

SUF

SOUND URBAN FORESTRY, LLC

Appraisals ~ Site Planning ~ Urban Landscape Design and Management
Environmental Education ~ Risk Assessments

4/30/18

Greenfield HOA

C/o: Matt Stevens

3627 Joshua Way SE

Olympia, WA 98501

RE: Greenfield Street Tree Evaluation and Management Recommendations

Mr. Stevens:

Upon the request of the Greenfield HOA, I have conducted an assessment of the street trees within the residential development and offer the following findings and recommendations. I visited the site throughout the month of April, 2018 and assessed all street trees for condition and damage to adjacent infrastructure.

Site Description

Greenfield is a 78-lot residential development within the City of Olympia. The street trees are considered HOA responsibility and are located along all public roads. Species of trees include Redspire pear, Norway maple, and white ash. Conditions range from poor to good with trunk diameters averaging 9". The trees are planted within 4' and 5' wide planting strips between the curb and sidewalk. Sidewalk damage and lifting has become an issue with the trees as they age.

Identified Street Trees

The following trees were identified and are located on the included site maps.

Assigned ID#	Species	Trunk Diameter (inches @ 4.5')	Condition	Sidewalk Lift	Comments
1	Redspire Pear	9	Poor	Yes	2 panels by ½" & ¾". Tree was previously topped.
2	Redspire Pear	11	Poor	Yes	1 panel by 1". Tree was previously topped.
3	Norway Maple	10	Good	Yes	2 panels by 1" & 1 ½".
4	Norway Maple	8	Fair	Yes	3 panels by 1-1 ½".
5	Norway Maple	8	Good	Yes	1 panel by ½".
6	White Ash	15	Fair	Yes	1 panel by ¾".
7	White Ash	17	Good	Yes	1 panel by ¼".
8	White Ash	15	Good	Yes	2 panels by ½". Tree is leaning but has self-corrected.
9	Amur Maple	1	Fair	No	
10	White Ash	14	Good	Yes	1 panel by ¾".
11	White Ash	8	Good	Yes	1 panel by ¼".
12	White Ash	8	Good	Yes	1 panel by ¼".
13	White Ash	10	Good	Yes	1 panel by ½".
14	White Ash	10	Good	Yes	2 panels by 1 ½".
15	Norway Maple	14	Good	Yes	2 panels by 1".
16	Norway Maple	6	Good	Yes	Panel is cracking and heaving.
17	Norway Maple	8	Good	Yes	1 panel by 2 ½".

Assigned ID#	Species	Trunk Diameter (inches @ 4.5')	Condition	Sidewalk Lift	Comments
18	Norway Maple	6	Good	Yes	1 panel by ½" and curb by 1".
19	Norway Maple	8	Good	Yes	1 panel by 2".
20	Norway Maple	9	Good	Yes	2 panels by ½".
21	Redspire Pear	8	Poor	Yes	1 panel by 1".
22	White Ash	10	Good	Yes	2 panels by 1" & 3".
23	White Ash	6	Good	Yes	1 panel by ½".
24	White Ash	10	Good	Yes	1 panel by 4".
25	White Ash	7	Good	Yes	2 panels by 1 ½".
26	White Ash	8	Good	Yes	2 panels by 1 ¼" & 2".
27	Norway Maple	10	Good	Yes	1 panel by 4 ½".
28	Norway Maple	10	Fair	Yes	2 panels by 2" plus cracking.
29	Norway Maple	12	Good	Yes	1 panel by 4 ½".
30	Upright Hornbeam	10	Fair	Yes	1 panel is cracked.
31	Upright Hornbeam	10	Good	Yes	1 panel by 1".
32	Upright Hornbeam	8	Fair	Yes	1 panel by ½".
33	Upright Hornbeam	4	Fair	No	
34	Upright Hornbeam	4	Good	No	
35	Upright Hornbeam	6	Fair	No	
36	Norway Maple	7	Fair	Yes	1 panel by 1".
37	Norway Maple	5	Fair	Yes	1 panel by 1".
38	White Ash	8	Fair	Yes	1 panel by ½".
39	Norway Maple	9	Fair	Yes	1 panel by 2".
40	Norway Maple	10	Poor	Yes	1 panel by 2 ½". Tree has been poorly pruned.
41	Norway Maple	8	Fair	Yes	2 panels by 1" & 2".

Assigned ID#	Species	Trunk Diameter (inches @ 4.5')	Condition	Sidewalk Lift	Comments
42	Norway Maple	9	Fair	Yes	2 panels cracked by 1".
43	Norway Maple	7	Fair	Yes	1 panel by 2".
44	Norway Maple	6	Fair	No	
45	White Ash	10	Good	No	
46	Norway Maple	9	Good	Yes	2 panels by 2 ½" plus cracking by 1".
47	Redspire Pear	9	Poor	Yes	1 panel cracked by ½". Tree was previously topped.
48	Redspire Pear	13	Fair	Yes	2 panels by ½".
49	Norway Maple	12	Good	Yes	2 panels by 3" and 2 ½".
50	White Ash	14	Good	Yes	1 panel by ¼".
51	Norway Maple	17	Good	Yes	2 panels by 2" & 1 ½".
52	Norway Maple	21	Good	Yes	3 panels by 4" & 1".
53	Norway Maple	15	Good	Yes	2 panels by 1 ½" & 1" plus cracking.
54	Norway Maple	18	Good	Yes	2 panels by 4" & 1".
55	Norway Maple	16	Good	Yes	2 panels by 2" & 1".
56	Norway Maple	17	Good	Yes	2 panels by 3".
57	Norway Maple	17	Good	Yes	3 panels by 4" & 2".
58	Norway Maple	15	Good	Yes	2 panels by 1" & ½".
59	Norway Maple	14	Good	Yes	3 panels by 2" & ½".
60	Norway Maple	14	Good	Yes	3 panels by 1 ½" & 1" plus cracking.
61	Norway Maple	16	Good	Yes	2 panels by 4" & 1".
62	Norway Maple	18	Good	Yes	3 panels by 1" plus cracking/heaving by ½".

Assigned ID#	Species	Trunk Diameter (inches @ 4.5')	Condition	Sidewalk Lift	Comments
63	Norway Maple	15	Good	Yes	2 panels by ½".
64	Norway Maple	15	Good	Yes	2 panels by 1".
65	Norway Maple	15	Good	Yes	1 panel lifting by driveway.
66	Norway Maple	13	Good	Yes	1 panel by ½".
67	Norway Maple	13	Good	Yes	3 panels by 1 ½" & ½".
68	Norway Maple	14	Good	Yes	2 panels by 2" & ½".
69	Norway Maple	14	Good	Yes	2 panels by 1" & ½".
70	Norway Maple	15	Good	Yes	2 panels by 1 ½" & 1".
71	Norway Maple	12	Fair	Yes	3 panels by 1" & ½".
72	Norway Maple	10	Good	Yes	2 panels by ½" plus cracking and heaving.
73	Norway Maple	10	Good	Yes	2 panels by ¼".
74	Chanticleer Pear	2	Good	No	
75	Norway Maple	14	Good	Yes	3 panels by ½" plus cracking and heaving by 2".
76	Norway Maple	15	Good	Yes	3 panels by 1" plus cracking and heaving by 2" & 1".
77	Norway Maple	19	Poor	Yes	3 panels by 1" & 1 ¼".
78	Norway Maple	20	Fair	Yes	4 panels by 1", cracking and heaving by 2 ½" & ½".
79	Norway Maple	9	Fair	Yes	2 panels by ¼".
80	Norway Maple	12	Good	Yes	3 panels by ½" plus cracking and heaving by ½" & 1".
81	Norway Maple	8	Fair	Yes	2 panels by ¼" plus cracking by ¼".

Assigned ID#	Species	Trunk Diameter (inches @ 4.5')	Condition	Sidewalk Lift	Comments
82	Redspire Pear	9	Poor	Yes	1 panel by ½”.
83	Redspire Pear	8	Fair	Yes	1 panels slightly by 1/8”.
84	Redspire Pear	9	Poor	Yes	2 panels cracking and heaving by ¼”.
85	Norway Maple	11	Poor	Yes	1 panel by ¼”.
86	Norway Maple	9	Poor	Yes	2 panels by ¼”.
87	Norway Maple	10	Fair	Yes	2 panels slightly by ¼”.
88	Norway Maple	11	Good	Yes	2 panels by 1” plus cracking.
89	Norway Maple	11	Good	Yes	1 panel by 1”.
90	Norway Maple	11	Good	Yes	3 panels by 2”, 1” & ½”.
91	Norway Maple	17	Good	Yes	3 panels by 1 ½” & ½” plus cracking.
92	Norway Maple	10	Good	Yes	3 panels by 1”, 1” & ½”.
93	Norway Maple	7	Fair	Yes	3 panels by 1” & ¼”.
94	Norway Maple	8	Good	Yes	2 panels by 1” plus cracking by ¼”.
95	Norway Maple	10	Good	Yes	2 panels by ½”.
96	Norway Maple	15	Good	Yes	2 panels by 1 ¼” & ½”.
97	Norway Maple	11	Good	Yes	1 panel by ½” (both sides).
98	Norway Maple	15	Good	Yes	4 panels by 2”, 1” & ½”.
99	Norway Maple	15	Good	Yes	4 panels heaving by 1”.
100	Norway Maple	13	Good	Yes	1 panel by 1” plus cracking.
101	Norway Maple	16	Good	Yes	3 panels by 1” plus cracking by ½”.
102	Norway Maple	16	Fair	Yes	3 panels by 1” plus cracking by ½”.

Assigned ID#	Species	Trunk Diameter (inches @ 4.5')	Condition	Sidewalk Lift	Comments
103	Norway Maple	14	Good	Yes	4 panels by 2", 1 1/2" & 1".
104	Norway Maple	7	Fair	Yes	1 panel by 1/2".
105	Norway Maple	10	Fair	Yes	3 panels by 1/2".
106	Norway Maple	10	Fair	Yes	1 panel cracking and heaving by 1/4".
107	Norway Maple	12	Good	Yes	3 panels by 1/4" plus heaving by 1/4".
108	Norway Maple	16	Good	Yes	2 panels heaving by 1/2".
109	Norway Maple	14	Good	Yes	2 panels heaving by 1 1/2".
110	Norway Maple	13	Good	Yes	3 panels by 1/2".
111	Norway Maple	12	Fair	Yes	2 panels by 1".
112	Norway Maple	12	Good	Yes	2 panels by 1/2" plus cracking and heaving by 1/4".
113	Norway Maple	10	Good	Yes	1 panel by 2 1/2".
114	Norway Maple	11	Good	Yes	4 panels by 1" plus cracking and heaving by 3".
115	Norway Maple	15	Good	Yes	3 panels by 1 1/4" & 1/2".
116	Norway Maple	16	Fair	Yes	3 panels by 1 1/4" & 1".
117	Norway Maple	15	Good	Yes	2 panels by 1" & 1/4".
118	Norway Maple	11	Good	Yes	4 panels by 3", 1", & 1/2".

Prioritization

Two factors have been taken into consideration in determining a prioritization list with the recommended removal and replacement of the assessed trees. They include:

1. The amount of rise in the adjacent sidewalk panels.
2. The amount of panels being impacted by the trees.

The amount of rise has been given a higher influence than the number of panels.

Based on these factors, the trees have been assigned one of four priority levels, which coincide with the color shades shown in Table 1.

- Orange = High Priority. These trees are lifting the panels by 3-4” and or affecting 4 panels.
- Yellow = Medium Priority. These trees are lifting the panels by 2-3” and or affecting 3 panels.
- Green = Low Priority. These trees are lifting the panels by 1-2” and or affecting 2 panels.
- Blue = Minimal Priority. These trees are lifting the panels by less than 1”.

The totals for each category come to:

- 14 High Priority
- 19 Medium Priority
- 46 Low Priority
- 39 Minimal Priority

Comments

I did not identify any significant disease or insect issues within the inventoried trees. I found that the flowering pear trees have very poor structure and are prone to failure. Depending on when the board decides to remove and replace these trees I would suggest they be pruned to reduce end weight in an attempt to reduce the potential for large branch failure. Overall the trees appear to have adequate street and sidewalk clearance at this time. The two trees along 22nd Avenue are in good condition and well rooted. They are not high risk trees.

I support a phased approach of tree removal and replacement as an option for the high priority trees based on the already occurring infrastructure damage and the species. Root pruning is not an option that I would recommend for these trees. It is short term mitigation because the roots will grow back in a short amount of time. This can also cause stress and possibly destabilize a tree. These species are not suitable for the width of planting strips they are located due to their shallow roots and eventual mature size.

If these removals are approved by the City of Olympia, I recommend the following varieties for replacements:

- Rugged Charm Maple, *Acer tataricum* 'JFS-KW2'
- Persian Spire Parrotia, *Parrotia persica* 'JL Columnar' P.A.F.
- Jack Pear, *Pyrus calleryana* 'Jaczam'
- Summer Charm Tree Lilac, *Syringa pekinensis* 'DTR 124' PP 8951

The plantings should take place during the months of October-March and meet the City's standards for deciduous trees in size and quality of stock.

Sincerely,



Kevin M. McFarland, Principal
Consulting Forester
ISA Certified Arborist PN-0373 & ISA Tree Risk Assessment Qualified

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Locations of Identified Trees



