diameter (DBH), tree health and condition, comments if applicable and removal recommendations.

Purpose and Use of this Report.

The purpose of this report is to establish a Tree Protection Plan that will serve as directions that need to be followed during the construction project. This report documents this information and is intended to be used by the owner, construction contractor, the sub-contractors, the tree care, and landscape professionals who are involved in the construction project.

Limits of the report

The trees were visually assessed above ground only, no tools were used. The field data was collected using an iPadOS 15.1 and a blue tooth connected GNSS Surveyor for GPS function. Although the location of the trees is accurate, the location of the trees is not up to NSPS (National Society of Surveyor) standards and are meant as a visual aid only. The survey points collected should not be used for architectural drawings.

The site was not yet surveyed, and the conclusion of my findings are made by visually comparing the landmarks to the provided site plan. The proposed buildings and amenities are planned at the southern half of the 20 Acre property. For the purpose of this report only the trees within the disturbance area are inventoried and documented.

Observations

Site observations

The site is situated between Herman Road and Myslony Street and is 20.30 Acres. The property has various overlay zone designations with a large portion dedicated as a Wetland Conservation District. The other overlay zones are: Open Space Preservation and a Greenway Location and are comparatively much smaller in area. The creek running from the SW corner of the property to the NE corner feeds a protected wetland area to the east of the property.

The planned development is proposed on the southern half of the property which is the least vegetated. Most of the large, high value trees are located on the north side of the property. The southern portion of the property is comprised of mostly smaller trees.

Tree Removal Recommendations

The trees that are recommended for removal are within the direct footprint or in the vicinity of the site improvements. The trees that are not within the direct footprint of the improvements are recommended for removal due to the impacts of the project.

Trees 1 through 7 and 50 through 68

The trees are proposed for removal because the proposed parking lot encroaches on the root systems of the trees located along the creek. The likelihood of failure post construction will be magnified due to grade changes and subgrade amendment. The proposed layout would likely require the removal of large roots which could make the trees hazardous due to the increased rotational failure potential.

Trees 8 through 49 and 65

The trees are in the direct footprint of the proposed building.

Trees 92 and 94

Tree 92 is dying. Tree 94 is in poor condition.

Trees 95 through 102

The trees are in the footprint of the parking lot and the proposed building.

Discussion and Tree Protection

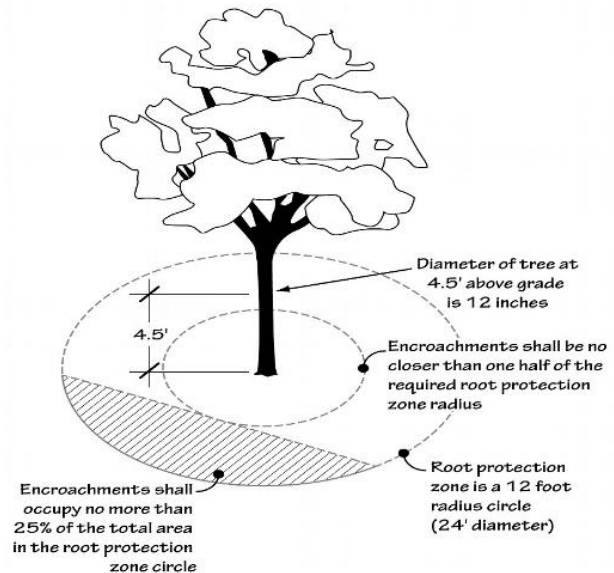
The area to the north of the disturbance area should remain undisturbed. Grading and fill in this area could change the hydrology of the property significantly and have a negative impact on the remaining trees.

The critical root zone is typically calculated at 6-inches per diameter inch of the trunk measured at 54" from the original grade. For example: a 12-inch DBH tree should have a tree protection zone radius of 6-feet. Depending on the plant species profile the fencing may need to be adjusted to accommodate the tree's construction tolerance.

The City of Tualatin Code TDC-74.720- Protection of Trees During Construction states that:

"During excavation and construction, the person must guard the tree within 6-feet and all building materials and/or debris must be kept at least 4-feet from any tree".

Given the sensitive nature of the property and the mature stature of the trees being retained, the tree protection fencing shall be kept outside the critical root zone of the trees.



The use of waddles instead of silt fencing is highly recommended to prevent trenching through the root systems of the trees being retained.

The Fencing Shall Be Placed as Prescribed in Appendix C. Refer to the inventory for CRZ (Critical Root Zone) distances.

The tree protection fencing shall be placed at the edge of the critical root zone of trees 73, 74, 78 and 79 in circumference of the tree on the east side of the creek.

The trees on the east side of the property to be retained shall be protected by placing fencing 5-feet from the proposed edge of the parking lot asphalt. The fencing shall be placed at tree 93 and from tree 91 through 85. The fencing should be placed from dripline to dripline running north to south.

Tree Protection Recommendation

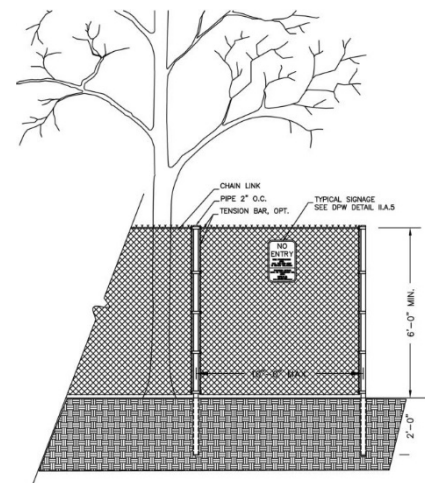
It is recommended to hold a site meeting with the contractors involved in the project to go over the tree plan and have the contractors sign a memorandum. The memorandum should show the provision and the penalty for violation of the Tree Plan. The penalty should include the cost of the appraised tree, fines incurred by the municipalities. The penalties should be made payable to the owner.

Excavation near the TPZ (Tree Protection Zone)

- All excavation, demolition, install of concrete forms.... etc. within 1 foot per diameter inch shall be monitored by one of our Certified Arborists assigned to the project to ensure that the impacts are minimal to the trees to be preserved. Techniques used by the project arborist will follow arboricultural guidelines and best management practices to preserve the trees (such as: City code, ANSI a300 standards... etc.)
- The excavator and/ or equipment shall stay outside the critical root zone/ drip line (tips of the branches) and carefully remove layers of soil while the project arborist probes the soil for roots 2" and larger.
- Exploratory pneumatic excavation may be necessary to determine the exact location of roots 2" diameter and larger, if found the project arborist may deem them to be substantially significant in the retention of the trees. Alternative construction measures may be recommended if large roots are found.
- Trees scheduled for removal located in proximity of the RPZ of the trees to be retained, should be cut, and not pulled over by excavator to minimize root impacts. Use of a stump grinder is recommended to remove stumps.

Tree Protection Fencing

- The tree protection fencing shall be a minimum of 4-feet tall and should be placed as far away from the tree as possible, while still allowing the construction project to commence. The fencing shall be metal.
- The temporary fencing shall be secured with 6-foot metal posts placed 8 feet apart, two feet deep at the edge of the tree protection zone.
- The sign 'Vegetation/ Tree Protection Zone' shall be placed prominently on the fence designated for the tree protection zone and list the penalties for violation.
- The fencing shall be installed prior to any ground disturbance taking place, including clearing, grading, or construction.
- The tree protection fencing may be removed after the final inspection is completed and the project arborist has met with the landscape contractor to go over their plans.



Prohibited Activities Inside the Tree Protection Zone

Construction activities are prohibited inside any part of the Tree Protection Zone. Should access be required due to unforeseen circumstances, prior approval from the project arborist is mandated and he/ she shall be onsite to determine mitigation to the proposed activity.

Prohibited activities include but are not limited to:

- Ground disturbance
- Construction activity involving vehicular or equipment access.
- Storage of equipment and materials (including soil and gravel)
- Temporary or permanent stockpiling
- Proposed buildings
- Impervious surfaces such as pavement
- Underground utilities
- Excavation or fill
- Trenching
- In ground irrigation system installations

Violations of the provisions may result in liability for damages and applicable fines.

Conclusion:

The trees are in poor to good condition taking species and age into consideration. Provided with the information I received, it is in my professional opinion that the tree plan will suffice from an arboricultural standpoint. Care should be taken to follow the recommendations and provisions laid out in this TPP to ensure the success of the retention efforts. I highly recommend a job site walkthrough prior to the start of the project.

Recommendations

Based on my findings and conclusions I am recommending the following course of action regarding the retention efforts:

- Establishing a Plant Health Care Program to ensure the retention efforts are a success. i.e., soil amelioration, the application of liquid organic fertilizers and watering during the dry months.
- Hold a site meeting to discuss the methods of approach.

<i>Appendix A</i>	Assumptions and Limitations
<i>Appendix B</i>	Certification of Performance
<i>Appendix C</i>	Site plan with tree locations, RPZ and TPZ

Appendix A - Assumptions and Limitations

1. A field examination of the site was made. My observations and conclusions are as of that date.
2. Care has been taken to obtain all information from a reliable source, however the Arborist can neither guarantee nor be responsible for accuracy of information provided by others.
3. Unless stated otherwise, information contained in this report covers only those trees that were examined and reflects the condition of those trees at the time of inspection. The inspection is limited to visual examination of the subject trees without dissection, excavation, probing, or coring. There is no warranty or guarantee that problems or deficiencies of the subject tree may not arise in the future.
4. All trees possess the risk of failure. Trees can fail at any time, with or without obvious defects or applied stress. Trees are living biological organisms, and I cannot predict nor guarantee their stability or failure.
5. Sketches or drawings in this report are intended as visual aids and are not necessarily to scale and should not be used as engineering or architectural reports or surveys.
6. This report and any values/opinions expressed herein represents my opinion as an arborist. Inaction on the part of those receiving the report is not the responsibility of the Arborist.
7. Loss or alteration of this report invalidates the entire report.
8. *It is the contractor's/ owner's responsibility to contact us in a timely matter to ensure that a project arborist is available when inspections and/ or observations are required. Please allow two weeks for scheduling purposes.*
9. Any legal description provided to the consultant/ appraiser is assumed to be correct. Any titles and ownerships to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character. All property is appraised or evaluated as though free and clear, under responsible ownership and competent management.
10. The consultant/ appraiser shall not be required to give testimony or attend court by reason of this report unless subsequent contractual arrangements are made, including payment for such services.
11. Possession of this report does not imply right of publication or use for any other purpose by any other than the person to whom it is addressed, without the prior expressed written consent of the consultant/ appraiser.

Appendix B - Certification of Performance

I, Peter van Oss, certify that:

- I have personally inspected the trees and the property referred to in this report and have stated my findings accurately. The extent of the evaluation or appraisal is stated in the attached report and the Terms of the Assignment.
- I have no current or prospective interest in the vegetation or the property that is subject of this report and have no personal interest or bias with respect to the parties involved.
- The analysis, opinions and conclusions stated herein are my own and are based on current scientific procedures and facts.
- My analysis, opinions 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 in the report.
- My compensation is not contingent upon reporting of a predetermined conclusion that favors the cause of the client or 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 of, and certified by the ISA. I have been involved in the arboricultural field in a full- time capacity for a period of 15 years.

Sincerely,



Peter van Oss
NW Tree Specialists
Certified Arborist PN-8145A
ISA Qualified Tree Risk Assessor
ASCA Member
503-512-3826 (Direct/ Cell)
peter@nwtreespecialists.com

 **AMERICAN SOCIETY of
CONSULTING ARBORISTS**

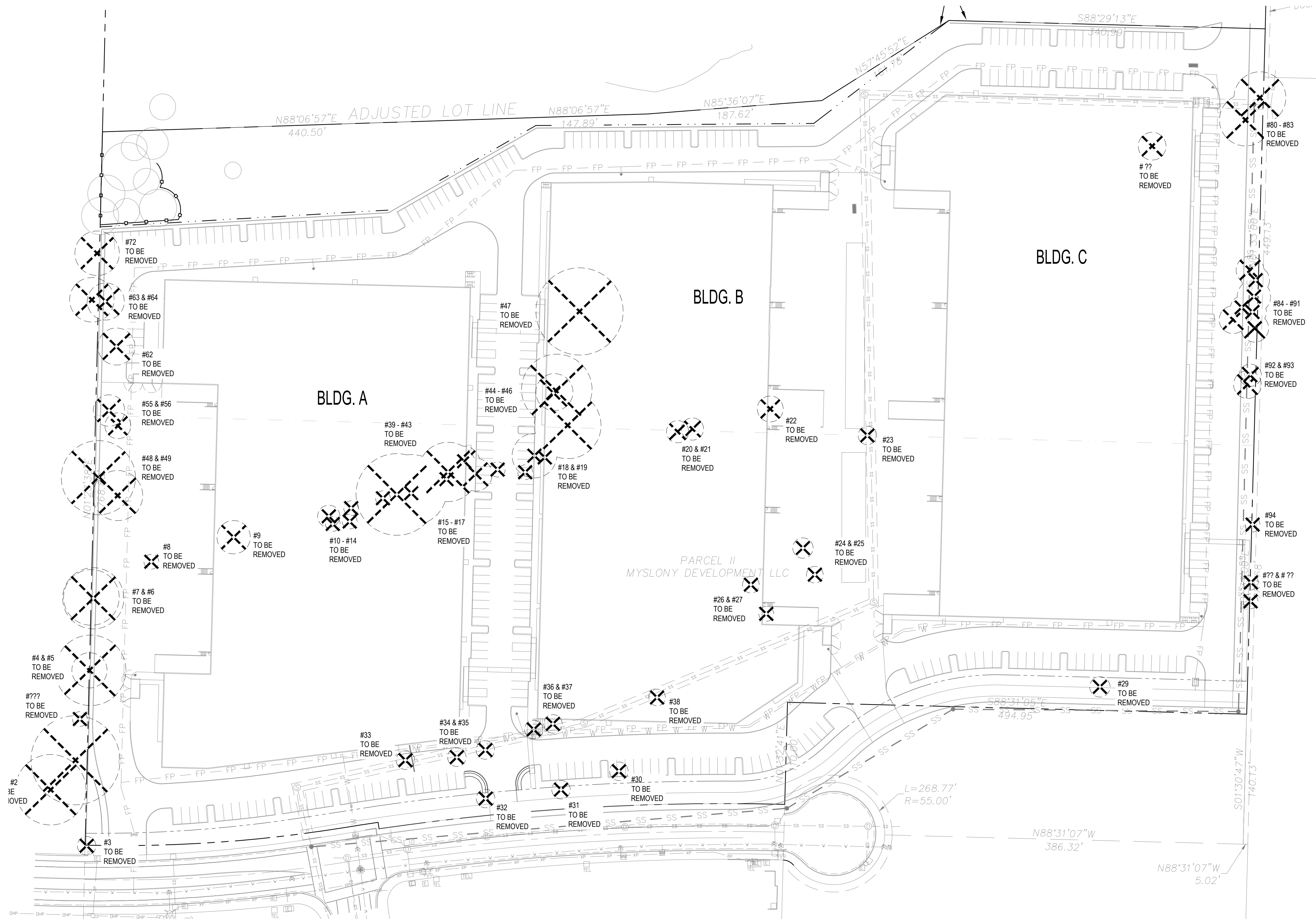
Glossary

DBH	The diameter of the tree measured at 54" from the ground.
TPP	Tree Protection Plan
TPZ	Tree Protection Zone
RPZ	Root Protection Zone
TPF	Tree Protection Fencing
Soil Amelioration	Enriching the soil with nutrients.

LEGEND

EXISTING TREES TO BE REMOVED, SEE ARBORIST REPORT FOR MORE DETAILS
 EXISTING TREES TO REMAIN
 TREE PROTECTION FENCE

1
L1.0



REGISTERED
552
Teresa Katherine Long
OREGON
5-14-04
LANDSCAPE ARCHITECT

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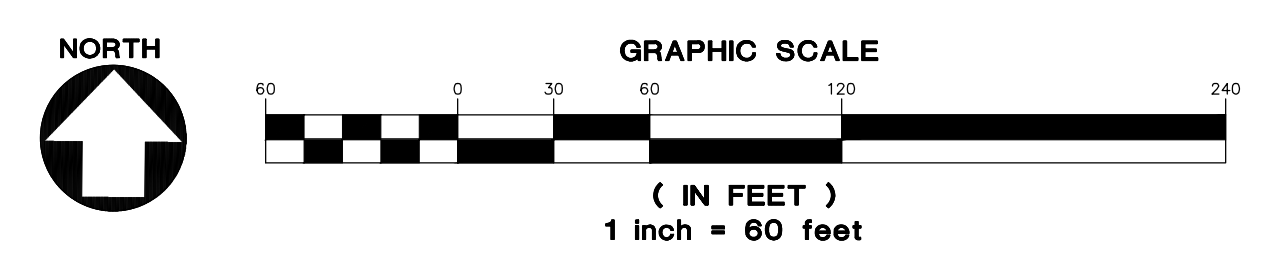
HEDGES CREEK
TUALATIN, OR

SHEET TITLE
TREE REMOVAL & PROTECTION PLAN
DATE: 08/02/2021
DRAWN: KPM
CHECKED: CNH
REVISIONS:

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SHEET NUMBER

L1.0

JOB NUMBER: A20120.10



DESIGN REVIEW - 12/17/2021

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Tree Id	Common Name	Latin Name	DBH	Condition (Health)	Status	Condition (Structure)	Observation Comments
1	Douglas fir	<i>Pseudotsuga menziesii</i>	38	Very Poor	Dying	Failed/Failing	
2	Douglas fir	<i>Pseudotsuga menziesii</i>	48	Good	Proposed Tree Removal	Good	
3	English hawthorn	<i>Crataegus monogyna</i>	9.85	Good	Proposed Tree Removal	Good	
4	Douglas fir	<i>Pseudotsuga menziesii</i>	38	Good	Proposed Tree Removal	Good	
5	Oregon ash	<i>Fraxinus latifolia</i>	18.44	Fair	Proposed Tree Removal	Very Poor	Damaged trunk
6	Oregon ash	<i>Fraxinus latifolia</i>	33.11	Fair	Proposed Tree Removal	Very Poor	Damaged trunk
7	Oregon ash	<i>Fraxinus latifolia</i>	30.33	Fair	Proposed Tree Removal	Very Poor	Damaged trunk
8	Sweet cherry	<i>Prunus avium</i>	8	Fair	Proposed Tree Removal	Fair	
9	Oregon white oak	<i>Quercus garryana</i>	18	Fair	Proposed Tree Removal	Fair	
10	English hawthorn	<i>Crataegus monogyna</i>	11.18	Fair	Proposed Tree Removal	Fair	
11	English hawthorn	<i>Crataegus monogyna</i>	7.81	Fair	Proposed Tree Removal	Fair	
12	Oregon white oak	<i>Quercus garryana</i>	12.04	Good	Proposed Tree Removal	Good	
13	BDS OTHER	Broadleaf Deciduous Small	9.85	Good	Proposed Tree Removal	Poor	
14	Oregon white oak	<i>Quercus garryana</i>	8		Proposed Tree Removal		
15	Oregon white oak	<i>Quercus garryana</i>	7	Good	Proposed Tree Removal	Good	
16	English hawthorn	<i>Crataegus monogyna</i>	8.37	Good	Proposed Tree Removal	Poor	
17	English hawthorn	<i>Crataegus monogyna</i>	8	Good	Proposed Tree Removal	Poor	
18	English hawthorn	<i>Crataegus monogyna</i>	8	Good	Proposed Tree Removal	Poor	
19	English hawthorn	<i>Crataegus monogyna</i>	7.21	Good	Proposed Tree Removal	Poor	
20	Apple	<i>Malus spp.</i>	12	Fair	Proposed Tree Removal	Fair	
21	BDS OTHER	Broadleaf Deciduous Small	10.82	Fair	Proposed Tree Removal	Fair	
22	Oregon ash	<i>Fraxinus latifolia</i>	14	Good	Proposed Tree Removal	Good	
23	Oregon ash	<i>Fraxinus latifolia</i>	10	Fair	Proposed Tree Removal	Fair	
24	Pine	<i>Pinus spp.</i>	11	Good	Proposed Tree Removal	Good	
25	Pine	<i>Pinus spp.</i>	9	Good	Proposed Tree Removal	Good	
26	Pine	<i>Pinus spp.</i>	9	Good	Proposed Tree Removal	Good	
27	Pine	<i>Pinus spp.</i>	8	Good	Proposed Tree Removal	Good	

28	Pacific service berry	Amelanchier alnifolia	6.71	Good	Proposed Tree Removal	Good
29	Scouler willow	Salix scouleriana	9.85	Good	Proposed Tree Removal	Good
30	Oregon white oak	Quercus garryana	8.25	Good	Proposed Tree Removal	Good
31	Oregon white oak	Quercus garryana	8.25	Good	Proposed Tree Removal	Good
32	Oregon white oak	Quercus garryana	6	Good	Proposed Tree Removal	Good
33	English hawthorn	Crataegus monogyna	8.77	Fair	Proposed Tree Removal	Fair
34	English hawthorn	Crataegus monogyna	8.77	Fair	Proposed Tree Removal	Fair
35	Oregon ash	Fraxinus latifolia	7.55	Fair	Proposed Tree Removal	Fair
36	Sweet cherry	Prunus avium	10	Good	Proposed Tree Removal	Fair
37	Sweet cherry	Prunus avium	10	Fair	Proposed Tree Removal	Fair
38	Pine	Pinus spp.	8	Fair	Proposed Tree Removal	Fair
39	Oregon white oak	Quercus garryana	44	Good	Proposed Tree Removal	Good
40	Oregon white oak	Quercus garryana	38	Good	Proposed Tree Removal	Good
41	Oregon white oak	Quercus garryana	31.58	Good	Proposed Tree Removal	Good
42	Apple	Malus spp.	18.36	Good	Proposed Tree Removal	Good
43	Apple	Malus spp.	18.36	Good	Proposed Tree Removal	Good
44	Oregon white oak	Quercus garryana	23	Good	Proposed Tree Removal	Good
45	Madrone	Arbutus menziesii	35.79	Fair	Proposed Tree Removal	Failed/Failing
46	Port orford cedar	Chamaecyparis lawsoniana	44.34	Good	Proposed Tree Removal	Good
47	Port orford cedar	Chamaecyparis lawsoniana	38	Fair	Proposed Tree Removal	Fair
48	Oregon white oak	Quercus garryana	27.5	Good	Proposed Tree Removal	Good
49	Oregon white oak	Quercus garryana	41	Good	Proposed Tree Removal	Good
50	Oregon white oak	Quercus garryana	30	Good	Proposed Tree Removal	Good
51	Oregon ash	Fraxinus latifolia	10	Good	Proposed Tree Removal	Good
52	Black locust	Robinia pseudoacacia	19	Fair	Proposed Tree Removal	Fair
53	Oregon ash	Fraxinus latifolia	8	Fair	Proposed Tree Removal	Fair
54	English hawthorn	Crataegus monogyna	10	Fair	Proposed Tree Removal	Fair
55	Oregon white oak	Quercus garryana	14	Fair	Proposed Tree Removal	Fair
56	Oregon ash	Fraxinus latifolia	17	Fair	Proposed Tree Removal	Fair
57	Oregon ash	Fraxinus latifolia	12.21	Fair	Proposed Tree Removal	Fair
58	Oregon ash	Fraxinus latifolia	13.89	Fair	Proposed Tree Removal	Fair
59	Oregon ash	Fraxinus latifolia	10	Fair	Proposed Tree Removal	Fair
60	Oregon ash	Fraxinus latifolia	9	Fair	Proposed Tree Removal	Fair
61	Oregon ash	Fraxinus latifolia	11	Fair	Proposed Tree Removal	Fair
62	Oregon white oak	Quercus garryana	20	Fair	Proposed Tree Removal	Fair

63	Douglas fir	Pseudotsuga menziesii	20	Fair	Proposed Tree Removal	Fair	
64	Oregon ash	Fraxinus latifolia	24	Poor	Proposed Tree Removal	Fair	Neighboring property
65	Oregon ash	Fraxinus latifolia	18	Fair	Proposed Tree Removal	Fair	Neighboring property
66	Oregon ash	Fraxinus latifolia	20	Fair	Proposed Tree Removal	Fair	
67	Oregon ash	Fraxinus latifolia	14	Very Poor	Proposed Tree Removal	Failed/Failing	
68	Oregon ash	Fraxinus latifolia	26	Poor	Proposed Tree Removal	Failed/Failing	
69	Oregon ash	Fraxinus latifolia	19.8	Fair	Proposed Tree Removal	Fair	
70	Oregon ash	Fraxinus latifolia	19.8	Fair	Proposed Tree Removal	Fair	
71	Oregon ash	Fraxinus latifolia	14	Fair	Proposed Tree Removal	Fair	
72	Douglas fir	Pseudotsuga menziesii	24	Very Poor	Proposed Tree Removal	Failed/Failing	Blow down
73	Oregon ash	Fraxinus latifolia	17	Good	Protected Tree	Good	
74	Oregon ash	Fraxinus latifolia	17	Good	Protected Tree	Good	
75	Oregon ash	Fraxinus latifolia	9	Good	Proposed Tree Removal	Good	
76	Oregon ash	Fraxinus latifolia	10	Good	Protected Tree	Good	
77	Oregon ash	Fraxinus latifolia	8	Good	Protected Tree	Good	
78	Oregon ash	Fraxinus latifolia	22	Good	Protected Tree	Good	
79	Oregon ash	Fraxinus latifolia	14	Good	Protected Tree	Good	
80	Oregon white oak	Quercus garryana	28	Good	Protected Tree	Good	
81	Oregon white oak	Quercus garryana	28	Good	Protected Tree	Good	
82	Oregon white oak	Quercus garryana	18	Good	Protected Tree	Good	
83	Oregon ash	Fraxinus latifolia	14	Fair	Protected Tree	Good	
84	Oregon ash	Fraxinus latifolia	14	Fair	Protected Tree	Good	
85	Oregon ash	Fraxinus latifolia	16.88	Fair	Protected Tree	Good	
86	Oregon ash	Fraxinus latifolia	18	Fair	Protected Tree	Good	
87	Oregon ash	Fraxinus latifolia	12	Good	Protected Tree	Good	
88	Oregon ash	Fraxinus latifolia	12	Good	Protected Tree	Good	
89	Oregon ash	Fraxinus latifolia	16	Fair	Protected Tree	Good	
90	Oregon ash	Fraxinus latifolia	16	Good	Protected Tree	Good	
91	Oregon ash	Fraxinus latifolia	14	Good	Protected Tree	Good	
92	Oregon ash	Fraxinus latifolia	12	Dead/Dying	Dying	Failed/Failing	
93	Oregon ash	Fraxinus latifolia	15	Poor	Protected Tree	Fair	
94	Oregon ash	Fraxinus latifolia	8	Poor	Proposed Tree Removal	Fair	
95	Oregon ash	Fraxinus latifolia	9	Poor	Proposed Tree Removal	Fair	
96	Pacific service berry	Amelanchier alnifolia	7	Good	Proposed Tree Removal	Good	
97	Oregon ash	Fraxinus latifolia	15	Good	Proposed Tree Removal	Good	

Prepared by:
Peter van Oss PN-8145A

NW SavAtree

11/18/2021

98	English hawthorn	Crataegus monogyna	7	Fair	Proposed Tree Removal	Poor
99	English hawthorn	Crataegus monogyna	8	Fair	Proposed Tree Removal	Poor
100	English hawthorn	Crataegus monogyna	6	Fair	Proposed Tree Removal	Poor
101	English hawthorn	Crataegus monogyna	7	Fair	Proposed Tree Removal	Poor
102	Oregon ash	Fraxinus latifolia	8	Fair	Proposed Tree Removal	Fair
103	Oregon ash	Fraxinus latifolia	7	Good	Proposed Tree Removal	Good