



AMERICAN FOREST
MANAGEMENT

**Brumbaugh and Associates
Microsoft Athletic Fields
Redmond, WA**

Arborist Report



May 9, 2018

Table of Contents

1. Introduction..... 3
2. Description 3
3. Methodology 3
4. Observations 4
5. Discussion..... 4
6. Tree Density and Replacement 5

Appendix

Site/Tree Photos – pages 6 – 8

Tree Summary Tables – attached

Tree Plan Maps – attached

1. Introduction

American Forest Management was contacted by Brumbaugh & Associates to compile an Arborist Report for the proposed installation of new athletic fields on the Microsoft campus in Redmond. Our assignment was to prepare a written report on the current condition of significant trees on the property that are within the proposed project zone.

Date of Field Examination:April 24 to May 4, 2018

2. Description

The subject property is mostly an open field of maintained turf. The area we surveyed is bounded on the south by NE 51st St, a fenced natural area on the west, Microsoft Redwest Rd to the north, and a wooded area to the northeast. Within the survey area, there are groves of trees concentrated near the perimeter and individual trees scattered throughout. Tree species are a mix of native conifers and hardwoods, with some non-native landscaped species. We report on 230 significant trees (>6" diameter at breast height (DBH)).

Significant trees were tagged with an identifying number that corresponds to their information contained in this report, the attached tree summary table, and a copy of the site survey.

3. Methodology

Each tree in this report was visited. Tree diameters were measured by tape. The tree heights were measured using a Spiegel Relaskop. Each tree was visually examined for defects and vigor. The tree assessment procedure involves the examination of many factors:

- The crown of the tree is examined for current vigor. This is comprised of inspecting the crown (foliage, buds and branches) for color, density, form, and annual shoot growth, limb dieback and disease. The percentage of live crown is estimated for coniferous species only and scored appropriately.
- The bole or main stem of the tree is inspected for decay, which includes cavities, wounds, fruiting bodies of decay (conks or mushrooms), seams, insects, bleeding, callus development, broken or dead tops, structural defects and unnatural leans. Structural defects include crooks, forks with V-shaped crotches, multiple attachments, and excessive sweep.
- The root collar and roots are inspected for the presence of decay, insects and/or damage, as well as if they have been injured, undermined or exposed, or original grade has been altered.

Based on these factors a determination of condition is made. The four condition categories are described below based on the species traits assessed:

Excellent – free of structural defects, no disease or pest problems, no root issues, excellent structure/form with uniform crown or canopy, foliage of normal color and density, above average vigor, it will be wind firm if isolated, suitable for its location

Good – free of significant structural defects, no disease concerns, minor pest issues, no significant root issues, good structure/form with uniform crown or canopy, foliage of normal color and density, average or normal vigor, will be wind firm if isolated or left as part of a grouping or grove of trees, suitable for its location

Fair – minor structural defects not expected to contribute to a failure in near future, no disease concerns, moderate pest issues, no significant root issues, asymmetric or unbalanced crown or canopy, average or normal vigor, foliage of normal color, moderate foliage density, will be wind firm if left as part of a grouping or grove of trees, cannot be isolated, suitable for its location

Poor – major structural defects expected to fail in near future, disease or significant pest concerns, decline due to old age, significant root issues, asymmetric or unbalanced crown or canopy, sparse or abnormally small foliage, poor vigor, not suitable for its location

A 'viable' tree is a significant tree in good health, with a low risk of failure due to structural defects, is wind firm if isolated or remains as part of a grove, and is a species that is suitable for its location. Trees considered 'non-viable' are trees that are in poor condition due to disease, age related decline, have significant decay issues and/or cumulative structural defects, which exacerbate failure potential.

4. Observations

Douglas fir was the most common native species, followed by red alder and shore pine. Black cottonwood and Western red cedar were also present in significant numbers. Other native species included big leaf maple, Scouler's willow, and Sitka spruce.

The most common tree at the site not native to this region was black locust, mainly concentrated in groves at the southwest corner of the property. There were several groups of Scots pine and Lombardy poplar towards the southern end of the property. Ornamental maples were planted on the right of way along Microsoft Redwest Road. Other non-native species in low abundance included apple, flowering cherry, Deodar cedar, elm, hawthorn, holly, horse chestnut, larch, and yellow birch.

Relatively few significant trees observed were in poor condition (11%). Most of the poor condition trees in decline were red alder (54%). Only one conifer species was non-viable due to its poor condition, Tree #30, a Scots pine with a severely bowed trunk. The black locust trees in the grove had poorly developed taper with low live crown ratios (LCR) as a result of growing together under competition. They showed good vigor and would be viable if retained as a group.

Twenty three trees were categorized as a landmark tree (>30" DBH) defined by the City of Redmond. Douglas fir was the most common species of landmark tree. All were viable and could be retained except for Tree #63, a Lombardy poplar in decline.

5. Discussion

There were several trees shown on the provided survey that did not exist at the site. These are assumed to have been removed in the past. In many cases, there were no stumps to indicate a tree existed prior. Stumps have been ground out and replaced with lawn in most cases.

Based on the proposed design, the majority of significant trees within the study area will be preserved. The attached maps or plans indicate the locations of subject trees and their drip-lines. Tree protection fencing shall be placed at the 5-foot drip-line setback to appropriately protect retained trees, per the attached plans. Any necessary work within the 5-foot drip-line setback will be overseen by the project arborist so the necessary precautions can be taken to preserve subject trees in the best condition possible.

6. Tree Density and Replacement

Out of the 230 surveyed trees, 77 are proposed for removal. 26 of these are in poor condition (unhealthy) and considered non-viable. Removal trees are either in decline and a potential hazard, or they are expected to be cleared for the new athletic fields. Fifty one of the proposed removal trees are in fair to excellent condition. Their removal requires a replacement tree be planted on-site. The replacement ratio is 1:1 for significant trees and 3:1 for landmark trees. There were eight landmark trees proposed for removal. Removal of landmark trees may require special permitting. The total number of replacement trees would be 69 to meet the requirements of Redmond Zoning Code 21.72. Unhealthy trees were not included in the tree replacement calculation.

The remaining trees proposed for retention would be viable if the protection standards and measures (RZC 21.72.060 and RZC 21.72.070) are followed during construction. Retained trees on the property will have value for wildlife, such as nest sites for songbirds, and mitigate air and sound pollution next to arterial roadways.

There is no warranty suggested for any of the trees subject to this report. Weather, latent tree conditions, and future man-caused activities could cause physiologic changes and deteriorating tree condition. Over time, deteriorating tree conditions may appear and there may be conditions, which are not now visible which, could cause tree failure. This report or the verbal comments made at the site in no way warrant the structural stability or long term condition of any tree, but represent my opinion based on the observations made.

Nearly all trees in any condition standing within reach of improvements or human use areas represent hazards that could lead to damage or injury.

Please call if you have any questions or if we can be of further assistance.

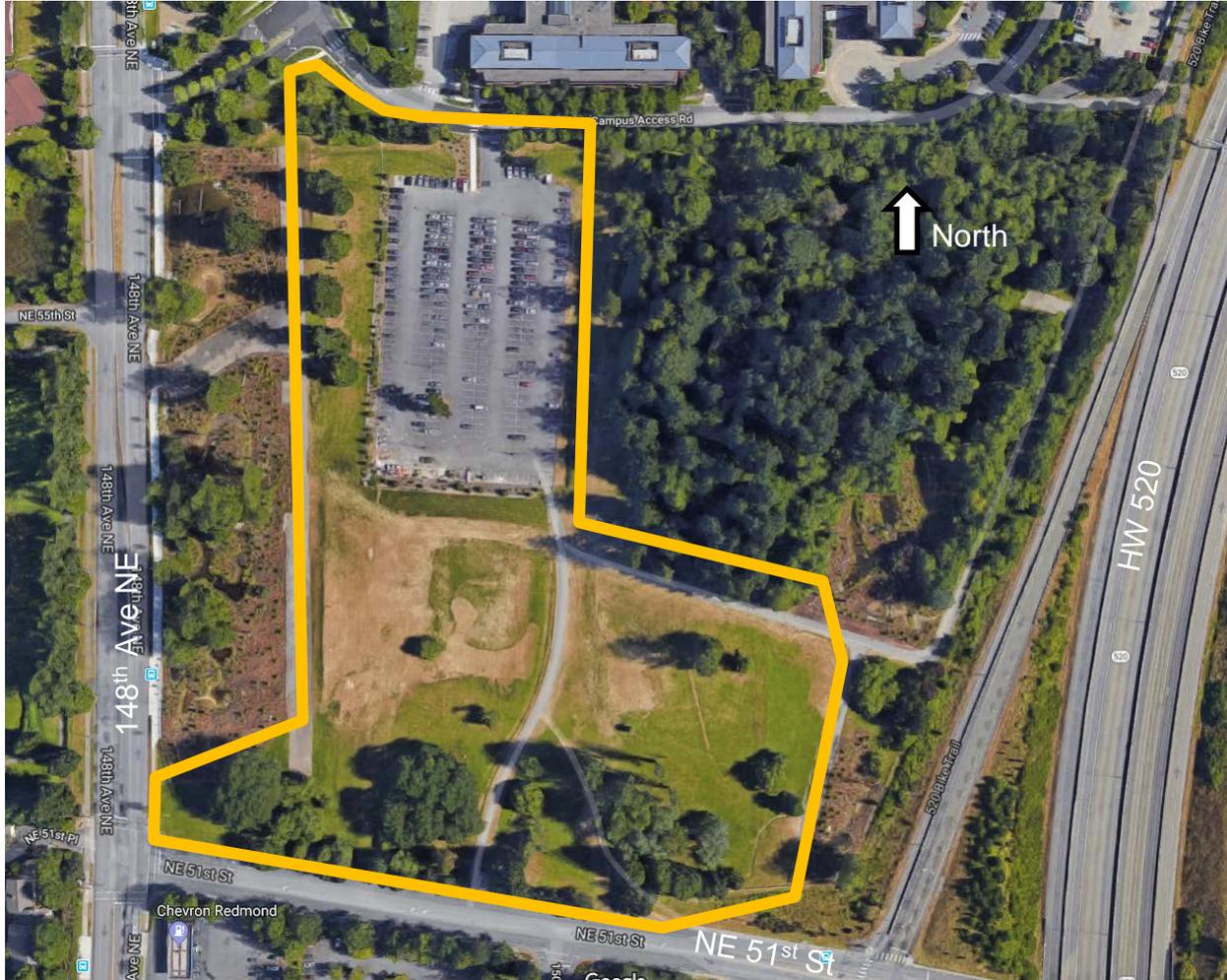
Sincerely,



Miles Becker
ISA Certified Arborist #PN-7808A
ISA Tree Risk Assessment Qualified (TRAQ)

Site

Area surveyed outlined in orange.



Study Area





Tree Summary Table

For: Microsoft Athletic Fields - 148th Ave NE
Redmond, WA

American Forest Management, Inc

Date: 4/25 to 5/4, 2018
Arborist: Becker

Tree #	Species	DBH (in)	Ht (ft)	Driplines (ft)				Condition	Viability	Comments	Proposal	Replacement Trees
				N	S	E	W					
1	Douglas fir	41	125	18	18	18	18	Good	viable	Vertical seam	removal	3
2	Douglas fir	20	87	12	12	12	12	Good	viable	Crook in trunk	removal	1
3	Douglas fir	37	110	22	22	22	22	Excellent	viable	High LCR, good vigor	retain	-
4	Douglas fir	31	119	17	17	17	17	Excellent	viable	Good vigor and structure	removal	3
5	Douglas fir	34	122	19	19	19	19	Good	viable	Kinks in trunk	retain	-
6	holly	7	27	11	11	11	11	Good	viable	Poor taper	retain	-
7	Douglas fir	25	120	13	13	13	13	Good	viable	Kinks in trunk	retain	-
8	Douglas fir	31	129	21	21	21	21	Excellent	viable	High LCR	retain	-
9	Douglas fir	9	41	7	7	7	7	Fair	viable	Suppressed	retain	-
10	Douglas fir	33	128	10	18	18	9	Good	viable	Good vigor	retain	-
11	Douglas fir	15	44	8	17	17	8	Poor	viable	Bent top, suppressed	retain	-
12	Douglas fir	23	86	16	16	16	16	Good	viable	Narrow crown	retain	-
13	Douglas fir	23	74	0	21	21	4	Fair	viable	New leader	retain	-
14	Douglas fir	26	95	12	12	12	12	Good	viable	Narrow crown	retain	-
15	Douglas fir	23	92	12	12	12	12	Fair	viable	Thin crown	retain	-
16	cherry	9	53	7	7	7	7	Fair	viable	Small crown	retain	-
17	Douglas fir	19	98	9	9	9	9	Fair	viable	Sparse crown	retain	-
18	Douglas fir	9	51	7	7	7	7	Fair	viable	Suppressed	retain	-
19	red alder	18	53	17	17	17	17	Good	viable	Full crown	retain	-
20	hawthorn	6,5,6,3	22	10	10	10	10	Good	viable	Good vigor	retain	-
21	Deodar cedar	17	55	16	16	16	16	Excellent	viable	Good vigor and structure	removal	1
22	Scouler's willow	17	41	15	8	15	5	Poor	non-viable	Weak structure	removal	0
23	Scouler's willow	12	43	7	7	15	8	Poor	non-viable	Partially dead	removal	0
24	red alder	9	27	10	9	6	16	Poor	non-viable	Partially dead	removal	0
25	black cottonwood	32	78	16	16	16	16	Good	viable	Good vigor	removal	3
26	red alder	6,11,4	24	13	13	13	13	Fair	viable	1 dead stem	retain	-
27	red alder	21	37	18	18	18	18	Fair	viable	Some crown dieback	removal	1
28	red alder	4,4,12,17,8,8	38	16	16	16	16	Good	viable	Good vigor	retain	-
29	shore pine	16	32	12	12	12	12	Good	viable	Good structure	retain	-
30	Scotch pine	13	15	0	16	0	16	Poor	non-viable	Severe bow	removal	0
31	Scotch pine	17	40	12	12	12	12	Good	viable	Good vigor	retain	-
32	shore pine	20	41	9	9	9	9	Fair	viable	Codominant stems	retain	-

Tree Summary Table

For: Microsoft Athletic Fields - 148th Ave NE
Redmond, WA

American Forest Management, Inc

Date: 4/25 to 5/4, 2018
Arborist: Becker

Tree #	Species	DBH (in)	Ht (ft)	Driplines (ft)				Condition	Viability	Comments	Proposal	Replacement Trees
				N	S	E	W					
33	shore pine	14	46	6	12	6	6	Fair	viable	Multiple tops	retain	-
34	red alder	14	56	16	16	16	16	Good	viable	Lean	removal	1
35	red alder	13	55	16	16	16	16	Good	viable	Lean	removal	1
36	red alder	15	56	16	16	16	16	Good	viable	Lean	removal	1
37	red alder	16	57	16	16	16	16	Good	viable	Lean	removal	1
38	big leaf maple	20	58	18	18	18	18	Excellent	viable	Good vigor and structure	removal	1
39	black cottonwood	6	27	0	15	8	8	Fair	viable	Strong lean	removal	1
40	red alder	17	56	15	15	15	15	Good	viable	Slight lean	removal	1
41	red alder	11	48	0	25	10	10	Fair	viable	Strong lean	removal	1
42	red alder	16	59	19	12	15	15	Excellent	viable	Good vigor and structure	removal	1
43	shore pine	13	52	8	12	12	12	Good	viable	Forked top	retain	-
44	shore pine	18	54	8	15	12	12	Good	viable	Forked top	retain	-
45	shore pine	13	43	6	9	9	9	Fair	viable	Broken top	retain	-
46	shore pine	12	45	10	10	10	10	Good	viable	No comment	retain	-
47	shore pine	17	51	10	10	10	10	Good	viable	No comment	retain	-
48	Western red cedar	38,40	86	21	21	21	21	Good	viable	Full crown	removal	3
49	black cottonwood	29,37	70	16	16	16	16	Fair	viable	Dead stem, limb failure	removal	3
50	black cottonwood	14	32	15	0	15	0	Fair	viable	Lean	removal	1
51	black cottonwood	14	37	18	18	18	18	Fair	viable	Bowed	removal	1
52	Lombardy poplar	18,19	67	9	9	9	9	Good	viable	Good vigor	removal	1
53	Lombardy poplar	14	48	12	5	12	5	Fair	viable	Lean	removal	1
54	black cottonwood	4,14	60	6	6	6	6	Good	viable	No comment	removal	1
55	black cottonwood	18	52	13	13	13	13	Good	viable	Good vigor	removal	1
56	black cottonwood	16	50	9	15	15	12	Good	viable	Lean	removal	1
57	black cottonwood	8,25	107	16	16	16	16	Good	viable	Forked trunk	removal	1
58	black cottonwood	16	80	17	17	0	26	Fair	viable	Bowed	removal	1
59	black cottonwood	19	90	12	12	5	19	Fair	viable	Lean	removal	1
60	Lombardy poplar	7	54	3	3	3	3	Fair	viable	Low vigor	removal	1
61	Lombardy poplar	11	67	4	4	4	4	Fair	viable	Low vigor	removal	1
62	Lombardy poplar	31	88	8	8	8	8	Good	viable	Good vigor	removal	3
63	Lombardy poplar	58	123	14	14	14	14	Poor	non-viable	Dead top, in decline	removal	0
64	Lombardy poplar	9	37	6	6	6	6	Good	viable	No comment	removal	1

Tree Summary Table

For: Microsoft Athletic Fields - 148th Ave NE
Redmond, WA

American Forest Management, Inc

Date: 4/25 to 5/4, 2018
Arborist: Becker

Tree #	Species	DBH (in)	Ht (ft)	Driplines (ft)				Condition	Viability	Comments	Proposal	Replacement Trees
				N	S	E	W					
65	Lombardy poplar	NS	48	8	8	8	8	Poor	non-viable	All stump sprouts, 1-3" dia	removal	0
66	black cottonwood	34	109	19	19	19	19	Good	viable	Forked trunk	removal	3
67	Lombardy poplar	18	73	5	5	5	5	Fair	viable	Low vigor	removal	1
68	apple	3,7,8,11	26	15	15	15	15	Good	viable	Over dense crown	removal	1
69	apple	17,19	38	13	13	13	13	Fair	viable	Cavities in trunk	removal	1
70	hazelnut	8,7,10,4,9	21	19	19	19	19	Good	viable	Large clump	removal	1
71	apple	6	17	8	8	8	8	Poor	non-viable	Top dead	removal	0
72	cherry	6	27	9	9	9	9	Poor	non-viable	Mostly dead	removal	0
73	Mountain ash	10	26	13	13	13	13	Fair	viable	Some crown dieback	retain	-
74	cherry	7	14	6	6	6	6	Poor	non-viable	Nearly dead	removal	0
75	Sitka spruce	33	82	11	11	11	11	Good	viable	Full crown, lean	retain	-
76	Western red cedar	19	65	10	10	1	10	Good	viable	Full crown	retain	-
77	big leaf maple	19	67	10	13	10	12	Good	viable	Weak union at fork	retain	-
78	shore pine	8	33	9	9	9	9	Good	viable	Good structure	retain	-
79	Mountain ash	8	25	0	11	6	6	Poor	non-viable	Dead stems, in decline	removal	0
80	Douglas fir	31	84	14	14	14	14	Good	viable	Codominant stems at 20'	retain	-
81	Scotch pine	12	38	5	10	10	5	Good	viable	Asymmetrical crown	retain	-
82	Scotch pine	13	46	11	11	11	11	Good	viable	Kinks in trunk	retain	-
83	Scotch pine	9	46	9	9	9	9	Good	viable	Kinks in trunk	retain	-
84	shore pine	14	42	9	9	9	9	Good	viable	Forked trunk	retain	-
85	Scotch pine	15	48	10	10	10	10	Good	viable	Forked trunk	retain	-
86	shore pine	14	44	10	10	10	10	Good	viable	Kinks in trunk	retain	-
87	shore pine	14,15	48	16	16	16	1	Good	viable	Sweep in trunk	retain	-
88	black locust	15	49	10	10	9	6	Good	viable	Some dieback	removal	1
89	black locust	6,8,10	47	4	12	12	5	Fair	viable	Stump sprouts	removal	1
90	black locust	5,12,10,13,3, 9,10	48	24	6	20	8	Fair	viable	Stump sprouts	removal	1
91	black locust	10	50	8	8	8	8	Good	viable	Good structure	removal	1
92	black locust	10	50	8	8	8	8	Good	viable	Good structure	removal	1
93	black locust	6,9	52	8	8	8	8	Good	viable	Good structure	removal	1
94	black locust	6,10,28	43	16	20	17	24	Fair	viable	Crown dieback	removal	3
95	black locust	5,10	53	8	8	8	8	Fair	viable	Horizontal trunk at base	removal	1

Tree Summary Table

For: Microsoft Athletic Fields - 148th Ave NE
Redmond, WA

American Forest Management, Inc

Date: 4/25 to 5/4, 2018
Arborist: Becker

Tree #	Species	DBH (in)	Ht (ft)	Driplines (ft)				Condition	Viability	Comments	Proposal	Replacement Trees
				N	S	E	W					
96	black locust	5,10	53	6	10	10	12	Good	viable	Good vigor	removal	1
97	black locust	16	56	12	12	12	10	Fair	viable	Some dieback	removal	1
98	black locust	20	47	15	15	9	15	Good	viable	Good vigor	removal	1
99	red alder	8	13	4	4	4	4	Poor	non-viable	Mostly dead	removal	0
100	red alder	6	17	8	8	8	8	Poor	non-viable	Mostly dead	removal	0
101	red alder	9	28	12	6	8	8	Poor	non-viable	Mostly dead	removal	0
102	black locust	22	55	12	12	12	12	Good	viable	Forked trunk	removal	1
103	black locust	22	43	15	10	9	41	Poor	non-viable	Dead limbs, lean	removal	0
104	black locust	20	58	5	26	19	17	Fair	viable	Strong lean	removal	1
105	cherry	11	43	12	10	12	12	Fair	viable	Lean	retain	-
106	larch	17	61	18	18	18	18	Fair	viable	Some dieback	retain	-
107	Scotch pine	5,10,8,6	49	14	14	14	14	Good	viable	Good vigor	retain	-
108	shore pine	16	33	6	10	8	8	Fair	viable	Kinks in trunk	retain	-
109	shore pine	16	37	13	13	13	13	Good	viable	No comment	retain	-
110	Scotch pine	12	19	8	12	10	10	Fair	viable	Contorted trunk	retain	-
111	shore pine	20	56	10	10	10	10	Good	viable	Full crown	retain	-
112	shore pine	18	55	10	10	10	10	Fair	viable	Multiple tops	retain	-
113	Scotch pine	9	42	8	8	8	8	Fair	viable	Contorted trunk	retain	-
114	Scotch pine	13	35	8	8	8	8	Fair	viable	Sweep in trunk	retain	-
115	big leaf maple	12,13	48	16	16	16	16	Good	viable	Good vigor	retain	-
116	apple	6,8	8	7	7	7	7	Poor	non-viable	Dead limbs, in decline	removal	0
117	red alder	8	37	7	7	7	9	Poor	non-viable	Dead top, in decline	removal	0
118	red alder	4,6	35	12	5	8	8	Poor	non-viable	Low vigor, lean	removal	0
119	red alder	6	32	6	6	6	6	Poor	non-viable	Dead top, low vigor	removal	0
120	shore pine	16	39	10	10	10	10	Fair	viable	Good vigor	retain	-
121	shore pine	14	48	9	9	9	9	Good	viable	Short crown	retain	-
122	shore pine	16	42	10	10	10	10	Fair	viable	Multiple tops	retain	-
123	shore pine	5,7,5,3,3,3	28	9	9	9	9	Good	viable	Good vigor	retain	-
124	red alder	9	24	8	8	8	8	Good	viable	Lean	retain	-
125	apple	8,9	22	10	10	10	10	Fair	viable	Weak union	retain	-
126	red alder	11	22	6	6	6	6	Poor	non-viable	Mostly dead	removal	0
127	red alder	7	29	5	5	5	5	Poor	non-viable	Mostly dead	removal	0

Tree Summary Table

For: Microsoft Athletic Fields - 148th Ave NE
Redmond, WA

American Forest Management, Inc

Date: 4/25 to 5/4, 2018
Arborist: Becker

Tree #	Species	DBH (in)	Ht (ft)	Driplines (ft)				Condition	Viability	Comments	Proposal	Replacement Trees
				N	S	E	W					
128	elm	9,9,8	20	6	22	25	5	Poor	non-viable	Main trunk dead, in decline	removal	0
129	horse chestnut	28	64	19	28	30	18	Fair	viable	Large wound in trunk	retain	-
130	red alder	10	27	10	6	6	6	Poor	non-viable	Mostly dead	removal	0
131	red alder	7,7,10	25	8	4	8	6	Poor	non-viable	Mostly dead	removal	0
132	red alder	8	26	7	7	7	7	Poor	non-viable	Mostly dead	removal	0
133	red alder	8	31	8	8	8	8	Poor	non-viable	Mostly dead	removal	0
134	red alder	6,6	23	6	6	6	6	Poor	non-viable	Mostly dead	removal	0
135	black locust	9,12	80	8	8	8	8	Fair	viable	Poor taper	retain	-
136	black locust	11	80	7	7	7	7	Fair	viable	Poor taper	retain	-
137	black locust	8	31	10	0	10	0	Fair	viable	Lean	retain	-
138	black locust	12	89	8	8	8	8	Fair	viable	Poor taper	retain	-
139	black locust	10,10	84	9	9	9	9	Fair	viable	Poor taper	retain	-
140	black locust	14	88	8	8	8	8	Fair	viable	Poor taper	retain	-
141	black locust	13	72	12	5	12	0	Fair	viable	Poor taper	retain	-
142	black locust	9,5	76	15	0	6	6	Fair	viable	Poor taper	retain	-
143	black locust	5,3,10	85	7	7	7	7	Fair	viable	Poor taper	retain	-
144	black locust	11	78	0	12	0	10	Fair	viable	Poor taper	retain	-
145	black locust	14,7	80	18	0	6	8	Fair	viable	Poor taper	retain	-
146	black locust	14,8,12,10	89	15	4	8	8	Fair	viable	Poor taper	retain	-
147	black locust	14	71	10	9	4	10	Fair	viable	Poor taper	retain	-
148	black locust	8,5	64	7	7	7	7	Fair	viable	Poor taper	retain	-
149	black locust	6,10	66	8	8	4	9	Fair	viable	Poor taper	retain	-
150	black locust	7,8	58	8	8	8	8	Fair	viable	Poor taper	retain	-
151	black locust	7	51	10	0	6	6	Fair	viable	Poor taper	retain	-
152	black locust	10	83	6	6	6	6	Fair	viable	Poor taper	retain	-
153	black locust	6,9	79	10	7	7	7	Fair	viable	Poor taper	retain	-
154	black locust	8	68	5	7	12	5	Fair	viable	Poor taper	retain	-
155	black locust	11	80	4	11	9	6	Fair	viable	Poor taper	retain	-
156	black locust	12	88	9	9	9	9	Fair	viable	Poor taper	retain	-
157	black locust	10	75	4	10	8	8	Fair	viable	Poor taper	retain	-
158	black locust	8	77	0	12	4	10	Fair	viable	Poor taper	retain	-
159	black locust	9,6,11,5,5	78	12	12	12	12	Fair	viable	Stump sprouts	retain	-

Tree Summary Table

For: Microsoft Athletic Fields - 148th Ave NE
Redmond, WA

American Forest Management, Inc

Date: 4/25 to 5/4, 2018
Arborist: Becker

Tree #	Species	DBH (in)	Ht (ft)	Driplines (ft)				Condition	Viability	Comments	Proposal	Replacement Trees
				N	S	E	W					
160	black locust	7	64	6	6	6	6	Fair	viable	Poor taper	retain	-
161	black locust	10	81	5	8	6	6	Fair	viable	Poor taper	retain	-
162	black locust	7	60	5	0	0	10	Fair	viable	Poor taper	retain	-
163	black locust	6	58	9	0	5	9	Fair	viable	Poor taper	retain	-
164	black locust	10	81	6	3	3	10	Fair	viable	Poor taper	retain	-
165	black locust	8	66	3	7	3	10	Fair	viable	Poor taper	retain	-
166	black locust	10	82	8	8	8	8	Fair	viable	Poor taper	retain	-
167	black locust	7	67	6	6	6	6	Fair	viable	Poor taper	retain	-
168	black locust	7	76	6	6	6	6	Fair	viable	Poor taper	retain	-
169	black locust	9	74	0	10	5	6	Fair	viable	Poor taper	retain	-
170	black locust	10	79	8	8	5	9	Fair	viable	Poor taper	retain	-
171	black locust	11	80	5	11	0	11	Fair	viable	Poor taper	retain	-
172	black locust	8	63	0	17	5	9	Fair	viable	Poor taper	retain	-
173	black locust	7	62	0	10	0	10	Fair	viable	Poor taper	retain	-
174	black locust	6	39	5	9	0	12	Fair	viable	Poor taper	retain	-
175	black locust	9,10,9	61	0	27	9	10	Fair	viable	Poor taper	retain	-
176	black locust	10	70	3	18	9	9	Fair	viable	Poor taper	retain	-
177	black locust	10	70	5	8	9	9	Fair	viable	Poor taper	retain	-
178	black locust	7	41	0	19	11	5	Fair	viable	Poor taper	retain	-
179	black locust	6	35	5	10	12	4	Fair	viable	Poor taper	retain	-
180	black locust	6,6	41	4	16	10	4	Fair	viable	Poor taper	retain	-
181	black locust	8	49	0	17	10	9	Fair	viable	Poor taper	retain	-
182	black locust	8,12,10	69	4	23	9	15	Fair	viable	Poor taper	retain	-
183	black locust	10,10,6	81	9	9	0	16	Fair	viable	Poor taper	retain	-
184	black locust	12	79	5	11	5	12	Fair	viable	Poor taper	retain	-
185	red alder	24	50	18		18	18	Good	viable	Excellent vigor	removal	1
186	Douglas fir	51	103	17	17	17	17	Good	viable	Broken top	removal	3
187	Douglas fir	32	109	18	18	18	18	Good	viable	Full crown	retain	-
188	Douglas fir	23	98	12	9	18	18	Good	viable	Good vigor	retain	-
189	Douglas fir	16,32	103	19	8	17	17	Fair	viable	Codominant stems at 12'	retain	-
190	Douglas fir	36	102	16	16	16	16	Fair	viable	Codominant stems at 8'	retain	-
191	Western red cedar	34	81	17	17	17	17	Fair	viable	Large cavity in base	retain	-

Tree Summary Table

For: Microsoft Athletic Fields - 148th Ave NE
Redmond, WA

American Forest Management, Inc

Date: 4/25 to 5/4, 2018
Arborist: Becker

Tree #	Species	DBH (in)	Ht (ft)	Driplines (ft)				Condition	Viability	Comments	Proposal	Replacement Trees
				N	S	E	W					
192	Douglas fir	30	76	16	16	16	16	Fair	viable	Multiple stems	retain	-
193	Douglas fir	34	83	18	18	18	18	Good	viable	Full crown	retain	-
194	Douglas fir	30	89	15	15	15	15	Good	viable	Full crown	retain	-
195	yellow birch	4,5,5	24	9	9	9	9	Fair	viable	Poor taper	retain	-
196	yellow birch	8,8,8	18	15	15	15	15	Fair	viable	Poor taper	retain	-
197	yellow birch	8,8,8	22	19	5	12	12	Fair	viable	Poor taper	retain	-
198	yellow birch	6,6,5	26	5	5	10	8	Fair	viable	Poor taper	retain	-
199	yellow birch	4,5,7	21	8	8	8	8	Fair	viable	Poor taper	retain	-
200	Douglas fir	14	46	10	10	10	10	Good	viable	Full crown	retain	-
201	Western red cedar	9,9,10	41	12	12	12	12	Good	viable	Strong unions	retain	-
202	Douglas fir	15	58	14	14	14	14	Good	viable	Sweep in trunk	retain	-
203	Douglas fir	10	43	8	8	8	8	Good	viable	Full crown	retain	-
204	Douglas fir	17	49	12	12	12	12	Good	viable	Multiple tops	retain	-
205	Douglas fir	10	33	9	14	10	10	Good	viable	Good vigor	retain	-
206	Western red cedar	12,8,7	28	6	10	9	9	Good	viable	Good vigor	retain	-
207	Western red cedar	4,5,9,12	37	12	9	9	12	Good	viable	Good vigor	retain	-
208	Scouler's willow	19	40	14	8	14	10	Good	viable	Good vigor	retain	-
209	Western red cedar	10,14,8,6	36	12	9	9	9	Good	viable	Good vigor	retain	-
210	Western red cedar	14,12,3	42	10	10	10	10	Good	viable	Good vigor	retain	-
211	Douglas fir	14	48	13	13	13	13	Good	viable	Good vigor	retain	-
212	Western red cedar	13,6,4	39	10	10	8	8	Good	viable	Good vigor	retain	-
213	Douglas fir	12	42	12	9	12	10	Good	viable	Good vigor	retain	-
214	Western red cedar	11,12	31	6	10	10	10	Good	viable	Good vigor	retain	-
215	Douglas fir	11	46	12	12	12	12	Good	viable	Good vigor	retain	-
216	Western red cedar	13,5,12	38	10	12	12	12	Good	viable	Good vigor	retain	-
217	Douglas fir	19	51	14	14	14	10	Good	viable	Good vigor	retain	-
218	Douglas fir	12	45	9	9	9	9	Good	viable	Good vigor	retain	-
219	Douglas fir	12	42	10	10	10	10	Good	viable	Good vigor	retain	-
220	black cottonwood	14	72	9	9	9	9	Good	viable	Good vigor	retain	-
221	Norway maple	9	33	8	8	8	8	Good	viable	Good vigor	retain	-
222	Norway maple	8	32	8	8	8	8	Good	viable	Good vigor	retain	-
223	red alder	14	47	10	16	16	16	Good	viable	Good vigor	retain	-

Tree Summary Table

For: Microsoft Athletic Fields - 148th Ave NE
Redmond, WA

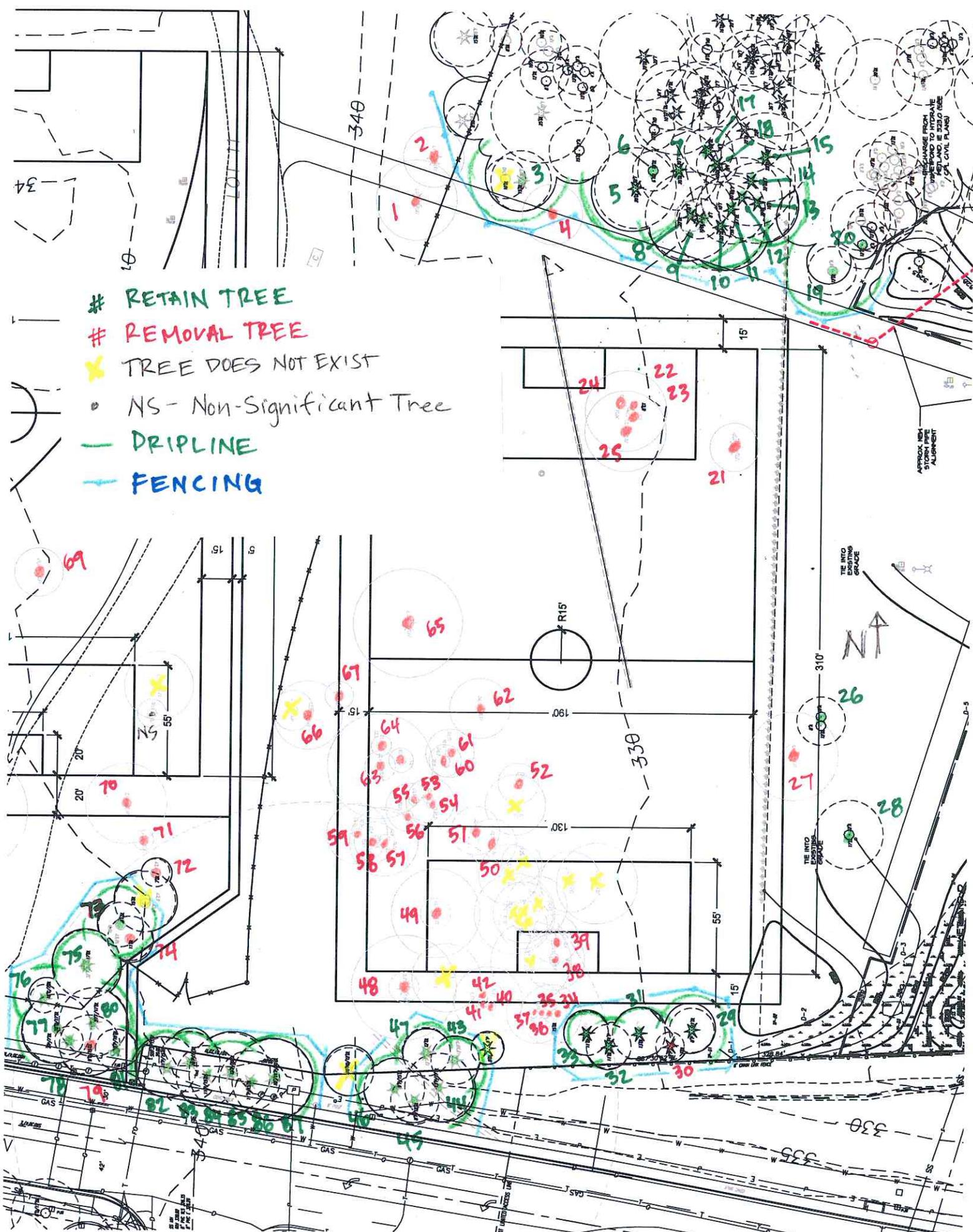
American Forest Management, Inc

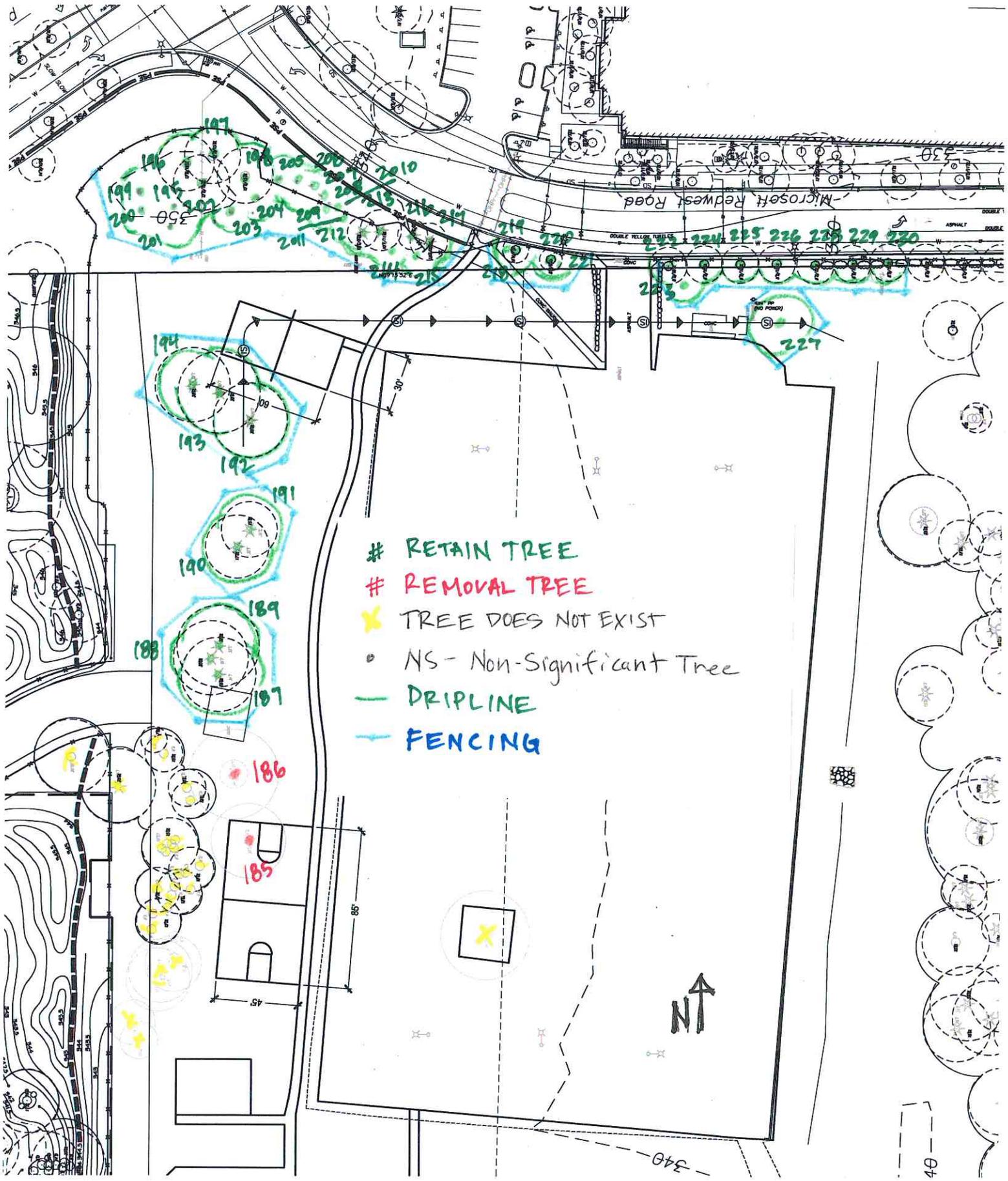
Date: 4/25 to 5/4, 2018
Arborist: Becker

Tree #	Species	DBH (in)	Ht (ft)	Driplines (ft)				Condition	Viability	Comments	Proposal	Replacement Trees
				N	S	E	W					
224	Norway maple	8	35	8	8	8	8	Good	viable	Good vigor	retain	-
225	Norway maple	8	35	9	9	9	9	Good	viable	Good vigor	retain	-
226	Norway maple	8	35	9	9	9	9	Good	viable	Good vigor	retain	-
227	black cottonwood	7,17	64	16	16	16	16	Good	viable	Good vigor and structure	retain	-
228	Norway maple	8	30	8	8	8	8	Good	viable	Good vigor	retain	-
229	Norway maple	8	25	8	8	8	8	Fair	viable	Low vigor	retain	-
230	Norway maple	8	37	7	7	7	7	Good	viable	Good vigor	retain	-

Total 69

- # RETAIN TREE
- # REMOVAL TREE
- X TREE DOES NOT EXIST
- NS - Non-Significant Tree
- DRIPLINE
- FENCING





- # RETAIN TREE
- # REMOVAL TREE
- ✕ TREE DOES NOT EXIST
- NS - Non-Significant Tree
- DRIPLINE
- FENCING

197
196
195
194
193
192
191
190
189
188
187
186
185

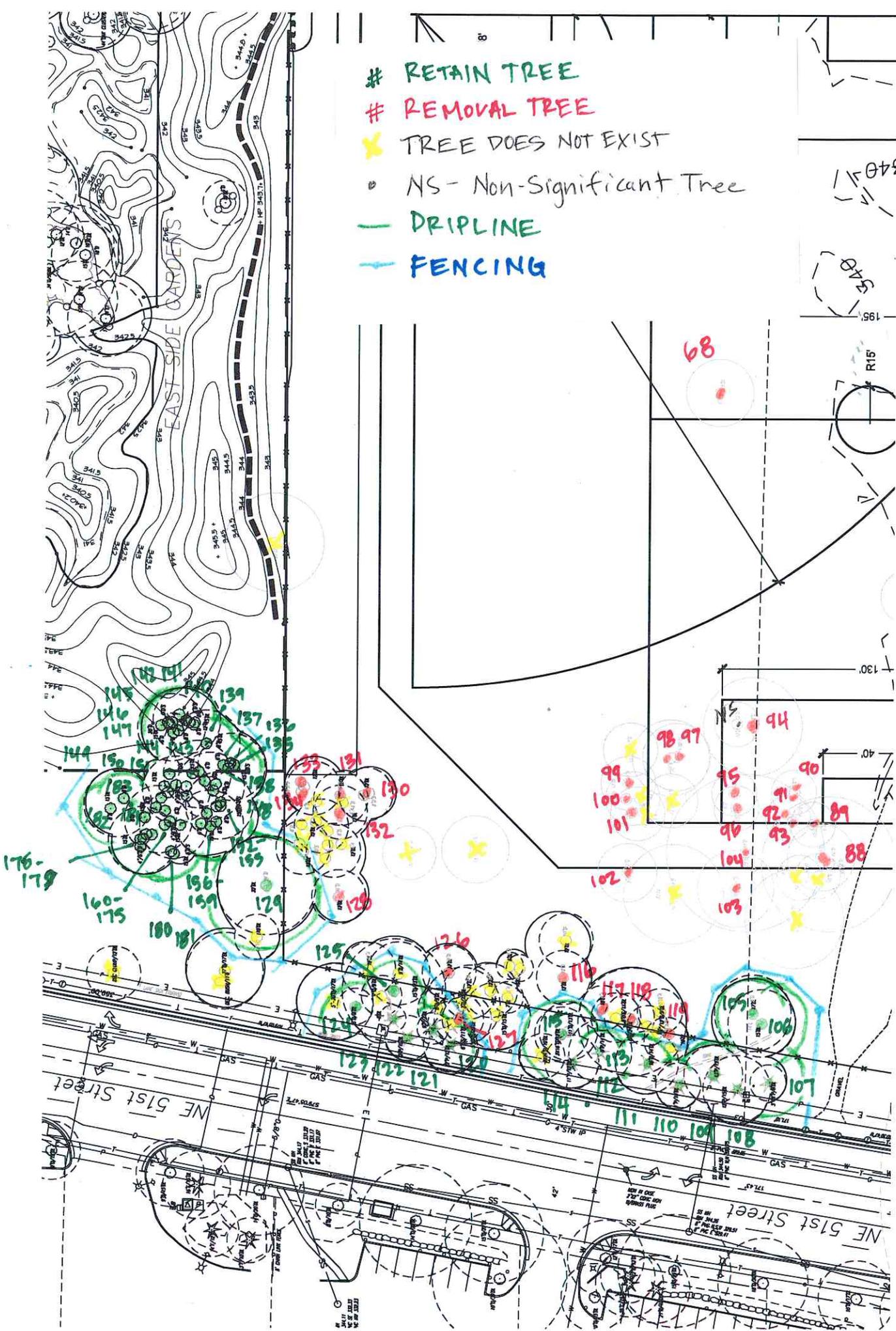
NT ↑

85
45

340

40

- # RETAIN TREE
- # REMOVAL TREE
- X TREE DOES NOT EXIST
- o NS - Non-Significant Tree
- DRIPLINE
- FENCING



↑ N