

SUF

SOUND URBAN FORESTRY

Appraisals, Planning, Urban Landscape Design and Management

Springwood Garden Single Family Residential

1609 Springwood Ave NE

Olympia, WA 98506

Level V Soil and Vegetation Plan

Prepared for: Garrette Custom Homes Puget Sound, Inc.

Prepared by: Kevin M. McFarland, SUF
Consulting Urban Forester/ISA Certified Arborist

Date: 1/30/2025

Introduction

This Level V Soil and Vegetation Plan has been prepared for the proposed Springwood Garden single-family project, as specified by the Olympia Tree Protection and Replacement Ordinance (OMC 16.60) pursuant to the City of Olympia Development Guidelines and Public Works Standards.

I. Existing Conditions and Project Narrative

The 7.06-acre site is located along the south side of Springwood Ave NE, to the east of Bethel Street. It consists of one tax parcel: 09680073000. It is currently developed as one single family residence with several structures and parking areas. The western 2/3 of the property is semi-open with scattered native and non-native trees and landscape type plants. The eastern portion is forested with even-age red alders and a few black cottonwoods. The alders average 16” in diameter and are in poor to fair condition. Understory includes hazelnut, sword fern, salmonberry and big leaf maple along with many invasives such as Himalayan blackberry, English holly, bird cherry and Norway maple.

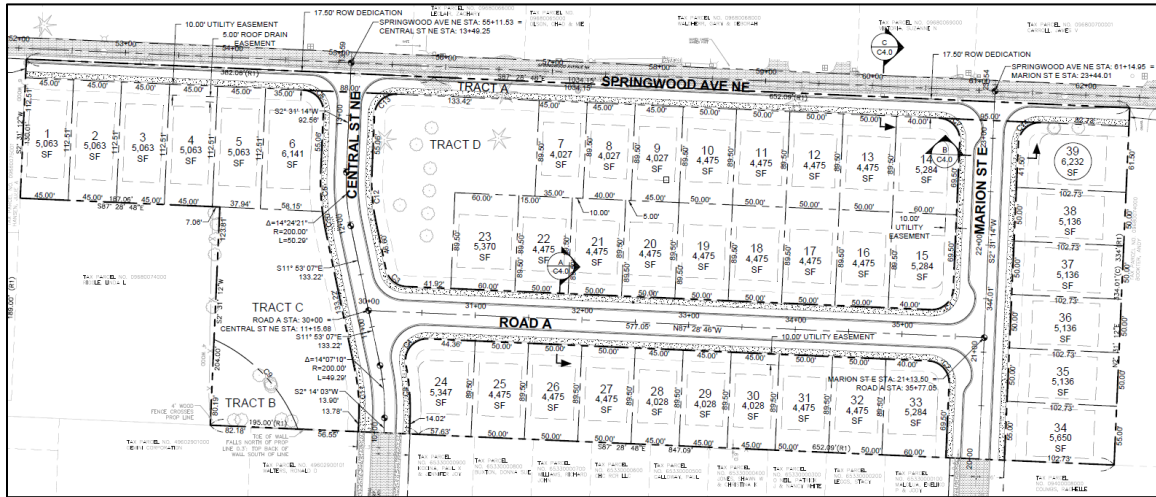
The proposed project involves dividing the property into 39 single-family lots with the associated roads and frontage improvements. Two tracts dedicated to a wetland buffer and a detention pond will be located in the southwest corner. A .45-acre SVPA (Tract D) will be located off one of the entrances at Springwood Ave.

The 1990 Soil Survey of Thurston County, Washington, indicates the soil found within the site is Yelm fine sandy loam. This deep, moderately well drained soil is on terraces. Permeability is moderately rapid and available water capacity is high. Effective rooting depth is 40-60”.

Diagram 1. Aerial of Property



Diagram 2. Site Plan



II. Inventory of Trees

A 100% survey of the trees within the property was conducted. Table 1 presents the trees within the more open, western portion of the property that I personally tagged and assessed. To the east of these trees are approximately 120 red alders measuring an average 16-18” diameter.

Table 1. Trees Within Project Property

ID #	Species	DBH	Condition	Tree Units
1	Bird Cherry	8"	Fair	1.5
2	Bird Cherry	18"	Good	4
3	Linden	22",26"	Fair	12
4	Douglas Fir	12"	Fair	1.5
5	Douglas Fir	12"	Fair	1.5
6	Douglas Fir	28"	Good	9
7	Douglas Fir	10"	Fair	1.5
8	Douglas Fir	18"	Fair	4
9	Douglas Fir	12"	Fair	1.5
10	Douglas Fir	29"	Good	9
11	Birch	16"	Fair	3
12	Linden	13",22"	Fair	8
13	Big Leaf Maple	33"	Good	11
14	Cascara	6"	Good	1
15	Birch	16"	Fair	3
16	Birch	14"	Fair	2

ID #	Species	DBH	Condition	Tree Units
17	Birch	18"	Fair	4
18	Birch	12"	Fair	1.5
19	Norway Maple	12"	Good	1.5
20	Red Alder	15"	Poor	0
21	Red Alder	13"	Fair	1.5
22	Red Alder	16"	Dead	0
23	Red Alder	13"	Dead	0
24	Red Alder	9",17",18"	Fair	8
25	Norway Maple	8"	Good	1.5
26	Linden	12"	Fair	1.5
27	Red Alder	20",16",17"	Fair	10
28	Norway Maple	17"	Good	3
29	Linden	40"	Fair	15
30	Corkscrew Willow	10"	Fair	1.5
31	Apple	8"	Good	1.5
32	Birch	16"	Poor	0
33	Birch	8"	Poor	Off-site
34	Birch	10"	Fair	Off-site
35	Birch	12"	Fair	Off-site
36	Birch	11"	Fair	Off-site
37	Birch	8"	Fair	Off-site
38	Cascara	16"	Poor	0
39	English Hawthorn	10"	Fair	1.5
40	Red Alder	32"	Good	11
41	Red Alder	28",22"	Good	13
42	Red Alder	8",16"	Fair	4
43	Red Alder	20"	Fair	5
44	Red Alder	18"	Fair	4
45	Red Alder	14",13"	Fair	4
46	Red Alder	16"	Good	3
47	Red Alder	10"	Good	1.5
48	Red Alder	12"	Good	1.5
49	Red Alder	6",14"	Good	2
50	Red Alder	8"	Fair	1.5
51	Corkscrew Willow	7"	Fair	1.5
52	Red Alder	5",7"8"	Fair	1.5
53	Red Alder	12",11"	Fair	3
54	Red Alder	14",6"	Fair	2
55	Red Alder	15",16",15",17"	Fair	11
56	Red Alder	11"	Fair	1.5

ID #	Species	DBH	Condition	Tree Units
57	Red Alder	17",17"	Fair	7
58	Red Alder	7"	Fair	1.5
59	Red Alder	4",5",7",4",3"	Fair	1.5
60	Red Alder	2",5",5"	Fair	1.5
61	Douglas Fir	22"	Good	6
62	Douglas Fir	18"	Fair	4
63	Douglas Fir	17"	Fair	3
64	Red Alder	28"	Poor	0
65	Red Alder	35"	Good	12
66	Red Alder	19"	Fair	4
67	Red Alder	16",16"	Fair	6
68	Pin Oak	27"	Good	8
69	Norway Maple	24"	Good	7
70	Norway Maple	26"	Good	8
71	Norway Maple	19"	Good	4
72	Norway Maple	25"	Good	7
73	Bird Cherry	6"	Good	1
74	Flowering Cherry	15"	Fair	2
75	Magnolia	2",3",3",4",4"	Good	1.5
76	Douglas Fir	16"	Good	3
77	Shore Pine	34"	Good	12
78	Coastal Redwood	70"	Good	30
79	Noble Fir	16"	Fair	3
80	Western Red Cedar	18"	Good	4
81	Western Red Cedar	18"	Good	4
82	Norway Spruce	18"	Good	4
83	Red Alder	19"	Poor	4
84	Leyland Cypress	8"	Good	1.5
85	Leyland Cypress	6"	Good	1
86	Red Alder	20",19",18"	Fair	11
87	Red Alder	8"	Fair	1.5
88	Red Alder	12"	Fair	1.5
89	Red Alder	16"	Fair	3
90	Red Alder	14"	Fair	2
91	Red Alder	12"	Fair	1.5
92	Red Alder	16"	Fair	3
93	Red Alder	14"	Fair	2
94	Red Alder	17"	Good	3
95	Red Alder	14"	Fair	2
96	Red Alder	6"	Poor	1

ID #	Species	DBH	Condition	Tree Units
97	Red Alder	6",12",10"	Fair	3
98	Red Alder	12"	Fair	1.5
99	Red Alder	12"	Fair	1.5
100	Douglas Fir	20"	Good	5
101	Red Alder	18",16"	Fair	7
102	Red Alder	10"	Fair	1.5
103	Red Alder	16"	Fair	3
104	Red Alder	13"	Fair	1.5
105	Red Alder	10"	Fair	1.5
106	Red Alder	10"	Fair	1.5
107	Red Alder	7"	Fair	1.5
108	Red Alder	12"	Fair	1.5
109	Red Alder	14"	Poor	0
110	Cottonwood	29"	Good	9
111	Norway Maple	12"	Good	1.5
112	Pacific Willow	8",6",5",4",6"	Fair	1.5
113	Scouler's Willow	8"	Poor	0
114	Red Alder	16",16"	Fair	6
115	Red Alder	8",9"	Fair	1.5
116	Norway Maple	3",5",5"	Fair	1.5
117	Red Alder	12"	Poor	0
118	Mountain Ash	3",2",3"	Fair	1
119	Red Alder	6",14",18"	Poor	0
120	Red Alder	18"	Poor	0
121	Red Alder	40"	Fair	15
122	Red Alder	22"	Fair	6
123	Red Alder	18"	Fair	4
124	Red Alder	22",20",18"	Fair	12
125	Red Alder	18"	Good	4
126	Red Alder	19",17"	Good	8
127	Red Alder	17"	Good	3
128	Red Alder	16"	Good	3
129	Red Alder	16"	Good	3
130	Red Alder	14"	Good	2
131	Red Alder	12",12",10"	Fair	5
132	Apple	17"	Poor	0
133	Monkey Puzzle	6"	Good	1
134	Red Alder	11"	Good	1.5
135	Red Alder	12"	Good	1.5
136	Red Alder	7"	Fair	1.5

ID #	Species	DBH	Condition	Tree Units
137	Red Alder	10"	Fair	1.5
138	Red Alder	12"	Poor	0
139	Red Alder	19"	Poor	0
140	Red Alder	14"	Poor	0
141	Red Alder	17"	Fair	3
142	Red Alder	22",16'	Poor	0
143	Red Alder	16",15"	Poor	0
144	Red Alder	18",16"	Fair	7
145	Red Alder	18",18"	Fair	8
146	Cottonwood	38"	Good	14
147	Cottonwood	31"	Fair	10
148	Cottonwood	36"	Fair	13
149	Cottonwood	54"	Good	22
150	Cottonwood	38"	Good	14
151	Cottonwood	32"	Good	11
152	Cottonwood	35"	Good	12
153	Cottonwood	28"	Good	9
154	Red Alder	15"	Fair	2
155	Red Alder	13"	Good	1.5
156	Red Alder	15"	Fair	2
157	Red Alder	18"	Fair	4
158	Red Alder	16"	Good	3
159	Big Leaf Maple	13"	Good	1.5
160	Red Alder	18"	Fair	4
161	Norway Maple	13"	Good	1.5
162	Red Alder	16"	Fair	3
163	Bird Cherry	17"	Good	3
164	Red Alder	16"	Good	3
165	Red Alder	17"	Good	3
166	Red Alder	19"	Fair	4
167	Monkey Puzzle	16"	Good	3
168	Monkey Puzzle	8"	Good	1.5

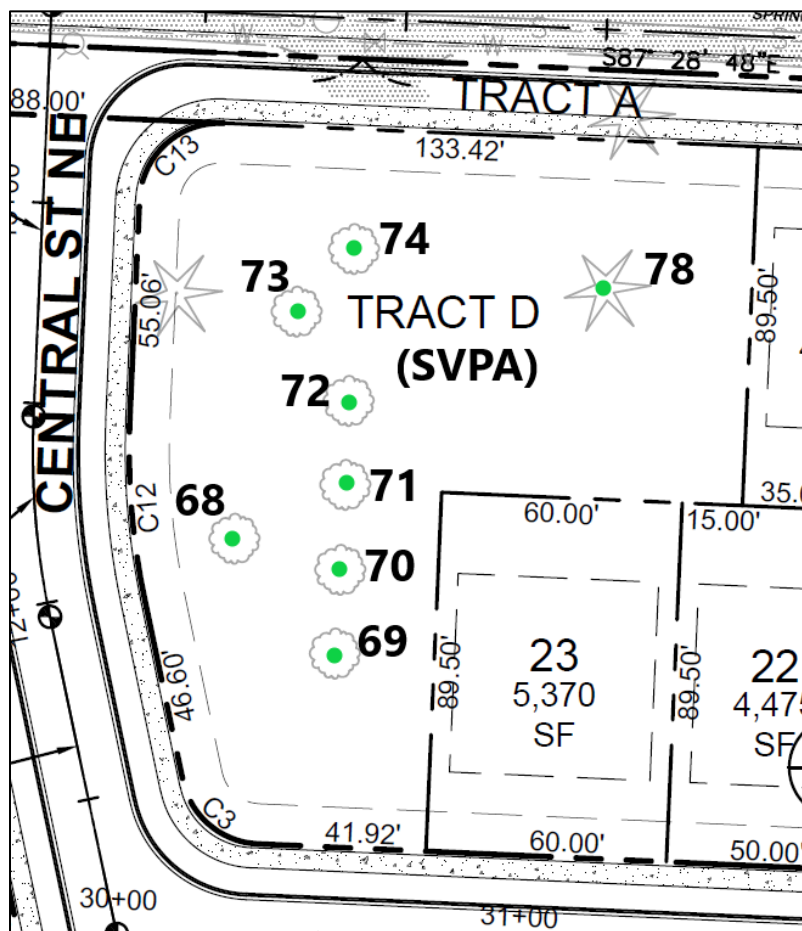
Off-Site Trees

There is a row of birch trees, #33-37 that are very close to the western property line. Considering their small trunk diameters, I do not anticipate any impacts to the critical root zones.

III. Soil & Vegetation Protection Area (SVPA)

Per the City of Olympia's municipal code, all residential subdivision projects with five or more units are required to designate a portion of the property as a Soil & Vegetation Protection Area (SVPA). These are fenced off, non-passive use areas that are intended to provide mitigation. A minimum of 75% of the total required tree units for the project are to be located within the SVPA. The SVPA for this project has been designated at Tract D. Initial thoughts were to dedicate an area along the eastern edge where the native vegetation exists. However, considering the poor condition of the red alders in the stand and the potential impacts of a sudden forest edge, it was decided to create the SVPA around the existing house. Trees #68-74 and #78 will be retained. Due to the compaction of the soils in this area, mitigation will be necessary to fulfill the function of this tract.

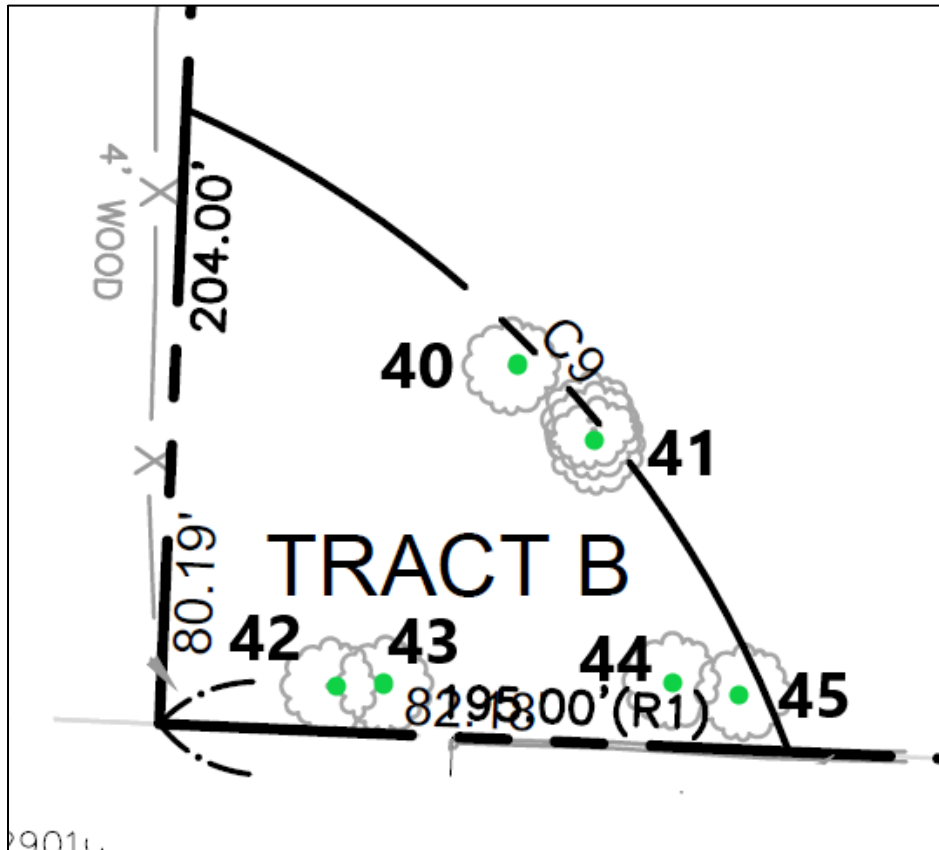
Diagram 4. Tree Retention within SVPA



IV. Tree Retention

In addition to the tree retention within the SVPA, there are six trees with Tract B, the wetland buffer, that will be retained.

Diagram 5. Tree Retention within Tract B



V. Tree Density Calculations

The City of Olympia requires a minimum of 30 tree units per buildable acre. All trees within the SVPA and Tract B will be retained. The following summary presents the tree density calculations.

Minimum Tree Density Required

Total Acreage = 7.06-acres

Buildable Area (7.06-acres minus 1.35-acre ROW & .10-acre wetland buffer) =5.61-acres

Required Units (30 units/acre x 5.61-ac buildable area) = 168 Units

Required Minimum Units to be Retained within SVPA = 126 Units

Units to be Retained within SVPA = 67 Units

Units to be Retained outside SVPA = 41 Units

Total Units to be Retained = 108 Units

Overall Shortfall = 60 Units

Shortfall within SVPA = 59 Units

This project does not meet the minimum tree density as specified by the City of Olympia. Replanting will be required to make up the overall shortfall and that within the SVPA.

VI. Replanting

Replanting with a mixture of native species is recommended within the SVPA and Tract B. This shall be addressed within the landscape plans and meet the City's standards.

VII. Tree Protection

Tree protection fencing that meets the City's standards (see Diagram 7) will be necessary for all trees to be retained. The approximate locations are noted in orange on the attached Diagram 6. Furthermore, supervision by a Certified Arborist will be necessary for the demolition of the existing infrastructure within the proposed SVPA and near the trees to be retained. In addition to following the guidelines in Chapter 7 of the City's Urban Forestry Manual, the following measures are expected:

- Prior to *any* site work, a representative of Sound Urban Forestry will meet the contractor to review the expected sequence and exact placement of the fencing along with the details of the demolition within the SVPA.
- Sound Urban Forestry will be given 48 hours notice of when demolition will occur and allowed to supervise during the event.
- All equipment will be kept out of the protection areas of trees to be retained during the demolition.
- Prior to the pre-con meeting, I will review the fencing installation and notify the City whether it is acceptable.
- Absolutely no equipment or materials are allowed past the tree protection fencing.
- All recommended fencing will remain in place throughout the entire construction process.
- Once all the site improvements have been completed, the final fencing for the SVPA shall be installed.
- I will be notified once the project is complete to assess the retained trees for any damage and notify the City of my findings.

Professionally Submitted,



Kevin M. McFarland, Member
 Consulting Urban Forester
 ISA Certified Arborist PN-0373 & ISA Tree Risk Assessment Qualified
 Sound Urban Forestry, LLC
 P.O. Box 489
 Tahuya, WA 98588

Diagram 6. Approximate Locations of Tree Protection Fencing

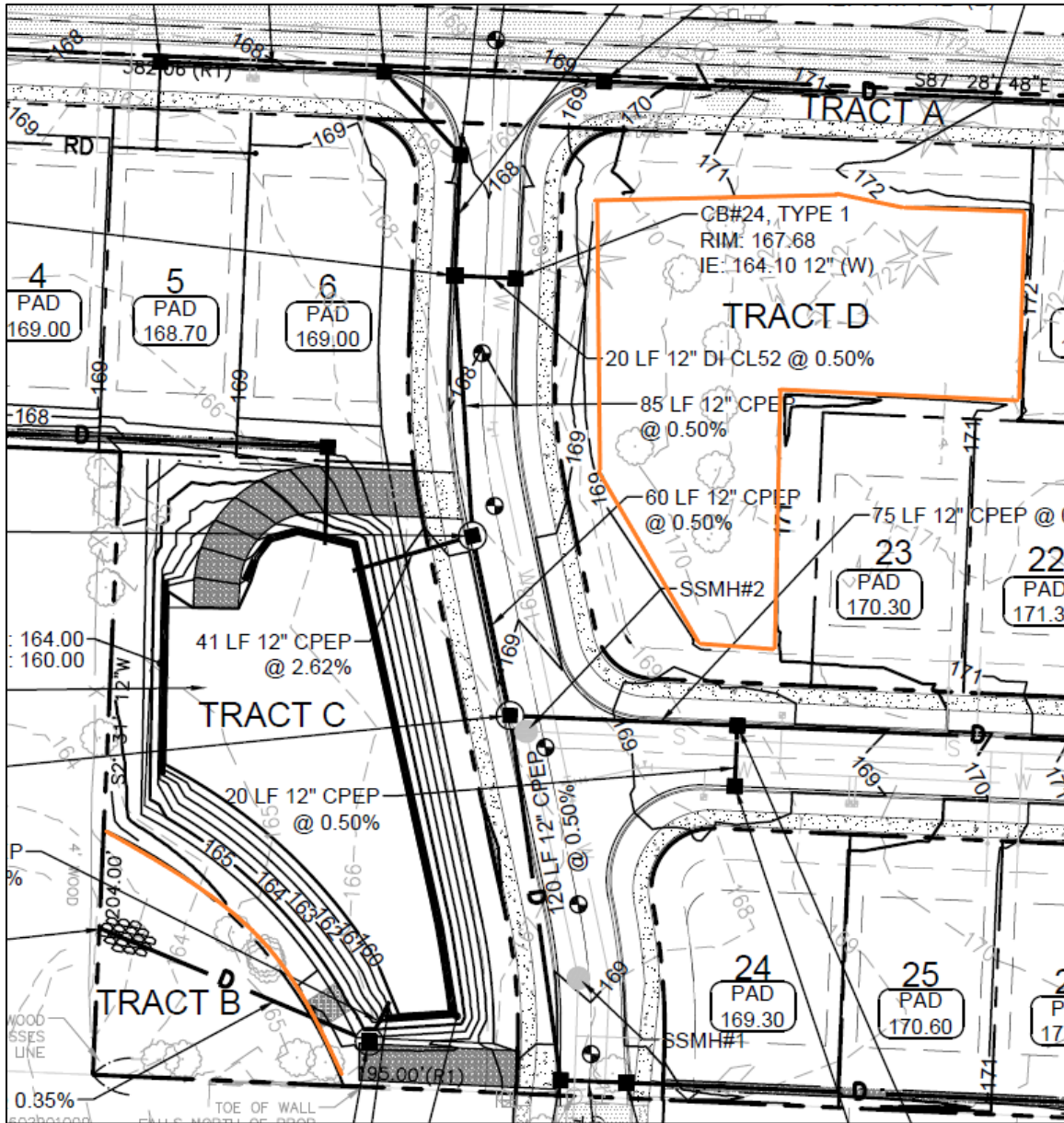
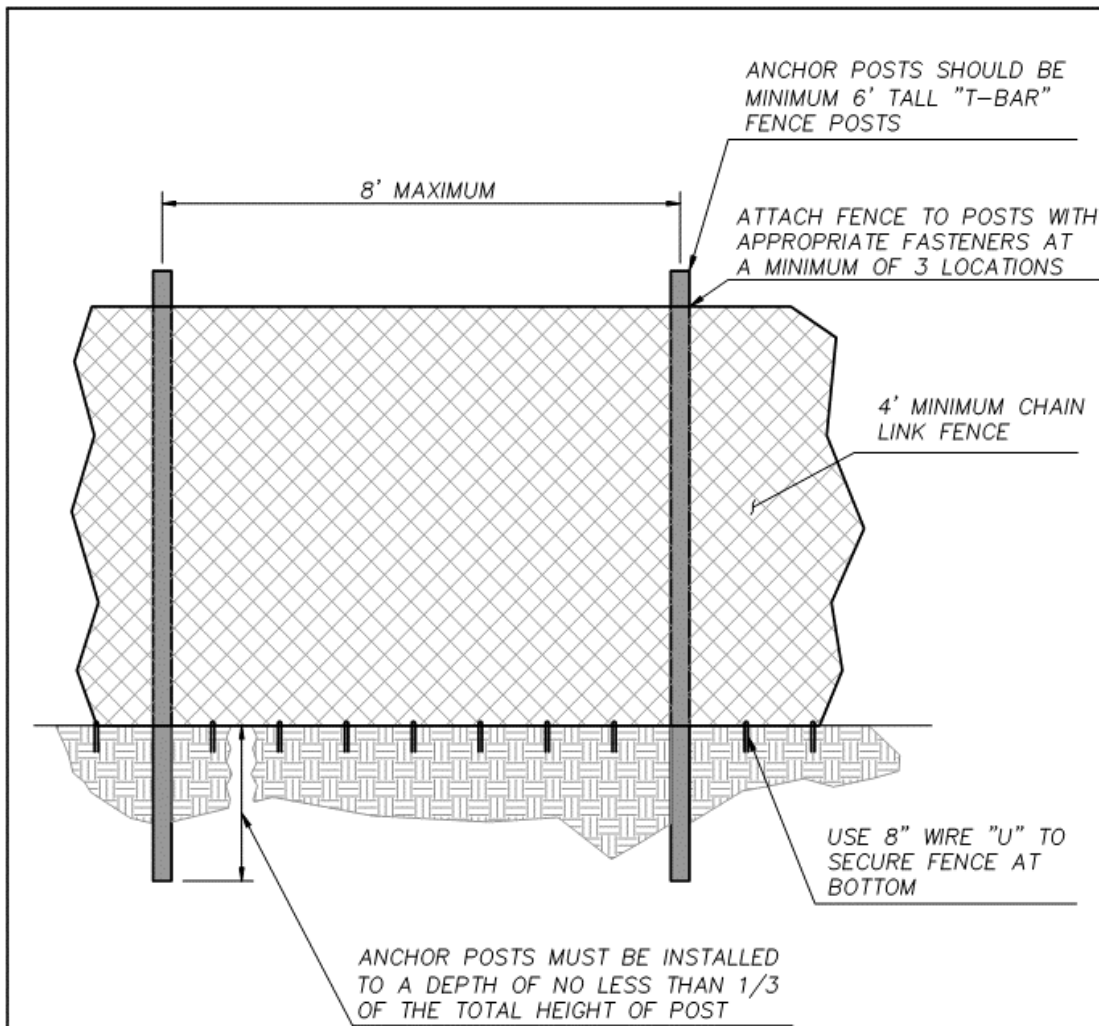


Diagram 7. City of Olympia Tree Protection Fencing Specifications



NOTES:

1. THE TREE, SOIL AND VEGETATION PROTECTION FENCE SHOULD BE MAINTAINED THROUGHOUT THE CONSTRUCTION AND GRADING, AND NOT TO BE REMOVED UNTIL FINAL LANDSCAPING IS IN PROGRESS AND WITH APPROVAL BE PROJECT FORESTER.
2. AT NO TIME SHALL EQUIPMENT ENTER INTO THE CRITICAL ROOT ZONE (CRZ).
3. ALL BRUSH CLEANUP WITHIN THE CRZ SHOULD BE COMPLETED BY HAND TO PREVENT DISTURBANCE OF NATIVE GROUND COVERS.
4. NO CUTS OR FILLS, UTILITY TRENCHING, MODIFICATIONS TO DRAINAGE, OR CONCRETE RINSE WATER SHOULD IMPACT THE CRZ.
5. NO WIRES, CABLES, OR OTHER DEVICES SHOULD BE ATTACHED TO PROTECTED TREES DURING CONSTRUCTION.
6. IF IMPACTS MUST OCCUR WITHIN THE CRZ, CONTACT PROJECT FORESTER PRIOR TO THE OPERATIONS TO DETERMINE THE PROPER PROCEDURE TO PROTECT THE TREE'S HEALTH.

APPROVED BY	REVISED DATE	CITY OF OLYMPIA	STD. DWG. NO.
FRAN R. EIDE, PE	12/08/2017	TREE PROTECTION FENCE	5-20
CITY ENGINEER			