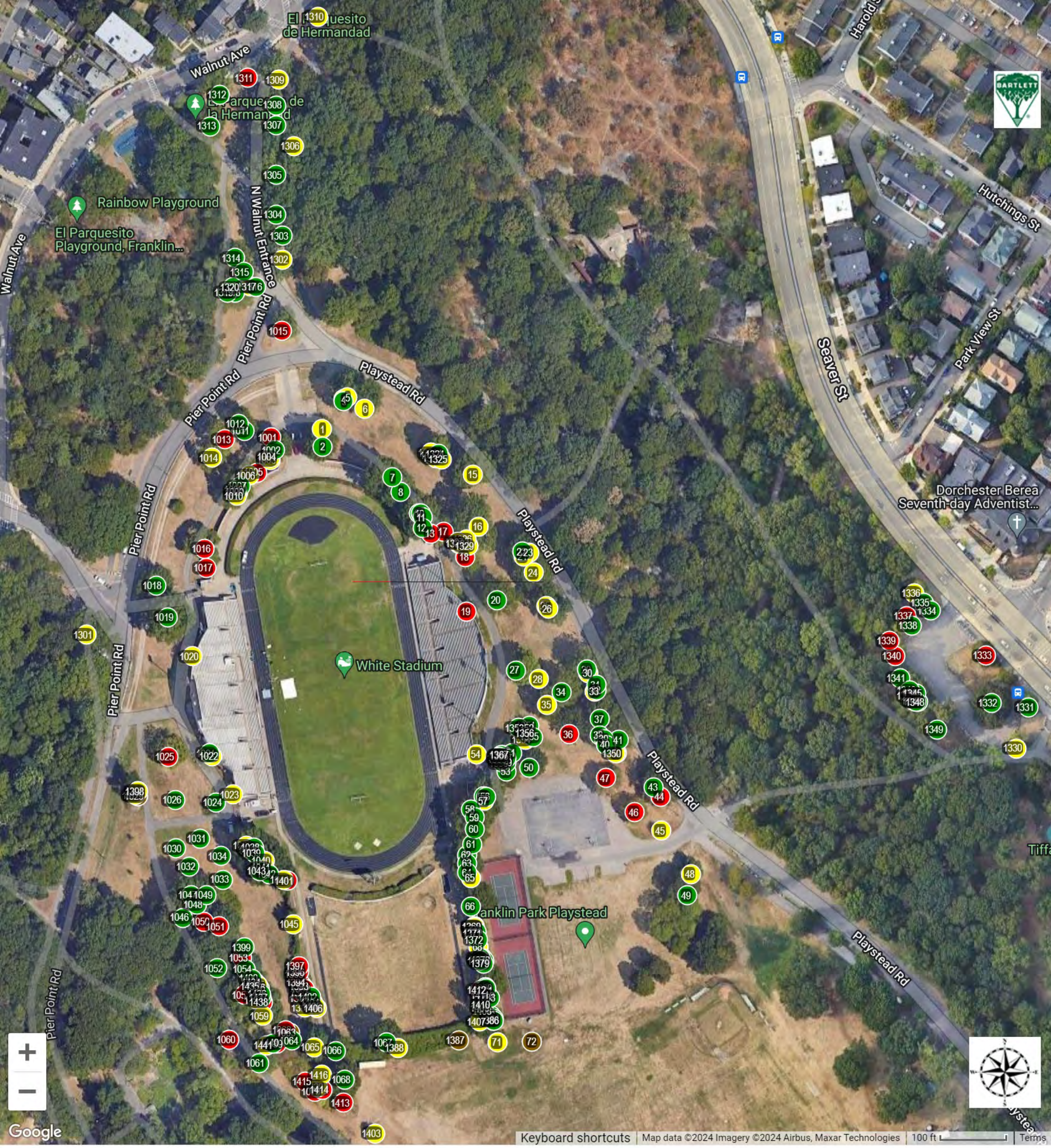
Tree ID	Common Name	Scientific Name	Age Class	Condition Class	Suitability For Preservation	Dbh 1	Dbh 2	Dbh 3	Dbh 4	Dbh 5	Dbh 6	CRZ	TPZ	Tree Observation Type 1	Tree Observation Type 2	Tree Observation Type 3	Tree Observation Type 4	Tree Observation Type 5	Tree Observation Type 6	Longitude	Latitude
1	Yew	Taxus sp	Semi-mature	Fair	Low	18	0	0	0	0	0	7.50	19.80	Decay-stem	Poor branch structure	Included bark	Co-dominant stems	...	...	-71.09603589	42.31078163
2	Oak-Pin	Quercus palustris	Mature	Good	Low	33	0	0	0	0	0	13.75	36.30	Growing against object	Dead branches >2	...	...	...	...	-71.09603468	42.31070897
3	Oak-Pin	Quercus palustris	Mature	Good	Moderate	26	0	0	0	0	0	10.83	28.60	Dead branches <=2	Uneven crown	Poor branch structure	...	...	...	-71.09591383	42.31089789
4	Oak-Pin	Quercus palustris	Young	Fair	Low	6	0	0	0	0	0	2.50	5.94	Growing against object	Suppressed	Wound-stem	Poor branch structure	...	...	-71.09591537	42.31090443
5	Oak-Northern Red	Quercus rubra	Mature	Fair	Moderate	32	0	0	0	0	0	13.33	40.66	Uneven crown	Poor branch structure	Included bark	Co-dominant stems	...	...	-71.09589308	42.31091429
6	Oak-Pin	Quercus palustris	Mature	Fair	Moderate	42	0	0	0	0	0	17.50	50.82	Dead branches <=2	Wound-root	Wound-root flare	Uneven crown	Co-dominant stems	...	-71.09579447	42.31086476
7	Oak-Pin	Quercus palustris	Mature	Good	Low	35	0	0	0	0	0	14.58	38.50	Dead branches <=2	Growing against object	Uneven crown	...	...	...	-71.09564056	42.31058077
8	Oak-Northern Red	Quercus rubra	Mature	Good	Low	33	0	0	0	0	0	13.75	38.12	Growing against object	Dead branches >2	Co-dominant stems	...	...	...	-71.09559379	42.31051996
9	Oak-Pin	Quercus palustris	Mature	Good	Low	25	0	0	0	0	0	10.42	27.50	Uneven crown	Co-dominant stems	...	...	...	...	-71.09548951	42.31042836
10	Oak-Pin	Quercus palustris	Mature	Good	Low	18	0	0	0	0	0	7.50	19.80	Dead branches <=2	Uneven crown	Co-dominant stems	...	...	...	-71.09548109	42.31043031
11	Oak-Pin	Quercus palustris	Mature	Good	Low	25	0	0	0	0	0	10.42	27.50	Uneven crown	Dead branches >2	...	...	...	...	-71.09547071	42.31041265
12	Oak-Pin	Quercus palustris	Mature	Good	Low	24	0	0	0	0	0	10.00	26.40	Growing against object	Uneven crown	Dead branches >2	...	...	...	-71.09547091	42.31037024
13	Dogwood-Flowering	Cornus florida	Young	Poor	Low	6	0	0	0	0	0	2.50	7.43	Dead branches <=2	Decay-stem	Low vigor	Uneven crown	Poor branch structure	...	-71.095423	42.31034766
14	Oak-Pin	Quercus palustris	Mature	Good	Moderate	24	0	0	0	0	0	10.00	26.40	Dead branches <=2	...	...	...	...	...	-71.09537999	42.31068054
15	Oak-Pin	Quercus palustris	Mature	Fair	Moderate	41	0	0	0	0	0	17.08	49.61	Cavity-stem	Dead branches >2	...	...	...	...	-71.09518234	42.31059224
16	Oak-Pin	Quercus palustris	Mature	Fair	Low	58	0	0	0	0	0	24.17	70.18	Decay-stem	Wound-root	Uneven crown	...	...	...	-71.0951543	42.31037659
17	Maple-Red	Acer rubrum	Mature	Poor	Low	22	0	0	0	0	0	9.17	30.25	Decay-stem	Girdling roots present	Sidewalk lifting-minor	Uneven crown	Poor branch structure	Co-dominant stems	-71.09535049	42.31035473
18	Tree of Heaven	Ailanthus altissima	Mature	Poor	Low	32	0	0	0	0	0	13.33	44.00	Decay-stem	Low vigor	Uneven crown	Co-dominant stems	...	...	-71.09523001	42.31024896
19	Yew	Taxus sp	Semi-mature	Poor	Low	11	0	0	0	0	0	4.58	13.75	Decay-branch	Decay-stem	Poor branch structure	...	...	...	-71.09522131	42.31002247
20	Oak-Pin	Quercus palustris	Mature	Good	Moderate	30	0	0	0	0	0	12.50	33.00	Dead branches <=2	...	...	...	...	...	-71.09505171	42.31007057
21	Oak-Northern Red	Quercus rubra	Semi-mature	Fair	Low	14	0	0	0	0	0	5.83	16.17	Corrected lean	Growing against object	Uneven crown	Co-dominant stems	...	...	-71.09490088	42.31025069
22	Oak-Northern Red	Quercus rubra	Semi-mature	Good	Low	17	0	0	0	0	0	7.08	17.85	Growing against object	Uneven crown	Poor branch structure	...	...	...	-71.09490666	42.31027015
23	Oak-Northern Red	Quercus rubra	Semi-mature	Fair	Low	16	0	0	0	0	0	6.67	18.48	Dead branches <=2	Growing against object	...	...	...	...	-71.0948687	42.31026854
24	Oak-Northern Red	Quercus rubra	Mature	Fair	Moderate	37	0	0	0	0	0	15.42	47.01	Storm damage	Wound-root	Dead branches >2	Co-dominant stems	...	...	-71.09484144	42.31018252
25	Oak-Northern Red	Quercus rubra	Mature	Fair	Moderate	19	0	0	0	0	0	7.92	24.14	Uneven crown	Dead branches >2	...	...	...	...	-71.09477278	42.31004583
26	Oak-Northern Red	Quercus rubra	Mature	Fair	Moderate	15	14	13	13	13	0	17.29	52.73	Dead branches <=2	Low vigor	Included bark	Co-dominant stems	...	...	-71.09476241	42.3100324
27	Maple-Sugar	Acer saccharum	Mature	Good	Moderate	30	0	0	0	0	0	12.50	36.30	Dead branches <=2	Girdling roots present	Poor branch structure	...	...	...	-71.0949449	42.30977745
28	Oak-Pin	Quercus palustris	Young	Fair	Moderate	9	3	0	0	0	0	4.38	10.40	Dead branches <=2	Poor branch structure	...	...	...	...	-71.09481478	42.30973883
29	Oak-Pin	Quercus palustris	Young	Good	Moderate	27	0	0	0	0	0	11.25	24.30	Poor branch structure	Co-dominant stems	...	...	...	...	-71.09454062	42.30977941
30	Oak-Pin	Quercus palustris	Semi-mature	Fair	Low	18	0	0	0	0	0	7.50	19.80	Low vigor	Suppressed	Uneven crown	Dead branches >2	...	...	-71.09453358	42.30976578
31	Oak-Northern Red	Quercus rubra	Semi-mature	Good	High	11	0	0	0	0	0	4.58	11.55	Dead branches <=2	...	...	...	...	...	-71.09448992	42.30971549
32	Oak-Pin	Quercus palustris	Semi-mature	Good	Moderate	11	0	0	0	0	0	4.58	11.00	Dead branches <=2	Uneven crown	...	...	...	...	-71.09448753	42.30969306
33	Oak-Pin	Quercus palustris	Semi-mature	Fair	Moderate	12	11	0	0	0	0	7.29	19.25	Dead branches <=2	Poor branch structure	Included bark	Co-dominant stems	...	...	-71.09449726	42.3096877
34	Oak-Pin	Quercus palustris	Mature	Good	Moderate	29	0	0	0	0	0	12.08	31.90	Dead branches <=2	...	...	...	...	...	-71.09468435	42.309686
35	Oak-Pin	Quercus palustris	Mature	Fair	Low	29	0	0	0	0	0	12.08	35.09	Decay-stem	Storm damage	Uneven crown	Dead branches >2	...	...	-71.09476582	42.30963354
36	Oak-Pin	Quercus palustris	Mature	Poor	Low	31	0	0	0	0	0	12.92	42.63	Decay-branch	Low vigor	Storm damage	Decay-stem	Dead branches >2	...	-71.09464399	42.30950957
37	Oak-Pin	Quercus palustris	Mature	Good	Moderate	16	14	13	0	0	0	12.29	32.45	Dead branches <=2	Poor branch structure	Included bark	Co-dominant stems	...	...	-71.0944686	42.30957306
38	Oak-Pin	Quercus palustris	Mature	Good	Moderate	25	0	0	0	0	0	10.42	27.50	Dead branches <=2	Uneven crown	...	...	...	...	-71.09447328	42.30950621
39	Oak-Pin	Quercus palustris	Semi-mature	Good	High	13	0	0	0	0	0	5.42	13.00	Dead branches <=2	Uneven crown	Co-dominant stems	...	...	...	-71.09444303	42.30949007
40	Oak-Swamp White	Quercus bicolor	Semi-mature	Good	Moderate	9	5	0	0	0	0	4.79	11.50	Uneven crown	Dead branches >2	Co-dominant stems	...	...	...	-71.09443586	42.3094661
41	Hickory-Mockernut	Carya tomentosa	Mature	Good	Moderate	23	0	0	0	0	0	9.58	27.83	Uneven crown	Buried root collar	...	...	...	...	-71.09436152	42.3094854
42	Cherry-Black	Prunus serotina	Semi-mature	Poor	Low	13	10	0	0	0	0	7.50	24.75	Decay-stem	Dieback (moderate)	Dead branches >2	Co-dominant stems	...	...	-71.09437234	42.30942933
43	Oak-Northern Red	Quercus rubra	Mature	Good	Moderate	30	0	0	0	0	0	12.50	34.65	Girdling roots present	Wound-root	Uneven crown	Dead branches >2	...	...	-71.09416458	42.30928847
44	Oak-Northern Red	Quercus rubra	Young	Poor	Low	7	0	0	0	0	0	2.92	8.27	Decay-root flare	Decay-stem	Uneven crown	Poor branch structure	...	...	-71.09412888	42.30924851
45	Hophornbeam-Americ	Ostrya virginiana	Young	Fair	Moderate	9	0	0	0	0	0	3.75	8.91	Wound-stem	Poor branch structure	Co-dominant stems	Buried root collar	...	...	-71.09412441	42.3091076
46	Linden-Littleleaf	Tilia cordata	Mature	Poor	Low	22	0	0	0	0	0	9.17	30.25	Decay-branch	Decay-stem	Girdling roots present	Poor branch structure	Co-dominant stems	...	-71.09427359	42.30918406
47	Linden-Littleleaf	Tilia cordata	Mature	Poor	Low	31	0	0	0	0	0	12.92	42.63	Decay-branch	Decay-stem	Girdling roots present	Wound-root	Dead branches >2	Co-dominant stems	-71.0944359	42.30932559
48	Oak-Northern Red	Quercus rubra	Semi-mature	Fair	Moderate	13	0	0	0	0	0	5.42	15.02	Wound-root flare	Uneven crown	Buried root collar	...	...	...	-71.09395646	42.30892806
49	Linden-Littleleaf	Tilia cordata	Mature	Good	Moderate	29	0	0	0	0	0	12.08	31.90	Poor branch structure	Included bark	Co-dominant stems	...	...	...	-71.09397758	42.30883756
50	Oak-Northern Red	Quercus rubra	Mature	Good	Moderate	21	0	0	0	0	0	8.75	24.26	Dead branches <=2	Girdling roots present	Co-dominant stems	...	...	...	-71.09486594	42.30937215
51	Oak-Northern Red	Quercus rubra	Mature	Good	High	15	0	0	0	0	0	6.25	17.33	Uneven crown	Co-dominant stems	...	...	...	...	-71.09496725	42.30943252
52	Tree of Heaven	Ailanthus altissima	Mature	Fair	Low	12	11	10	10	9	8	15.00	43.56	Dead branches <=2	Poor branch structure	Co-dominant stems	...	...	...	-71.09499729	42.30940946
53	Linden-Littleleaf	Tilia cordata	Mature	Good	Moderate	29	0	0	0	0	0	12.08	31.90	Poor branch structure	Included bark	Co-dominant stems	Buried root collar	...	...	-71.09499539	42.30935522
54	Yew	Taxus sp	Young	Fair	Low	10	9	8	0	0	0	7.71	18.32	Decay-root flare	Uneven crown	Poor branch structure	Co-dominant stems	...	...	-71.09516445	42.30942678
55	Oak-Pin	Quercus palustris	Semi-mature	Good	Moderate	16	12	0	0	0	0	9.17	22.00	Poor branch structure	Included bark	Dead branches >2	Co-dominant stems	...	...	-71.09512479	42.30925072

Tree ID	Common Name	Scientific Name	Age Class	Condition Class	Suitability For Preservation	Dbh 1	Dbh 2	Dbh 3	Dbh 4	Dbh 5	Dbh 6	CRZ	TPZ	Tree Observation Type 1	Tree Observation Type 2	Tree Observation Type 3	Tree Observation Type 4	Tree Observation Type 5	Tree Observation Type 6	Longitude	Latitude
56	Oak-Pin	Quercus palustris	Mature	Good	Moderate	21	0	0	0	0	0	8.75	23.10	Uneven crown	Poor branch structure	Dead branches >2	...	...	...	-71.09511166	42.30924851
57	Oak-Pin	Quercus palustris	Mature	Fair	Low	27	0	0	0	0	0	11.25	32.67	Uneven crown	Poor branch structure	Included bark	Dead branches >2	Co-dominant stems	...	-71.09512218	42.30923169
58	Oak-Pin	Quercus palustris	Mature	Good	Low	20	0	0	0	0	0	8.33	22.00	Dead branches <=2	Uneven crown	Poor branch structure	Co-dominant stems	...	...	-71.09519662	42.30919632
59	Oak-Pin	Quercus palustris	Mature	Good	Low	23	20	20	0	0	0	17.92	47.30	Poor branch structure	Included bark	Dead branches >2	Co-dominant stems	...	...	-71.09517328	42.30916347
60	Oak-Pin	Quercus palustris	Mature	Good	Moderate	18	0	0	0	0	0	7.50	19.80	Dead branches <=2	Uneven crown	Poor branch structure	...	...	...	-71.09517629	42.30911385
61	Oak-Black	Quercus velutina	Mature	Good	Low	19	0	0	0	0	0	7.92	21.95	Poor branch structure	Dead branches >2	...	...	...	...	-71.09519035	42.30905043
62	Oak-Swamp White	Quercus bicolor	Mature	Good	Moderate	13	9	0	0	0	0	7.29	19.25	Dead branches <=2	Poor branch structure	Included bark	Co-dominant stems	Buried root collar	...	-71.09521911	42.30900519
63	Oak-Pin	Quercus palustris	Mature	Good	Moderate	19	18	0	0	0	0	11.67	30.80	Dead branches <=2	Growing against object	Poor branch structure	Included bark	Co-dominant stems	...	-71.09521466	42.30897049
64	Oak-Pin	Quercus palustris	Mature	Good	Moderate	23	0	0	0	0	0	9.58	25.30	Dead branches <=2	Growing against object	Poor branch structure	Included bark	Co-dominant stems	...	-71.09521469	42.30893283
65	Locust-Black	Robinia pseudoacacia	Mature	Fair	Low	11	0	0	0	0	0	4.58	13.31	Dead branches <=2	Growing against object	Uneven crown	Poor branch structure	...	...	-71.09519682	42.30891182
66	Oak-Pin	Quercus palustris	Mature	Good	Moderate	32	0	0	0	0	0	13.33	35.20	Dead branches >2	...	...	...	...	...	-71.09519531	42.30879148
67	Tree of Heaven	Ailanthus altissima	Mature	Fair	Low	9	8	8	7	0	0	8.54	24.81	Decay-stem	Wound-stem	Poor branch structure	Co-dominant stems	...	...	-71.09518143	42.30869375
68	Cherry-Black	Prunus serotina	Semi-mature	Fair	Low	10	9	0	0	0	0	6.04	17.55	Low vigor	Poor branch structure	Dead branches >2	Co-dominant stems	...	...	-71.09515431	42.30862264
69	Oak-Pin	Quercus palustris	Mature	Good	Moderate	31	0	0	0	0	0	12.92	34.10	Wound-root	Uneven crown	Dead branches >2	Co-dominant stems	...	...	-71.09511283	42.30845438
70	Tupelo-Black	Nyssa sylvatica	Semi-mature	Good	High	12	0	0	0	0	0	5.00	12.00	Girdling roots present	Uneven crown	...	...	...	...	-71.09508164	42.30833726
71	Oak-Northern Red	Quercus rubra	Semi-mature	Fair	Moderate	13	0	0	0	0	0	5.42	15.02	Wound-stem	Dead branches >2	Co-dominant stems	Buried root collar	...	...	-71.09504555	42.30822502
~~72~~	~~Oak-Northern Red~~	~~Quercus rubra~~	~~Young~~	~~Dead~~	~~Low~~	~~9~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0.00~~	~~0.00~~	~~...~~	~~...~~	~~...~~	~~...~~	~~...~~	~~...~~	~~-71.09484973~~	~~42.3082293~~
1001	Yew	Taxus sp	Semi-mature	Poor	Low	6	5	5	4	4	4	7.08	21.25	Dead branches <=2	Wound-stem	Low vigor	Included bark	Co-dominant stems	...	-71.09632306	42.31074699
1002	Oak-Pin	Quercus palustris	Mature	Good	Low	20	0	0	0	0	0	8.33	22.00	Dead branches <=2	Uneven crown	Poor branch structure	Co-dominant stems	...	...	-71.09630229	42.31069416
1003	Oak-Pin	Quercus palustris	Mature	Fair	Moderate	19	0	0	0	0	0	7.92	22.99	Dead branches <=2	Growing against object	Uneven crown	...	...	...	-71.09632843	42.31065263
1004	Oak-Pin	Quercus palustris	Semi-mature	Fair	Low	18	0	0	0	0	0	7.50	19.80	Growing against object	Uneven crown	Dead branches >2	...	...	...	-71.09632769	42.31066583
1005	Maple-Norway	Acer platanoides	Semi-mature	Poor	Low	16	0	0	0	0	0	6.67	20.00	Decay-stem	Poor branch structure	Included bark	Fungi/conks	Dead branches >2	Co-dominant stems	-71.09640147	42.31060234
1006	Maple-Norway	Acer platanoides	Semi-mature	Fair	Low	10	8	7	0	0	0	7.29	19.25	Dead branches <=2	Decay-stem	Included bark	Co-dominant stems	...	...	-71.09644573	42.31058824
1007	Oak-Pin	Quercus palustris	Semi-mature	Good	Moderate	16	0	0	0	0	0	6.67	16.00	Dead branches <=2	Girdling roots present	...	...	...	...	-71.09649405	42.31054422
1008	Oak-Pin	Quercus palustris	Mature	Good	Moderate	20	0	0	0	0	0	8.33	22.00	Dead branches <=2	Uneven crown	...	...	...	...	-71.09651413	42.31052878
1009	Maple-Norway	Acer platanoides	Mature	Fair	Low	19	0	0	0	0	0	7.92	21.84	Dead branches <=2	Girdling roots present	Wound-root	Growing against object	Uneven crown	...	-71.09650859	42.31051785
1010	Oak-Pin	Quercus palustris	Semi-mature	Fair	Low	17	0	0	0	0	0	7.08	18.70	Dead branches <=2	Girdling roots present	Growing against object	Uneven crown	...	...	-71.09651391	42.31050415
1011	Oak-Pin	Quercus palustris	Semi-mature	Good	Moderate	13	9	0	0	0	0	7.29	17.50	Girdling roots present	Uneven crown	Poor branch structure	Included bark	Co-dominant stems	...	-71.09647446	42.3107749
1012	Oak-Pin	Quercus palustris	Semi-mature	Good	Moderate	11	10	9	5	0	0	9.58	23.00	Poor branch structure	Included bark	Co-dominant stems	...	...	...	-71.09650493	42.31080457
1013	Maple-Norway	Acer platanoides	Mature	Poor	Low	22	0	0	0	0	0	9.17	30.25	Decay-stem	Low vigor	Uneven crown	Dead branches >2	Co-dominant stems	Buried root collar	-71.09658234	42.31073932
1014	Maple-Norway	Acer platanoides	Mature	Fair	Low	19	0	0	0	0	0	7.92	21.84	Decay-stem	Low vigor	Poor branch structure	Co-dominant stems	Buried root collar	...	-71.0966548	42.31066284
1015	Oak-Black	Quercus velutina	Mature	Poor	Low	33	0	0	0	0	0	13.75	49.91	Cavity-stem	Low vigor	Dieback (severe)	Dead branches >2	...	...	-71.09626305	42.3111918
1016	Maple-Norway	Acer platanoides	Mature	Poor	Low	25	18	0	0	0	0	14.17	46.75	Decay-stem	Wound-root	Poor branch structure	Included bark	Dead branches >2	Co-dominant stems	-71.09669704	42.31028414
1017	Dogwood-Flowering	Cornus florida	Semi-mature	Poor	Low	10	0	0	0	0	0	4.17	13.75	Decay-stem	Low vigor	Dieback (severe)	Buried root collar	...	...	-71.09668572	42.31020401
1018	Oak-Northern Red	Quercus rubra	Mature	Good	Moderate	27	0	0	0	0	0	11.25	31.19	Dead branches <=2	Decay-branch	Girdling roots present	...	...	...	-71.09697274	42.31012935
1019	Oak-Pin	Quercus palustris	Mature	Good	Moderate	45	0	0	0	0	0	18.75	49.50	Wound-root	Dead branches >2	Co-dominant stems	...	...	...	-71.09690602	42.3099988
1020	Yew	Taxus sp	Semi-mature	Fair	Low	18	0	0	0	0	0	7.50	19.80	Dead branches <=2	Uneven crown	Included bark	Co-dominant stems	...	...	-71.09676483	42.30983353
1021	Yew	Taxus sp	Semi-mature	Good	Low	18	0	0	0	0	0	7.50	18.00	Uneven crown	Poor branch structure	Included bark	Co-dominant stems	...	...	-71.09667064	42.30942944
1022	Yew	Taxus sp	Semi-mature	Fair	Low	11	7	7	0	0	0	7.50	19.80	Wound-root	Poor branch structure	Included bark	Co-dominant stems	...	...	-71.09665361	42.30941913
1023	Yew	Taxus sp	Semi-mature	Fair	Low	9	9	7	6	6	5	10.63	28.05	Dead branches <=2	Wound-stem	Poor branch structure	Co-dominant stems	...	...	-71.09653641	42.30925838
1024	Yew	Taxus sp	Semi-mature	Good	Moderate	7	0	0	0	0	0	2.92	7.00	Poor branch structure	Co-dominant stems	...	...	...	...	-71.09663288	42.30922553
1025	Maple-Sugar	Acer saccharum	Mature	Poor	Low	28	0	0	0	0	0	11.67	48.13	Decay-stem	Girdling roots present	Low vigor	Wound-root	Fungi/conks	Dead branches >2	-71.09690257	42.30941524
1026	Elm-American	Ulmus americana	Young	Good	High	3	0	0	0	0	0	1.25	2.97	Poor branch structure	Co-dominant stems	...	...	...	...	-71.09686141	42.30923605
1027	Cherry-Black	Prunus serotina	Mature	Fair	Low	19	15	0	0	0	0	11.04	33.67	Girdling roots present	Poor branch structure	Included bark	Dead branches >2	Co-dominant stems	...	-71.0970741	42.30927381
1028	Hornbeam-American	Carpinus caroliniana	Semi-mature	Fair	Low	14	0	0	0	0	0	5.83	15.40	Dead branches <=2	Decay-root flare	Poor branch structure	...	...	...	-71.09708817	42.30925502
1029	Elm-American	Ulmus americana	Young	Dead	Moderate	8	0	0	0	0	0	3.33	0.00	Dead/dying stem	...	...	...	...	...	-71.09707516	42.30925187
1030	Oak-Swamp White	Quercus bicolor	Young	Good	High	2	0	0	0	0	0	0.83	1.62	Poor branch structure	...	...	...	...	...	-71.09686001	42.30903348
1031	Maple-Red	Acer rubrum	Young	Good	High	3	0	0	0	0	0	1.25	2.70	Poor branch structure	Co-dominant stems	...	...	...	...	-71.09672269	42.30907496
1032	Oak-Swamp White	Quercus bicolor	Young	Good	High	2	0	0	0	0	0	0.83	1.62	Buried root collar	...	...	...	...	...	-71.09678292	42.30895875
1033	Tupelo-Black	Nyssa sylvatica	Young	Good	High	1	0	0	0	0	0	0.42	0.90	Buried root collar	...	...	...	...	...	-71.0965933	42.30890491
1034	Tupelo-Black	Nyssa sylvatica	Young	Good	High	1	0	0	0	0	0	0.42	0.90	Poor branch structure	Buried root collar	...	...	...	...	-71.09660449	42.30900136
1035	Oak-Pin	Quercus palustris	Semi-mature	Fair	Moderate	15	0	0	0	0	0	6.25	16.50	Girdling roots present	Suppressed	Uneven crown	Dead branches >2	...	...	-71.09646401	42.30904549
1036	Oak-Pin	Quercus palustris	Semi-mature	Fair	Moderate	16	0	0	0	0	0	6.67	17.60	Dead branches <=2	Growing against object	Uneven crown	...	...	...	-71.09643897	42.30903258
1037	Oak-Pin	Quercus palustris	Mature	Fair	Moderate	20	0	0	0	0	0	8.33	24.20	Growing against object	Wound-root flare	Uneven crown	Poor branch structure	Dead branches >2	...	-71.09643222	42.30902585
1038	Oak-Pin	Quercus palustris	Semi-mature	Good	Moderate	16	0	0	0	0	0	6.67	16.00	Dead branches <=2	Wound-root flare	Uneven crown	...	...	...	-71.09642059	42.30903673

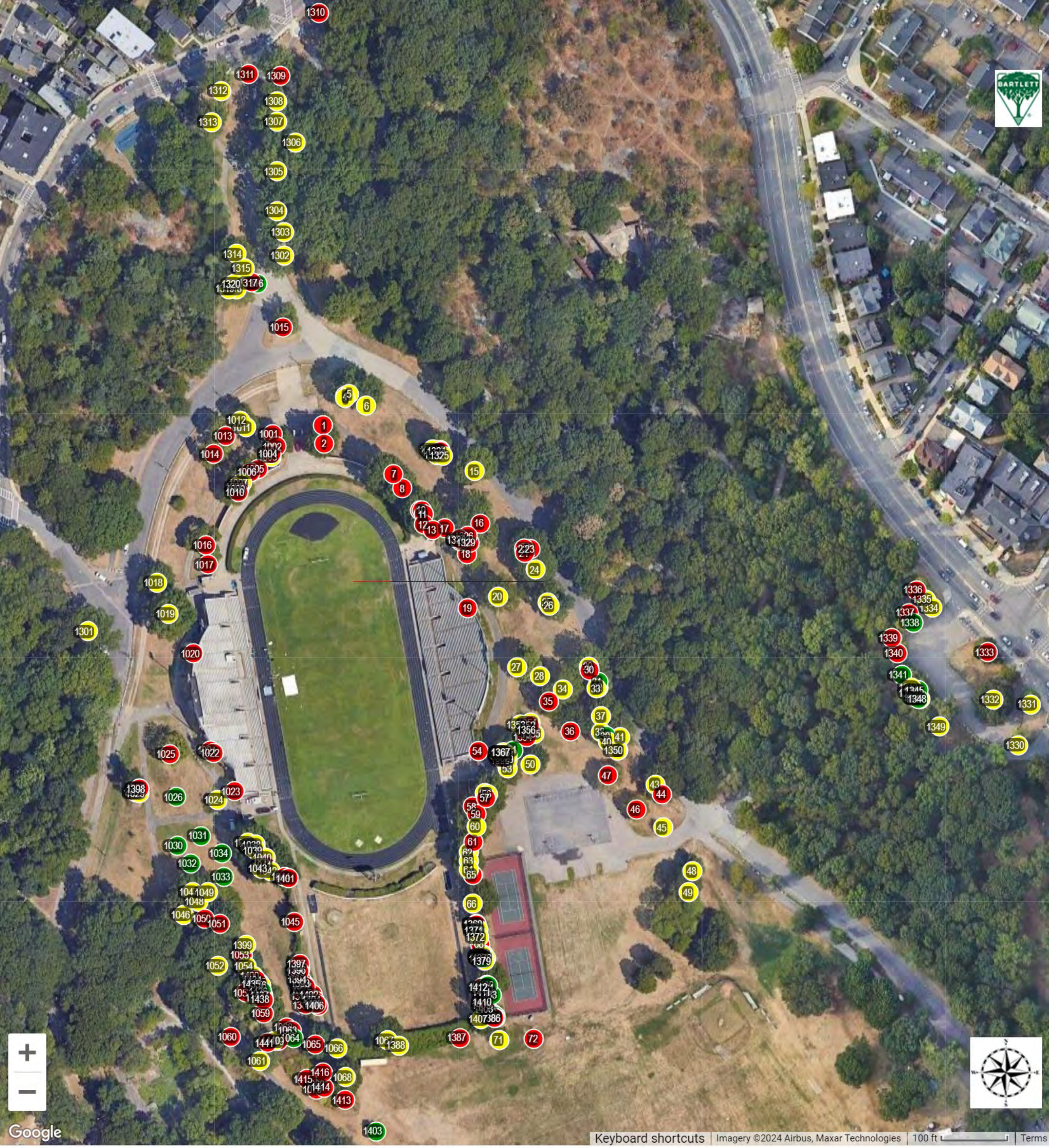
Tree ID	Common Name	Scientific Name	Age Class	Condition Class	Suitability For Preservation	Dbh 1	Dbh 2	Dbh 3	Dbh 4	Dbh 5	Dbh 6	CRZ	TPZ	Tree Observation Type 1	Tree Observation Type 2	Tree Observation Type 3	Tree Observation Type 4	Tree Observation Type 5	Tree Observation Type 6	Longitude	Latitude
1039	Oak-Pin	Quercus palustris	Mature	Good	Moderate	23	0	0	0	0	0	9.58	25.30	Dead branches <=2	Poor branch structure	...	...	...	...	-71.0964138	42.30901281
1040	Oak-Pin	Quercus palustris	Semi-mature	Fair	Moderate	9	0	0	0	0	0	3.75	9.90	Dead branches <=2	Growing against object	Uneven crown	...	...	...	-71.09635946	42.30898322
1041	Oak-Pin	Quercus palustris	Mature	Fair	Low	24	0	0	0	0	0	10.00	29.04	Growing against object	Poor branch structure	Included bark	Dead branches >2	Co-dominant stems	...	-71.09635998	42.30895253
1042	Oak-Pin	Quercus palustris	Mature	Good	Moderate	27	0	0	0	0	0	11.25	29.70	Wound-root flare	Uneven crown	Dead branches >2	...	...	...	-71.09633048	42.30892701
1043	Oak-Pin	Quercus palustris	Mature	Good	Moderate	25	0	0	0	0	0	10.42	27.50	Dead branches <=2	Girdling roots present	Wound-root flare	Uneven crown	Poor branch structure	Co-dominant stems	-71.0963854	42.30893946
1044	Oak-Pin	Quercus palustris	Mature	Fair	Low	26	0	0	0	0	0	10.83	31.46	Growing against object	Low vigor	Dead branches >2	...	...	...	-71.09625477	42.3089042
1045	Tree of Heaven	Ailanthus altissima	Semi-mature	Fair	Low	10	0	0	0	0	0	4.17	11.00	Growing against object	Poor branch structure	...	...	...	...	-71.09620123	42.30871673
1046	Oak-Northern Red	Quercus rubra	Mature	Good	Moderate	34	0	0	0	0	0	14.17	39.27	Included bark	Dead branches >2	Co-dominant stems	...	...	...	-71.09681917	42.3087461
1047	Oak-Pin	Quercus palustris	Mature	Good	Moderate	27	0	0	0	0	0	11.25	29.70	Uneven crown	Dead branches >2	...	...	...	...	-71.09677369	42.30883959
1048	Oak-Pin	Quercus palustris	Mature	Good	Moderate	20	0	0	0	0	0	8.33	22.00	Dead branches >2	...	...	...	...	...	-71.09674275	42.30880053
1049	Oak-Pin	Quercus palustris	Mature	Good	Moderate	19	0	0	0	0	0	7.92	20.90	Uneven crown	Dead branches >2	...	...	...	...	-71.09668545	42.30883834
1050	Oak-Black	Quercus velutina	Mature	Poor	Low	28	0	0	0	0	0	11.67	42.35	Decay-stem	Low vigor	Dead branches >2	Buried root collar	...	...	-71.09670202	42.30872949
1051	Oak-Pin	Quercus palustris	Mature	Poor	Low	37	15	0	0	0	0	18.54	61.19	Decay-root flare	Poor branch structure	Included bark	Dead branches >2	Co-dominant stems	...	-71.09661514	42.30870792
1052	Oak-Northern Red	Quercus rubra	Mature	Good	Moderate	45	0	0	0	0	0	18.75	51.98	Dead branches >2	...	...	...	...	...	-71.09662695	42.30853375
1053	Crabapple	Malus sp	Semi-mature	Poor	Low	15	0	0	0	0	0	6.25	20.63	Decay-stem	Low vigor	Storm damage	Poor branch structure	Dead branches >2	...	-71.09648671	42.30857786
1054	Oak-Northern Red	Quercus rubra	Mature	Good	Moderate	23	0	0	0	0	0	9.58	26.57	Uneven crown	Dead branches >2	...	...	...	...	-71.09646539	42.30853074
1055	Cherry-Black	Prunus serotina	Young	Fair	Low	8	0	0	0	0	0	3.33	8.32	Dead branches <=2	Uneven crown	Poor branch structure	...	...	...	-71.09639455	42.30846451
1056	Crabapple	Malus sp	Young	Dead	Moderate	7	0	0	0	0	0	2.92	0.00	Dead/dying stem	...	...	...	...	...	-71.09638806	42.30845269
1057	Maple-Norway	Acer platanoides	Mature	Poor	Low	24	20	0	0	0	0	14.17	46.75	Dead branches <=2	Decay-stem	Poor branch structure	Included bark	Co-dominant stems	...	-71.09647043	42.30842102
1058	Oak-Pin	Quercus palustris	Mature	Fair	Moderate	22	0	0	0	0	0	9.17	26.62	Uneven crown	Dead branches >2	...	...	...	...	-71.09640062	42.3084015
1059	Maple-Norway	Acer platanoides	Mature	Fair	Low	21	0	0	0	0	0	8.75	24.14	Dead branches <=2	Poor branch structure	...	...	...	...	-71.09636941	42.30833493
1060	Maple-Norway	Acer platanoides	Mature	Poor	Low	32	0	0	0	0	0	13.33	44.00	Decay-stem	Wound-root	Low vigor	Storm damage	Uneven crown	Dead branches >2	-71.09655658	42.30823691
1061	Oak-Northern Red	Quercus rubra	Mature	Good	Moderate	26	0	0	0	0	0	10.83	30.03	Dead branches <=2	Growing against object	Co-dominant stems	...	...	...	-71.09639188	42.308138
1062	Crabapple	Malus sp	Young	Poor	Low	8	0	0	0	0	0	3.33	9.90	Broken branch(s)	Poor branch structure	Dead branches >2	Co-dominant stems	...	...	-71.09624152	42.30827634
1063	Birch-Paper	Betula papyrifera	Semi-mature	Dead	Low	14	14	0	0	0	0	8.75	0.00	Dead/dying stem	...	...	...	...	...	-71.09621715	42.30826435
1064	Cherry-Flowering	Prunus serrulata	Young	Good	High	8	0	0	0	0	0	3.33	7.20	Poor branch structure	...	...	...	...	...	-71.09620175	42.30823161
1065	Oak-Pin	Quercus palustris	Mature	Fair	Low	24	20	0	0	0	0	14.17	41.14	Growing against object	Poor branch structure	Included bark	Dead branches >2	Co-dominant stems	...	-71.09608228	42.30820538
1066	Oak-Pin	Quercus palustris	Mature	Good	Moderate	21	0	0	0	0	0	8.75	23.10	Dead branches >2	...	...	...	...	...	-71.09595765	42.30819037
1067	Oak-Pin	Quercus palustris	Mature	Good	Moderate	37	0	0	0	0	0	15.42	40.70	Included bark	Dead branches >2	Co-dominant stems	...	...	...	-71.09567184	42.30822307
1068	Oak-Pin	Quercus palustris	Mature	Good	Moderate	30	0	0	0	0	0	12.50	33.00	Dead branches >2	...	...	...	...	...	-71.09590846	42.30806934
1069	Birch-Gray	Betula populifolia	Young	Fair	Moderate	8	3	3	0	0	0	4.58	11.98	Uneven crown	Poor branch structure	Co-dominant stems	...	...	...	-71.09606109	42.30803844
1070	Birch-Gray	Betula populifolia	Young	Poor	Low	7	1	0	0	0	0	3.13	9.28	Dead branches <=2	Dead/dying stem	Uneven crown	Co-dominant stems	...	...	-71.09607765	42.30801963
1301	Oak-Pin	Quercus palustris	Mature	Fair	Moderate	40	0	0	0	0	0	16.67	48.40	Growing against object	Pavement/curbing dama	Dead branches >2	...	...	...	-71.09736312	42.30992466
1302	Oak-Swamp White	Quercus bicolor	Mature	Fair	Moderate	27	0	0	0	0	0	11.25	29.40	Dead branches >2	...	...	...	...	...	-71.09625979	42.31149001
1303	Oak-Swamp White	Quercus bicolor	Mature	Good	Moderate	29	0	0	0	0	0	12.08	28.71	Uneven crown	Dead branches >2	...	...	...	...	-71.09625761	42.31158848
1304	Oak-Swamp White	Quercus bicolor	Mature	Good	Moderate	31	0	0	0	0	0	12.92	30.69	Dead branches <=2	Uneven crown	...	...	...	...	-71.0962929	42.31167757
1305	Oak-Swamp White	Quercus bicolor	Mature	Good	Moderate	27	0	0	0	0	0	11.25	26.73	Dead branches <=2	Wound-root	Uneven crown	...	...	...	-71.09629532	42.31184066
1306	Oak-Swamp White	Quercus bicolor	Mature	Fair	Moderate	51	0	0	0	0	0	21.25	55.54	Decay-root flare	Dead branches >2	...	...	...	...	-71.09619556	42.31196232
1307	Oak-Swamp White	Quercus bicolor	Mature	Good	Moderate	27	0	0	0	0	0	11.25	26.73	Dead branches <=2	Buried root collar	...	...	...	...	-71.09629572	42.31204941
1308	Oak-Swamp White	Quercus bicolor	Mature	Good	Moderate	25	0	0	0	0	0	10.42	24.75	Dead branches <=2	Poor branch structure	Co-dominant stems	...	...	...	-71.09629514	42.31213393
1309	Oak-Swamp White	Quercus bicolor	Mature	Fair	Low	30	0	0	0	0	0	12.50	32.67	Dead branches <=2	Decay-stem	Uneven crown	Co-dominant stems	...	...	-71.09628086	42.31223838
1310	Ash-White	Fraxinus americana	Young	Fair	Low	4	0	0	0	0	0	1.67	3.96	Growing against object	Wound-root	Poor branch structure	...	...	...	-71.09605927	42.3125026
1311	Ash-White	Fraxinus americana	Semi-mature	Poor	Low	16	0	0	0	0	0	6.67	20.00	Dieback (severe)	Low vigor	Dead branches >2	...	...	...	-71.09645482	42.31224545
1312	Oak-Pin	Quercus palustris	Mature	Good	Moderate	36	0	0	0	0	0	15.00	39.60	Dead branches <=2	Co-dominant stems	...	...	...	...	-71.09660905	42.3121775
1313	Oak-Pin	Quercus palustris	Mature	Good	Moderate	43	0	0	0	0	0	17.92	47.30	Wound-root	Poor branch structure	Dead branches >2	...	...	...	-71.09666649	42.31204672
1314	Oak-Pin	Quercus palustris	Mature	Good	Moderate	26	0	0	0	0	0	10.83	28.60	Wound-root	Dead branches >2	...	...	...	...	-71.09652786	42.31149591
1315	Oak-Black	Quercus velutina	Mature	Good	Moderate	26	0	0	0	0	0	10.83	30.03	Dead branches <=2	Poor branch structure	Co-dominant stems	...	...	...	-71.09647932	42.31143796
1316	Oak-Black	Quercus velutina	Young	Good	High	4	0	0	0	0	0	1.67	3.78	Uneven crown	...	...	...	...	...	-71.09640564	42.31137582
1317	Tree of Heaven	Ailanthus altissima	Young	Fair	Low	4	4	0	0	0	0	2.50	5.35	Poor branch structure	Co-dominant stems	...	...	...	...	-71.09643963	42.31137709
1318	Oak-Pin	Quercus palustris	Mature	Good	Moderate	24	0	0	0	0	0	10.00	26.40	Uneven crown	Dead branches >2	...	...	...	...	-71.0965281	42.31135256
1319	Oak-Pin	Quercus palustris	Mature	Good	Moderate	27	0	0	0	0	0	11.25	29.70	Dead branches >2	...	...	...	...	...	-71.09656968	42.31135217
1320	Locust-Black	Robinia pseudoacacia	Young	Good	Moderate	4	0	0	0	0	0	1.67	3.60	Poor branch structure	...	...	...	...	...	-71.09653556	42.31137295
1321	Hawthorn	Crataegus sp	Young	Fair	Moderate	5	4	4	4	4	3	6.04	12.92	Uneven crown	Poor branch structure	Co-dominant stems	...	...	...	-71.09541965	42.31068243
1322	Hawthorn	Crataegus sp	Young	Fair	Moderate	5	4	3	2	0	0	3.96	8.46	Uneven crown	Poor branch structure	Dead branches >2	Co-dominant stems	...	...	-71.09540889	42.31067181
1323	Hawthorn	Crataegus sp	Young	Fair	Moderate	3	0	0	0	0	0	1.25	2.67	Dead branches <=2	Uneven crown	Poor branch structure	...	...	...	-71.09539458	42.31066143

Tree ID	Common Name	Scientific Name	Age Class	Condition Class	Suitability For Preservation	Dbh 1	Dbh 2	Dbh 3	Dbh 4	Dbh 5	Dbh 6	CRZ	TPZ	Tree Observation Type 1	Tree Observation Type 2	Tree Observation Type 3	Tree Observation Type 4	Tree Observation Type 5	Tree Observation Type 6	Longitude	Latitude
1324	Hawthorn	Crataegus sp	Young	Poor	Low	4	0	0	0	0	0	1.67	4.05	Dead branches <=2	Decay-stem	Uneven crown	Poor branch structure	...	...	-71.09537855	42.31067671
1325	Hawthorn	Crataegus sp	Young	Fair	Moderate	4	4	3	2	0	0	3.54	7.57	Dead branches <=2	Uneven crown	Poor branch structure	Co-dominant stems	...	...	-71.09536152	42.31065743
1326	Tree of Heaven	Ailanthus altissima	Young	Fair	Low	6	0	0	0	0	0	2.50	5.35	Girdling material	Suppressed	...	...	...	...	-71.09522313	42.31032231
1327	Tree of Heaven	Ailanthus altissima	Young	Fair	Low	3	0	0	0	0	0	1.25	2.67	Wound-stem	Poor branch structure	...	...	...	...	-71.09527028	42.31031118
1328	Tree of Heaven	Ailanthus altissima	Young	Fair	Low	8	0	0	0	0	0	3.33	7.13	Poor branch structure	...	...	...	...	...	-71.09526487	42.31030531
1329	Tree of Heaven	Ailanthus altissima	Young	Fair	Low	4	0	0	0	0	0	1.67	3.56	Suppressed	Poor branch structure	...	...	...	...	-71.09521257	42.31029546
1330	Serviceberry	Amelanchier canadensi	Mature	Fair	Moderate	6	6	6	5	0	0	6.04	15.79	Low vigor	Wound-stem	Dead branches >2	Co-dominant stems	...	...	-71.09212085	42.30945201
1331	Maple-Norway	Acer platanoides	Semi-mature	Good	Moderate	17	0	0	0	0	0	7.08	17.00	Poor branch structure	Co-dominant stems	...	...	...	...	-71.0920532	42.30962301
1332	Oak-Black	Quercus velutina	Mature	Good	Moderate	36	0	0	0	0	0	15.00	41.58	Dead branches <=2	Wound-root flare	...	...	...	...	-71.09226166	42.30964135
1333	Linden-Littleleaf	Tilia cordata	Semi-mature	Poor	Low	19	0	0	0	0	0	7.92	23.75	Decay-stem	Storm damage	Included bark	Co-dominant stems	...	...	-71.0922918	42.30983902
1334	Maple-Norway	Acer platanoides	Semi-mature	Good	Moderate	13	0	0	0	0	0	5.42	13.00	Dead branches <=2	Poor branch structure	Co-dominant stems	...	...	...	-71.09260555	42.31002414
1335	Maple-Norway	Acer platanoides	Semi-mature	Good	Moderate	12	0	0	0	0	0	5.00	12.00	Dead branches <=2	Rib	Poor branch structure	...	...	...	-71.09264354	42.31005933
1336	Maple-Norway	Acer platanoides	Semi-mature	Fair	Low	13	0	0	0	0	0	5.42	14.30	Dead branches <=2	Girdling roots present	Low vigor	Co-dominant stems	...	...	-71.09269477	42.31009892
1337	Serviceberry	Amelanchier canadensi	Young	Poor	Low	3	2	2	2	0	0	2.50	6.08	Dead branches <=2	Low vigor	Decay-root flare	Poor branch structure	Co-dominant stems	...	-71.09273833	42.31000332
1338	Serviceberry	Amelanchier canadensi	Young	Good	High	3	2	2	0	0	0	2.08	4.05	Poor branch structure	Co-dominant stems	...	...	...	...	-71.09271231	42.30996293
1339	Ash-White	Fraxinus americana	Semi-mature	Poor	Low	11	0	0	0	0	0	4.58	13.75	Dieback (severe)	Wound-root	Poor branch structure	Dead branches >2	...	...	-71.09283358	42.30989995
1340	Ash-White	Fraxinus americana	Semi-mature	Poor	Low	11	0	0	0	0	0	4.58	13.75	Dieback (severe)	Low vigor	Dead branches >2	...	...	...	-71.09280363	42.309836
1341	Oak-Pin	Quercus palustris	Semi-mature	Good	High	12	0	0	0	0	0	5.00	12.00	Dead branches <=2	Wound-stem	Poor branch structure	...	...	...	-71.09277863	42.30974481
1342	Oak-Northern Red	Quercus rubra	Semi-mature	Good	Moderate	16	0	0	0	0	0	6.67	16.80	Uneven crown	Poor branch structure	...	...	...	...	-71.09272071	42.30969356
1343	Oak-Black	Quercus velutina	Semi-mature	Good	High	12	0	0	0	0	0	5.00	12.60	Uneven crown	...	...	...	...	...	-71.09272198	42.30966989
1344	Cherry-Black	Prunus serotina	Young	Fair	Moderate	4	0	0	0	0	0	1.67	4.36	Sweep	Poor branch structure	...	...	...	...	-71.09269538	42.30967974
1345	Linden-Littleleaf	Tilia cordata	Young	Good	High	6	0	0	0	0	0	2.50	5.40	Girdling roots present	Wound-stem	Poor branch structure	...	...	...	-71.09268625	42.3096801
1346	Oak-Pin	Quercus palustris	Young	Good	High	6	0	0	0	0	0	2.50	5.40	Dead branches <=2	...	...	...	...	...	-71.09269454	42.30964894
1347	Oak-Pin	Quercus palustris	Semi-mature	Good	High	17	0	0	0	0	0	7.08	17.00	Dead branches <=2	Uneven crown	...	...	...	...	-71.09268524	42.30964585
1348	Oak-Pin	Quercus palustris	Semi-mature	Good	Moderate	10	7	0	0	0	0	5.63	13.50	Dead branches <=2	Uneven crown	Poor branch structure	Co-dominant stems	...	...	-71.09267177	42.30964481
1349	Oak-Black	Quercus velutina	Mature	Good	Moderate	47	0	0	0	0	0	19.58	54.29	Wound-root	Dead branches >2	...	...	...	...	-71.09256509	42.30952849
1350	Cherry-Black	Prunus serotina	Young	Fair	Moderate	3	0	0	0	0	0	1.25	3.27	Dead branches <=2	Uneven crown	...	...	...	...	-71.0943817	42.30942963
1351	Tree of Heaven	Ailanthus altissima	Young	Good	Moderate	3	0	0	0	0	0	1.25	2.43	Sweep	Poor branch structure	...	...	...	...	-71.09486611	42.30954532
1352	Tree of Heaven	Ailanthus altissima	Young	Fair	Low	4	0	0	0	0	0	1.67	3.56	Suppressed	Uneven crown	...	...	...	...	-71.09487512	42.30953391
1353	Tree of Heaven	Ailanthus altissima	Young	Good	Moderate	4	0	0	0	0	0	1.67	3.24	Co-dominant stems	...	...	...	...	...	-71.09492985	42.30953627
1354	Mulberry-Red	Morus rubra	Young	Fair	Low	8	0	0	0	0	0	3.33	7.92	Suppressed	Poor branch structure	...	...	...	...	-71.09489145	42.30948636
1355	Tree of Heaven	Ailanthus altissima	Young	Good	Moderate	4	0	0	0	0	0	1.67	3.24	Poor branch structure	...	...	...	...	...	-71.09484648	42.30949981
1356	Crabapple	Malus sp	Semi-mature	Poor	Low	17	0	0	0	0	0	7.08	21.25	Decay-stem	Low vigor	Storm damage	Suppressed	...	...	-71.09487301	42.30951396
1357	Tree of Heaven	Ailanthus altissima	Young	Good	Moderate	5	0	0	0	0	0	2.08	4.05	Poor branch structure	...	...	...	...	...	-71.09499808	42.3094099
1358	Tree of Heaven	Ailanthus altissima	Semi-mature	Good	Moderate	10	10	0	0	0	0	6.25	13.50	Poor branch structure	Co-dominant stems	...	...	...	...	-71.09499967	42.30940338
1359	Tree of Heaven	Ailanthus altissima	Young	Good	Moderate	6	0	0	0	0	0	2.50	4.86	Poor branch structure	...	...	...	...	...	-71.09499716	42.30939261
1360	Tree of Heaven	Ailanthus altissima	Young	Good	Moderate	6	0	0	0	0	0	2.50	4.86	Poor branch structure	...	...	...	...	...	-71.09501966	42.30938953
1361	Tree of Heaven	Ailanthus altissima	Young	Good	Moderate	6	0	0	0	0	0	2.50	4.86	Poor branch structure	...	...	...	...	...	-71.09501246	42.30940427
1362	Tree of Heaven	Ailanthus altissima	Young	Fair	Low	7	0	0	0	0	0	2.92	6.24	Decay-stem	Wound-stem	Poor branch structure	...	...	...	-71.09501961	42.30939907
1363	Cherry-Black	Prunus serotina	Young	Good	Moderate	3	0	0	0	0	0	1.25	2.97	Uneven crown	Poor branch structure	...	...	...	...	-71.09502744	42.30940673
1364	Tree of Heaven	Ailanthus altissima	Young	Good	Moderate	8	0	0	0	0	0	3.33	6.48	Uneven crown	Poor branch structure	...	...	...	...	-71.09503223	42.30941284
1365	Tree of Heaven	Ailanthus altissima	Young	Good	Moderate	8	0	0	0	0	0	3.33	6.48	Poor branch structure	...	...	...	...	...	-71.09502396	42.30942377
1366	Tree of Heaven	Ailanthus altissima	Young	Good	Moderate	6	0	0	0	0	0	2.50	4.86	Poor branch structure	...	...	...	...	...	-71.09501785	42.30942
1367	Cherry-Black	Prunus serotina	Young	Good	Moderate	3	0	0	0	0	0	1.25	2.97	Dead branches <=2	Uneven crown	Poor branch structure	...	...	...	-71.09501636	42.30942326
1368	Tree of Heaven	Ailanthus altissima	Young	Fair	Low	4	0	0	0	0	0	1.67	3.56	Suppressed	Wound-stem	...	...	...	...	-71.09517433	42.30870842
1369	Tree of Heaven	Ailanthus altissima	Young	Fair	Low	8	0	0	0	0	0	3.33	7.13	Wound-stem	Co-dominant stems	...	...	...	...	-71.09517244	42.3087062
1370	Tree of Heaven	Ailanthus altissima	Young	Good	Moderate	3	2	0	0	0	0	1.67	3.24	Dead branches <=2	Co-dominant stems	...	...	...	...	-71.09516578	42.30868303
1371	Tree of Heaven	Ailanthus altissima	Young	Good	Moderate	7	5	0	0	0	0	3.96	7.70	Poor branch structure	Co-dominant stems	...	...	...	...	-71.09516852	42.30867918
1372	Tree of Heaven	Ailanthus altissima	Young	Good	Moderate	5	0	0	0	0	0	2.08	4.05	Poor branch structure	...	...	...	...	...	-71.09515961	42.30865289
1373	Tupelo-Black	Nyssa sylvatica	Young	Good	Moderate	4	0	0	0	0	0	1.67	3.60	Sweep	Uneven crown	Poor branch structure	...	...	...	-71.09513301	42.30857742
1374	Tupelo-Black	Nyssa sylvatica	Young	Good	Moderate	7	5	5	3	0	0	5.63	12.15	Included bark	Co-dominant stems	...	...	...	...	-71.09514429	42.3085759
1375	Tupelo-Black	Nyssa sylvatica	Young	Good	Moderate	6	4	4	0	0	0	4.17	9.00	...	...	...	...	...	...	-71.09513589	42.30856792
1376	Tupelo-Black	Nyssa sylvatica	Young	Good	Moderate	6	0	0	0	0	0	2.50	5.40	Uneven crown	...	...	...	...	...	-71.09513515	42.30856846
1377	Tupelo-Black	Nyssa sylvatica	Young	Good	High	5	2	2	0	0	0	2.92	6.30	Included bark	Co-dominant stems	...	...	...	...	-71.09514258	42.30856384
1378	Tupelo-Black	Nyssa sylvatica	Young	Good	Moderate	6	0	0	0	0	0	2.50	5.40	Uneven crown	...	...	...	...	...	-71.09512133	42.30856581
1379	Tupelo-Black	Nyssa sylvatica	Young	Good	Moderate	4	3	0	0	0	0	2.29	4.95	Uneven crown	Co-dominant stems	...	...	...	...	-71.09512462	42.30855351

Tree ID	Common Name	Scientific Name	Age Class	Condition Class	Suitability For Preservation	Dbh 1	Dbh 2	Dbh 3	Dbh 4	Dbh 5	Dbh 6	CRZ	TPZ	Tree Observation Type 1	Tree Observation Type 2	Tree Observation Type 3	Tree Observation Type 4	Tree Observation Type 5	Tree Observation Type 6	Longitude	Latitude
1380	Tupelo-Black	Nyssa sylvatica	Young	Good	High	3	0	0	0	0	0	1.25	2.70	Poor branch structure	...	...	...	...	...	-71.0951092	42.30845114
1381	Tupelo-Black	Nyssa sylvatica	Young	Good	High	3	0	0	0	0	0	1.25	2.70	Poor branch structure	...	...	...	...	...	-71.09510746	42.30844143
1382	Tupelo-Black	Nyssa sylvatica	Young	Good	High	4	0	0	0	0	0	1.67	3.60	Poor branch structure	...	...	...	...	...	-71.09509645	42.30841799
1383	Tupelo-Black	Nyssa sylvatica	Young	Good	High	3	0	0	0	0	0	1.25	2.70	Uneven crown	Poor branch structure	...	...	...	...	-71.09508992	42.30841145
1384	Tupelo-Black	Nyssa sylvatica	Young	Good	High	3	0	0	0	0	0	1.25	2.70	Sweep	...	...	...	...	...	-71.09506881	42.30832366
1385	Tupelo-Black	Nyssa sylvatica	Young	Good	High	4	0	0	0	0	0	1.67	3.60	Uneven crown	...	...	...	...	...	-71.0950688	42.30831742
1386	Tree of Heaven	Ailanthus altissima	Young	Poor	Low	4	4	0	0	0	0	2.50	6.08	Growing against object	Poor branch structure	Co-dominant stems	...	...	...	-71.09507039	42.30831469
1387	Tree of Heaven	Ailanthus altissima	Young	Dead	Low	4	0	0	0	0	0	1.67	0.00	Dead/dying stem	...	...	...	...	...	-71.09526444	42.30823391
1388	Catalpa-Northern	Catalpa speciosa	Young	Fair	Moderate	4	0	0	0	0	0	1.67	3.96	Uneven crown	...	...	...	...	...	-71.09560767	42.30820227
1389	Cherry-Black	Prunus serotina	Young	Fair	Low	7	0	0	0	0	0	2.92	7.62	Poor branch structure	...	...	...	...	...	-71.09613555	42.30836943
1390	Sumac	Rhus sp	Young	Poor	Low	3	0	0	0	0	0	1.25	3.38	Lean	Low vigor	Soil heaving	...	...	...	-71.09614562	42.30840721
1391	Sumac	Rhus sp	Young	Poor	Low	4	4	4	4	0	0	4.17	11.25	Lean	Soil heaving	...	...	...	...	-71.09614215	42.30843343
1392	Sumac	Rhus sp	Young	Poor	Low	4	4	4	0	0	0	3.33	9.00	Lean	Soil heaving	...	...	...	...	-71.09613576	42.30844841
1393	Sumac	Rhus sp	Young	Poor	Low	4	4	3	0	0	0	3.13	8.44	Growing against object	Lean	Soil heaving	...	...	...	-71.09614474	42.30845877
1394	Sumac	Rhus sp	Young	Poor	Low	4	4	4	4	3	3	5.42	14.63	Lean	Soil heaving	...	...	...	...	-71.09616306	42.30847467
1395	Sumac	Rhus sp	Young	Dead	Low	4	0	0	0	0	0	1.67	0.00	Dead/dying stem	Lean	...	...	...	...	-71.09617238	42.3085084
1396	Sumac	Rhus sp	Young	Poor	Low	4	3	3	0	0	0	2.92	7.88	Growing against object	Lean	Soil heaving	...	...	...	-71.09616634	42.30851631
1397	Sumac	Rhus sp	Young	Poor	Low	3	0	0	0	0	0	1.25	3.38	Growing against object	Low vigor	...	...	...	...	-71.09616711	42.30854291
1398	Crabapple	Malus sp	Young	Fair	Low	5	3	0	0	0	0	2.71	6.44	Poor branch structure	Co-dominant stems	...	...	...	...	-71.09707101	42.30927051
1399	Corktree-Amur	Phellodendron amurens	Young	Good	Moderate	6	0	0	0	0	0	2.50	5.40	Poor branch structure	...	...	...	...	...	-71.09647025	42.30861982
1400	Corktree-Amur	Phellodendron amurens	Young	Good	Moderate	3	0	0	0	0	0	1.25	2.70	Poor branch structure	...	...	...	...	...	-71.09643046	42.30849183
1401	Oak-Pin	Quercus palustris	Mature	Poor	Low	30	0	0	0	0	0	12.50	41.25	Dead branches <=2	Growing against object	...	...	...	...	-71.0962292	42.30889756
1402	Tree of Heaven	Ailanthus altissima	Young	Good	Low	4	0	0	0	0	0	1.67	3.24	Uneven crown	...	...	...	...	...	-71.09609686	42.3084131
1403	Cherry-Black	Prunus serotina	Young	Fair	High	9	5	5	0	0	0	5.83	15.25	Growing against object	Poor branch structure	Co-dominant stems	Buried root collar	...	...	-71.09573717	42.30784559
1404	Corktree-Amur	Phellodendron amurens	Young	Fair	Low	6	0	0	0	0	0	2.50	5.94	Dead branches <=2	Uneven crown	...	...	...	...	-71.09608355	42.30839095
1405	Corktree-Amur	Phellodendron amurens	Young	Fair	Low	6	0	0	0	0	0	2.50	5.94	Uneven crown	...	...	...	...	...	-71.0960747	42.30837458
1406	Corktree-Amur	Phellodendron amurens	Young	Fair	Low	5	4	4	2	0	0	4.17	9.90	Poor branch structure	Co-dominant stems	...	...	...	...	-71.09606574	42.30836655
1407	Cherry-Black	Prunus serotina	Semi-mature	Fair	Moderate	9	0	0	0	0	0	3.75	10.89	Dead branches <=2	Low vigor	Uneven crown	...	...	...	-71.09514492	42.30831108
1408	Birch-Gray	Betula populifolia	Semi-mature	Poor	Low	3	2	0	0	0	0	1.67	5.00	Dieback (moderate)	Low vigor	...	...	...	...	-71.09511253	42.3083553
1409	Oak-Pin	Quercus palustris	Mature	Good	High	20	0	0	0	0	0	8.33	22.00	Dead branches >2	...	...	...	...	...	-71.09512546	42.30836901
1410	Mulberry-Red	Morus rubra	Semi-mature	Poor	Low	12	10	9	0	0	0	8.96	26.88	Uneven crown	Poor branch structure	Dead branches >2	Co-dominant stems	...	...	-71.09512037	42.30838253
1411	Cherry-Black	Prunus serotina	Semi-mature	Fair	Moderate	8	3	0	0	0	0	3.96	11.50	Dead branches <=2	Uneven crown	Co-dominant stems	...	...	...	-71.09512336	42.3084217
1412	Cherry-Black	Prunus serotina	Semi-mature	Poor	Low	9	8	5	0	0	0	6.46	21.31	Low vigor	Poor branch structure	Dead branches >2	Co-dominant stems	...	...	-71.09514376	42.30844358
1413	Corktree-Amur	Phellodendron amurens	Young	Poor	Low	3	3	3	3	3	3	4.38	11.81	Poor branch structure	Co-dominant stems	...	...	...	...	-71.09591301	42.30797308
1414	Birch-Gray	Betula populifolia	Semi-mature	Poor	Low	8	6	3	2	2	0	6.04	18.13	Low vigor	Poor branch structure	Dead branches >2	Co-dominant stems	...	...	-71.0960311	42.30802766
1415	Waferash	Ptelea trifoliata	Semi-mature	Poor	Low	6	6	6	4	4	4	7.50	22.50	Low vigor	Poor branch structure	Dead branches >2	Co-dominant stems	Buried root collar	...	-71.09612956	42.30806119
1416	Corktree-Amur	Phellodendron amurens	Semi-mature	Fair	Low	3	2	2	2	0	0	2.50	6.60	Poor branch structure	Co-dominant stems	...	...	...	...	-71.09603527	42.30808901
1434	Cherry-Black	Prunus serotina	Young	Poor	Low	3	2	2	2	0	0	2.50	7.43	Decay-root flare	Poor branch structure	Co-dominant stems	...	...	...	-71.0964154	42.30847386
1435	Cherry-Black	Prunus serotina	Young	Fair	Low	3	3	0	0	0	0	1.88	4.90	Suppressed	Poor branch structure	Co-dominant stems	...	...	...	-71.09642258	42.30845742
1436	Oak-Pin	Quercus palustris	Young	Good	High	5	0	0	0	0	0	2.08	4.50	Dead branches <=2	Uneven crown	Poor branch structure	Co-dominant stems	...	...	-71.09638221	42.30842626
1437	Corktree-Amur	Phellodendron amurens	Young	Good	Moderate	5	0	0	0	0	0	2.08	4.50	Uneven crown	...	...	...	...	...	-71.09637471	42.30841105
1438	Cherry-Black	Prunus serotina	Young	Poor	Low	4	4	3	2	0	0	3.54	10.52	Dead branches <=2	Low vigor	Co-dominant stems	...	...	...	-71.0963727	42.30839271
1439	Honeysuckle	Lonicera sp	Young	Poor	Low	4	0	0	0	0	0	1.67	4.50	Low vigor	Dead branches >2	...	...	...	...	-71.09628997	42.30821895
1440	Cherry-Black	Prunus serotina	Young	Good	Moderate	6	4	0	0	0	0	3.33	7.92	Poor branch structure	Co-dominant stems	...	...	...	...	-71.09631224	42.30822245
1441	Cherry-Black	Prunus serotina	Young	Fair	Low	6	0	0	0	0	0	2.50	6.53	Poor branch structure	Dead branches >2	...	...	...	...	-71.09634729	42.30821245



Condition: Good · Fair · Poor · Dead



Suitability for Preservation: High Moderate Low

Appendix:

The following pages contain the two original Tree Surveys and Conditions Assessments, as received from Bartlett Tree Experts on December 22, 2023 and May 6, 2024.

White Stadium
Boston, MA

Tree Preservation Report

PREPARED FOR:

Crowley Cottrell
171 Milk Street
Boston, MA 02109

PREPARED BY:

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BARTLETT TREE EXPERTS
SCIENTIFIC TREE CARE SINCE 1907

Submitted on December 22, 2023

Table of Contents

Summary

Bartlett Tree Experts was retained to evaluate trees at White Stadium, located at 450 Walnut Avenue in Boston, MA. These trees were on the eastern side of White Stadium. Bartlett Tree Experts was also asked to prepare a Tree Preservation Report for the trees.

Seventy-two trees were evaluated on site for health and structural condition on December 14, 2023. Existing site maps were supplied by Crowley Cottrell, however no design plans were considered during this assessment. This evaluation was only based on the assumption of the demolition of the existing infrastructure. No assumptions were made concerning the final design or any site plans that may exist following the demolition of the existing infrastructure.

It was determined that multiple trees were in dead or poor condition and may not survive long term, regardless of construction activities. Other trees in good or fair condition are more likely to survive if care and precautions are taken to limit impacts during construction. Trees of an undesirable species or are in poor condition may also be appropriate to remove during the construction process. Trees where roots may sustain significant damage by construction activities are not recommended for retention. Additionally, mature trees are more difficult to retain during construction activities than younger trees.

To help reduce construction impacts to the trees if they are to be preserved, Tree Preservation Guidelines have been provided in this report.

Introduction

Crowley Cottrell will be re-developing White Stadium located at 450 Walnut Avenue in Boston, MA. Bartlett Tree Experts was asked to evaluate the trees and prepare a Tree Preservation Report.

Assignment

This report communicates the anticipated impacts to trees from construction to the client. The report is designed to provide the design team/construction contractors with the tree-related details they will need to prepare a Tree Preservation Plan to meet that requirement, including:

- observations of the health and structural condition of the trees,
- determination of potential for being retained through construction,
- evaluation of the potential impacts to trees, and
- guidelines for tree preservation throughout the development process

Limits of the Assignment

Trees were assessed from the ground for visual conditions. This tree inventory was not a tree risk assessment. As such, no trees were assessed for risk in accordance with industry standards, nor are there any tree risk ratings or risk mitigation recommendations provided within this report.

Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.

Illustrations, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.

Information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection. There is no warranty or guarantee, expressed or implied, that problems of deficiencies of the plans or property in question may not arise in the future.

There is no guarantee for the preservation of the trees contained in this report, however, the preservation report is made with the best interest intended for the trees being preserved.

Methods

Trees were assessed on December 14, 2023. The assessment was of seventy-two trees along the eastern side of the existing stadium infrastructure. Construction activities were proposed throughout the stadium area, however only the eastern side was considered in this assessment. The provided site map is provided in Appendix I.

1. Identifying the species of tree;
2. Measuring the trunk diameter at a point 54 inches above grade;
3. Evaluating the health and structural condition:
4. Evaluating if planned construction activities eliminate potential for tree retention.

Good A healthy tree that may have a slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected;

Fair Tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care;

Poor Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated;

Observations

The trees were located to the east of an existing track stadium located in Boston, Massachusetts. The area of focus was identified by Crowley Cottrell in a map that may be found in Appendix II. Seventy-two trees were located in the focus area. Generally, these trees were primarily large and mature trees that have developed in a park-like setting. Multiple trees were observed to be close to existing stadium infrastructure. Many others were further from the existing footprint of the stadium and were surrounded by maintained grassy areas.

These findings may be summarized in the following table.

TABLE 1: TREE CONDITION AND ABUNDANCE

Common Name	Scientific Name	Dead	Poor	Fair	Good	Total
Maple-Red	*Acer rubrum*	-	1	-	-	1
Maple-Sugar	*Acer saccharum*	-	-	-	1	1
Tree of Heaven	*Ailanthus altissima*	-	1	2	-	3
Hickory-Mockernut	*Carya tomentosa*	-	-	-	1	1
Dogwood-Flowering	*Cornus florida*	-	1	-	-	1
Tupelo-Black	*Nyssa sylvatica*	-	-	-	1	1
Hophornbeam-American	*Ostrya virginiana*	-	-	1	-	1
Cherry-Black	*Prunus serotina*	-	1	1	-	2
Oak-Swamp White	*Quercus bicolor*	-	-	-	2	2
Oak-Pin	*Quercus palustris*	-	1	9	24	34
Oak-Northern Red	*Quercus rubra*	1	1	8	6	16

Common Name	Scientific Name	Dead	Poor	Fair	Good	Total
Oak-Black	*Quercus velutina*	-	-	-	1	1
Locust-Black	*Robinia pseudoacacia*	-	-	1	-	1
Yew	*Taxus sp.*	-	1	2	-	3
Linden-Littleleaf	*Tilia cordata*	-	2	-	2	4
Total		1	9	24	38	72

To summarize the determined suitability for preservation ratings of the trees observed at White Stadium:

- Twelve trees were determined to have a high suitability for preservation rating;
- Thirty trees received a moderate suitability for preservation rating;
- Thirty trees were determined to have a low suitability for preservation rating.

Additional images of select trees and the site can be found in Appendix III.

Tree Impacts

Tree Protection Zones (TPZ) and Critical Root Zones (CRZ) were calculated for all trees existing on the site for the purposes of illustrating how much space would be required for trees growing in an open area. The Tree Protection Zone (TPZ) and Critical Root Zone (CRZ) values can be found on the Tree Inventory Table (Appendix II).

The Tree Protection Zone is an area surrounding the tree in which most of the tree's water and nutrient uptake occurs. The TPZ is an area in which construction activities are prohibited or restricted in order to safeguard tree health, especially before and during construction. This value was based on condition rating, age class, and species tolerance of construction activity. Generally, trees that are young and in good condition are more able to tolerate damage associated with construction activities than those that are mature, stressed, or in low vigor. Trees that are in poor condition prior to construction activities even have the potential to continue to decline regardless of any construction occurring.

The TPZ also includes the Critical Root Zone, which is a smaller circular area located directly next to the trunk. The Critical Root Zone has roots that are the most important to tree health and structural stability. The CRZ was calculated based on tree Diameter at Breast Height (DBH). On this site, trees close to paved surfaces and proximity to existing infrastructure may impact the shapes of root zones. Compacted conditions associated with hardscape may be a more difficult place for roots to grow.

No site plans documents were reviewed in order to view specific impacts to trees. Conversation on site with Crowley Cottrell suggested that the existing infrastructure is planned to be demolished. Multiple trees were observed to be growing adjacent to existing infrastructure. Some trees were touching or almost touching the existing walls to be demolished. The existing infrastructure is within the TPZ, or even CRZ, of additional trees. It may not be possible to retain these trees during the demolition process.

The potential to retain these trees also depends on the site construction planned to build the new infrastructure. The footprint of the new stadium itself and the access required to build the new stadium may seriously impact existing trees. Heavy machinery operation, excavation, equipment storage, and many other construction processes have the potential to negatively

impact existing trees. The trees anticipated to be the most impacted by demolition activities were given a low suitability for preservation rating. This rating, in some cases, was independent of condition class and other tree-related factors because of the severity of the anticipated impacts to trees.

Trees that are further away from the existing stadium may be more suitable to retain during construction. It is important to note that many trees in these areas were mature. Mature trees are generally less tolerant of construction and the stresses associated with such activities. For that reason, many trees were determined to have a moderate suitability for preservation rating even if they were found to be in generally good condition. Extra care may be required in order to maintain tree health and vigor sustainably during construction.

Other factors that may have contributed to suitability for preservation rating include desirability of the species, significant structural defects, and tree species tolerance to construction. For example, some trees were identified to be undesirable species. These species included black locust, Tree of Heaven, and black cherry. These trees were also given a lower suitability for preservation rating than trees of a more desirable species such as pin oak. Trees with significant structural defects such as do-dominant stems with included bark or decay were given lower suitability for preservation ratings than those without those defects present. And finally, tree species known to be intolerant of construction activities, such as sugar maple, were given a lower suitability for preservation rating.

Tree Preservation Guidelines

Tree preservation is intended to not only foster tree survival during development, but also to promote maintenance of tree health and beauty into the future. Retained trees that are injured or damaged during construction or are insufficiently maintained afterward become a liability rather than an asset. How individual trees respond to disturbances will depend on the extent of excavation and grading, the care with which demolition is undertaken, and the construction methods employed. Coordinating any construction activity inside the Tree Protection Zone (TPZ) can minimize these impacts.

The following recommendations will reduce impacts to trees from development and maintain and improve their health and vitality through the clearing, grading and construction phases.

Design Recommendations

1. Any plans involving the trees should be reviewed by the consulting arborist with regard to tree impacts. These include, but are not limited to, site plans, improvement plans, utility and drainage plans, grading plans, landscape and irrigation plans, and demolition plans.
2. No excavation or impacts to the Critical Root Zone shall be planned unless approved by the Consulting Arborist.
3. Irrigation systems must be designed so that no trenching severs roots larger than 1 inch in diameter will occur within the Tree Protection Zone.
4. **Tree Preservation Guidelines** prepared by the Consulting Arborist, which include specifications for tree protection during demolition and construction, should be included on all plans.
5. Any herbicides used must be safe for use around trees and labeled for that use.

6. Ensure adequate but not excessive water is supplied to trees; in most cases occasional irrigation will be required. Avoid directing runoff toward trees.

Tree Protection Zone

1. A Tree Protection Zone shall be identified for each tree to be preserved. Tree protections zone distances are listed above in the Tree Impacts section. In this case, the Tree Protection Zone is also synonymous with the tree pit area because that is the only available growing space for trees.
    a. Tree protection fences shall be installed to encompass the Tree Protection Zone, or as much of the Tree Protection Zone as possible to complete construction activities. Fences shall be metal chain-link fencing a minimum of 6 feet high, supported by 2 inch x 6 foot steel posts installed 8 feet on center. For trees that are surrounded by paved surfaces, posts and fencing must be installed to protect tree pit areas. The fencing must not be movable in a way that bumping fencing may cause damage to the tree or tree pit area.
    b. Fences must be installed prior to beginning demolition and must remain until construction is complete.
    c. No grading, excavation, construction or storage or dumping of materials shall occur within the Tree Protection Zone.
    d. No underground services including utilities, sub-drains, water or sewer shall be placed in the Tree Protection Zone.

Pre-demolition and Pre-construction Treatments and Recommendations

1. The demolition and construction superintendents shall meet with the Consulting Arborist before beginning work to review all work procedures, access routes, storage areas, and tree protection measures.
2. Fence all trees to be retained to completely enclose the Tree Protection Zone prior to demolition, grubbing or grading. Fences are to remain until all grading and construction is completed.
3. A site mobilization plan should be created, if not done so already, to communicate acceptable driving and operating areas for machinery. This plan should ensure that oversized vehicles do not operate in a way that may cause damage to tree canopies or impact tree protection fences.
4. Erosion control should be deployed in a fashion that does not negatively impact Critical Root Zones or Tree Protection Zones. Trenchless silt fence is preferred in order to reduce impacts to roots.
5. Prune trees to be preserved to remove dead branches 2 inches and larger in diameter, raise canopies and provide building clearance as needed for construction activities. No more than 20% of live tree canopies may be removed.
    a. All pruning shall be done by an ISA Certified Arborist® or ISA Certified Tree Worker® in accordance with the Best Management Practices for Pruning (International Society of Arboriculture, 2019) and adhere to the most recent editions of the American National Standard Z133.1 Safety Requirements 2017 for Tree Care Operations and ANSI A300 (Part 1)- Pruning 2017.

   b. While in the tree (such as using an aerial lift) the arborist shall perform an aerial inspection to identify any defects, weak branch and trunk attachments and decay not visible from the ground. Any additional work needed to mitigate defects shall be reported to the property owner.

6. Soil samples may reveal nutrient deficiencies or excess within the tree pits. The findings of these soil samples will guide specific soil treatments that should be applied. The soil should be monitored during construction. Soil samples may be taken once per year and should continue until at least three years following the completion of construction.
7. Trees to be removed shall be felled so as to fall away from the Tree Protection Zone and avoid pulling and breaking of roots of trees to remain. If roots are entwined, the Consulting Arborist may require first severing the major woody root mass before extracting the trees, or grinding the stump below ground.

Recommendations for Tree Protection during Construction

1. Any approved grading, construction, demolition or other work within the Tree Protection Zone should be monitored by the Consulting Arborist.
2. All contractors shall conduct operations in a manner that will prevent damage to trees to be preserved. This includes all stages of construction, including but not limited to, curb removal, hardscape installation, and infrastructure installation. Driving heavy machinery within the Tree Protection Zone and Critical Root Zone is not permitted.
3. Tree protection devices are to remain until all site work has been completed within the work area. Fences or other protection devices may not be relocated or removed without permission of the Consulting Arborist.
4. Construction trailers, traffic and storage areas must remain outside the Tree Protection Zone at all times.
5. Any root pruning required for construction purposes shall receive the prior approval of and be supervised by the Consulting Arborist. Roots should be cut with a saw to provide a flat and smooth cut. Removal of roots larger than 2 inches in diameter should be avoided.
6. If roots are 2 inches and greater in diameter are encountered during site work and must be cut to complete the construction, the Consulting Arborist must be consulted to evaluate effects on the health and stability of the tree and recommend treatment.
7. Prior to grading or trenching, trees may require root pruning outside the Tree Protection Zone**.** Any root pruning required for construction purposes shall receive the prior approval of, and be supervised by, the Consulting Arborist.
8. If injury should occur to any tree during construction, it should be evaluated as soon as possible by the Consulting Arborist so that appropriate treatments can be applied.
9. No excess soil, chemicals, debris, equipment or other materials including liquids shall be dumped or stored within the Tree Protection Zone.
10. Any additional tree pruning needed for clearance during construction must be performed by an ISA Certified Arborist and not by construction personnel.

Maintenance of Impacted Trees

Preserved trees will experience a physical environment different from that of the pre-development conditions. As a result, tree health and structural stability should be monitored. Occasional pruning, fertilization, mulch, pest management, replanting and irrigation may be required. In addition, provisions for monitoring both tree health and structural stability following construction must be made a priority. Inspect trees annually and following major storms to identify conditions requiring treatment to manage risk associated with tree failure.

Our procedures included assessing trees for observable defects in structure. This is not to say that trees without significant defects will not fail. Failure of apparently defect-free trees does occur, especially during storm events. Wind forces, for example, can exceed the strength of defect-free wood causing branches and trunks to break. Wind forces coupled with rain can saturate soils, reducing their ability to hold roots, and blow over defect-free trees. Although we cannot predict all failures, identifying those trees with observable defects is a critical component of enhancing public safety.

Furthermore, trees change over time. Our inspections represent the condition of the tree at the time of inspection. As trees age, the likelihood of failure of branches or entire trees increases. Annual tree inspections are recommended to identify changes to tree health and structure. In addition, trees should be inspected after storms of unusual severity to evaluate damage and structural changes. Initiating these inspections is the responsibility of the client and/or tree owner.

If you have any questions about my observations or recommendations, please contact me.

Kat Cummings
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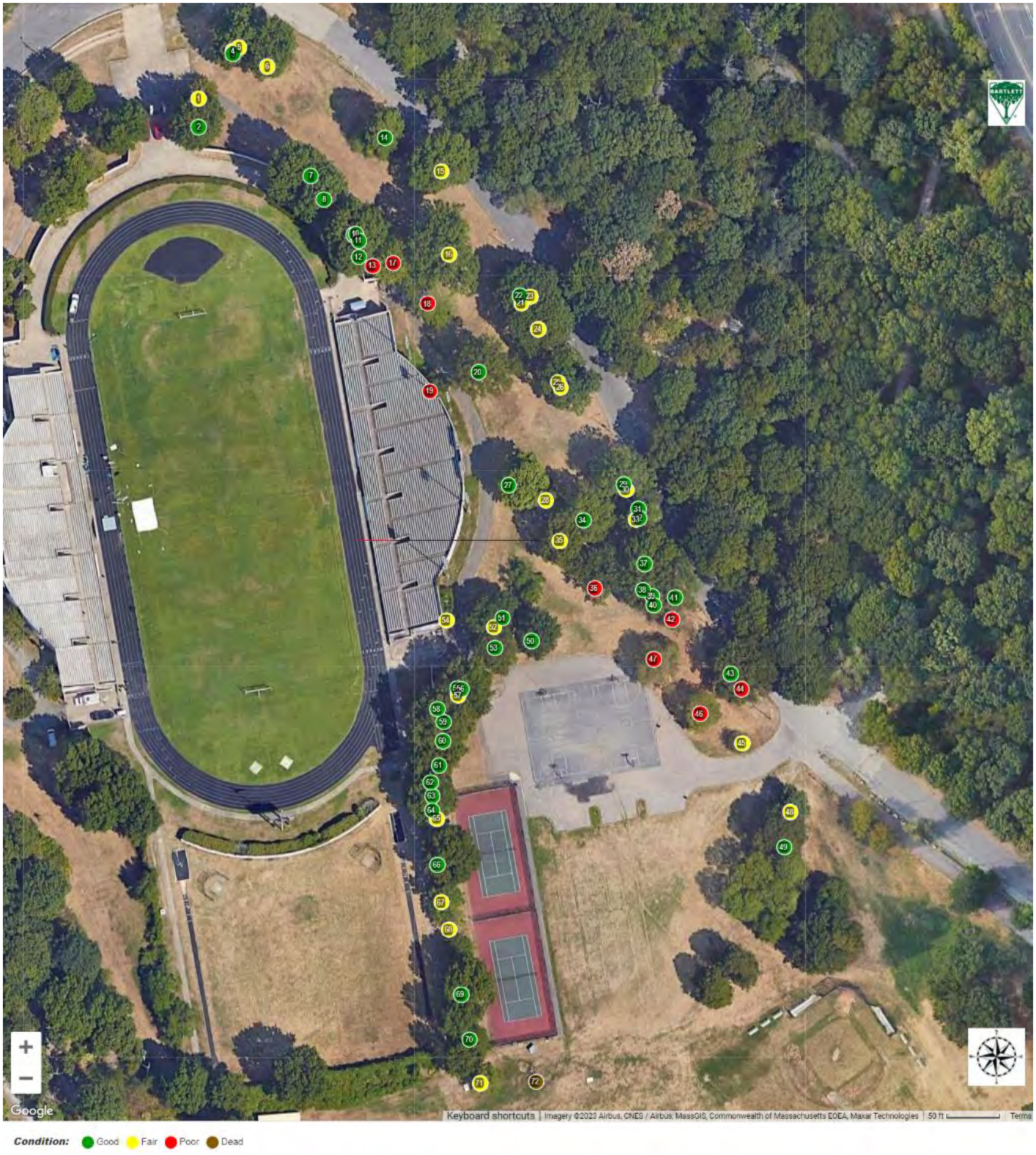
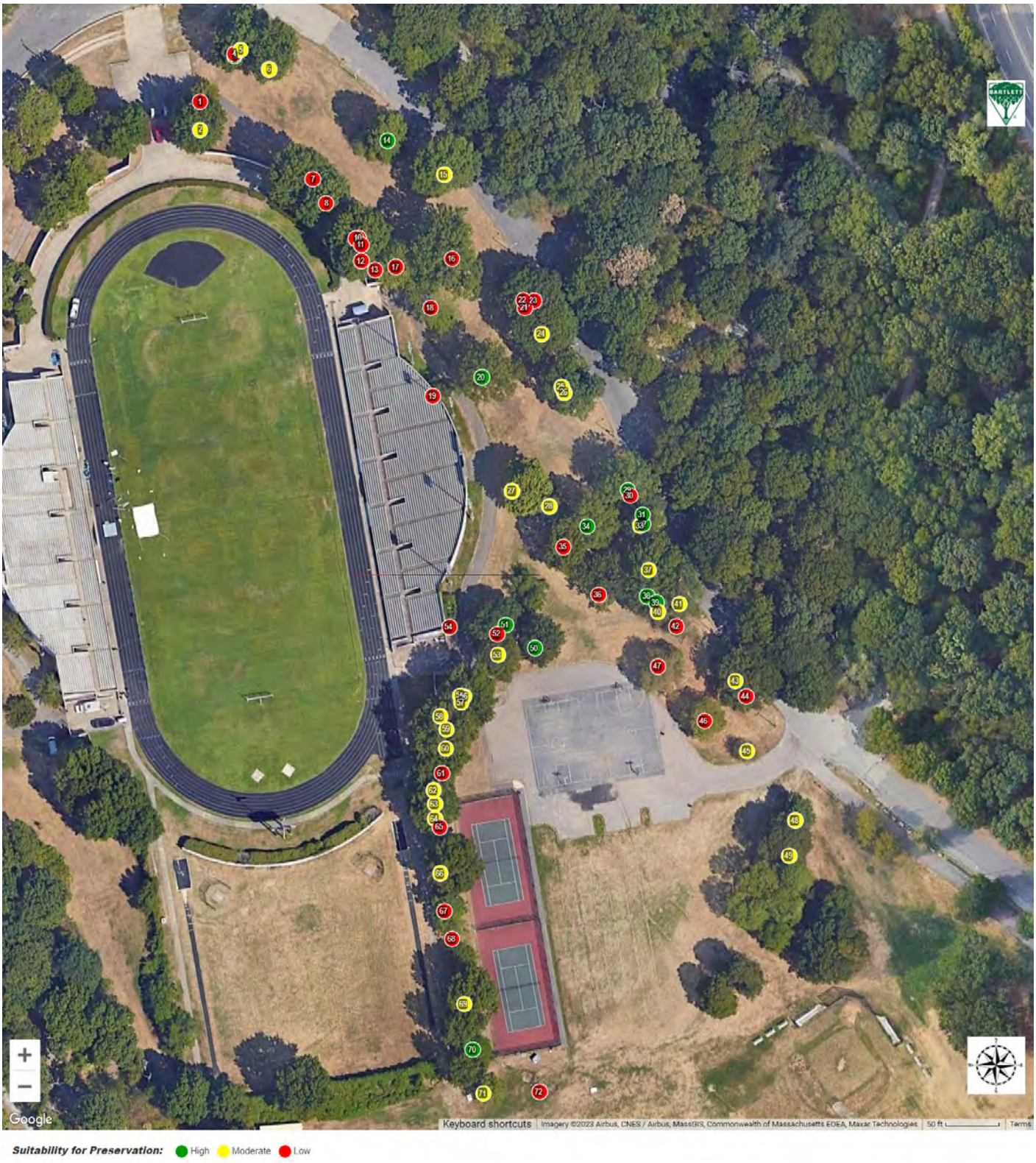
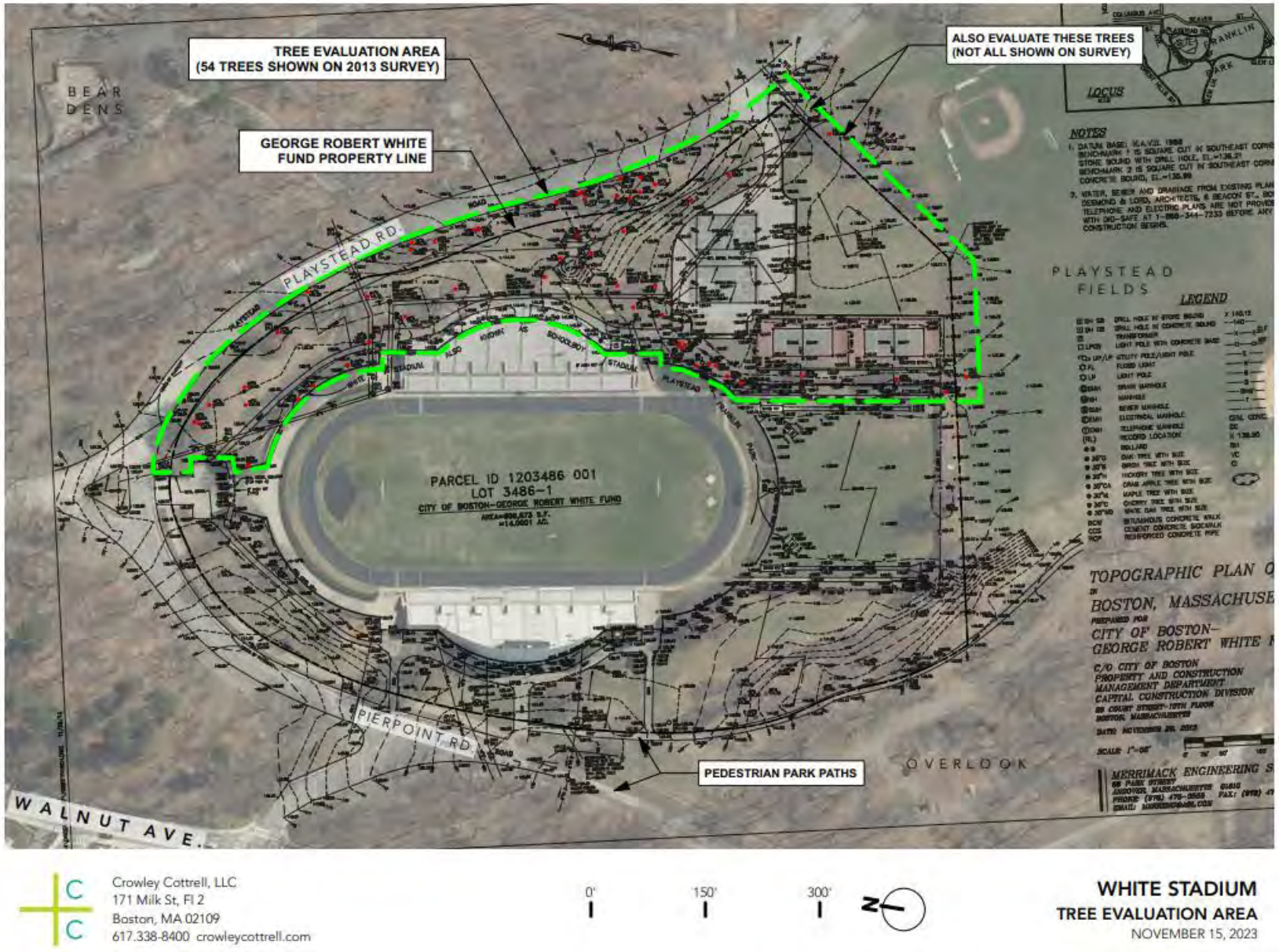
Appendix I –Maps and Provided Documents



Map 1. Condition map generated using the Arborscope program. This map shows all trees included in this report and their assigned condition classes recorded during the site visit on December 14, 2023.



Map 2. Suitability for preservation map generated using the Arborscope program. This map shows all trees included in this report and their assigned suitability for preservation rating recorded during the site visit on December 14, 2023.



Map 3. Existing site map provided by Crowley Cottrell. This map highlights the desired tree evaluation area. Additional trees than outlined were included in the tree inventory.

Appendix II – Tree Inventory Table

Tree ID	Common Name	Condition Class	DBH (inches)*	Age Class	Suitability For Preservation	TPZ (feet)	CRZ (feet)
1	Yew	Fair	18	Semi-mature	Low	19.80	7.50
2	Oak-Pin	Good	33	Mature	Moderate	36.30	13.75
3	Oak-Pin	Good	26	Mature	High	28.60	10.83
4	Oak-Pin	Fair	6	Young	Low	5.94	2.50
5	Oak-Northern Red	Fair	32	Mature	Moderate	40.66	13.33
6	Oak-Pin	Fair	42	Mature	Moderate	50.82	17.50
7	Oak-Pin	Good	35	Mature	Low	38.50	14.58
8	Oak-Northern Red	Good	33	Mature	Low	38.12	13.75
9	Oak-Pin	Good	25	Mature	Low	27.50	10.42
10	Oak-Pin	Good	18	Mature	Low	19.80	7.50
11	Oak-Pin	Good	25	Mature	Low	27.50	10.42
12	Oak-Pin	Good	24	Mature	Low	26.40	10.00
13	Dogwood-Flowering	Poor	6	Young	Low	7.43	2.50
14	Oak-Pin	Good	24	Mature	High	26.40	10.00
15	Oak-Pin	Fair	41	Mature	Moderate	49.61	17.08
16	Oak-Pin	Fair	58	Mature	Low	70.18	24.17
17	Maple-Red	Poor	22	Mature	Low	30.25	9.17
18	Tree of Heaven	Poor	32	Mature	Low	44.00	13.33
19	Yew	Poor	11	Semi-mature	Low	13.75	4.58
20	Oak-Pin	Good	30	Mature	High	33.00	12.50
21	Oak-Northern Red	Fair	14	Semi-mature	Low	16.17	5.83
22	Oak-Northern Red	Good	17	Semi-mature	Low	17.85	7.08
23	Oak-Northern Red	Fair	16	Semi-mature	Low	18.48	6.67
24	Oak-Northern Red	Fair	37	Mature	Moderate	47.01	15.42
25	Oak-Northern Red	Fair	19	Mature	Moderate	24.14	7.92
26	Oak-Northern Red	Fair	41.5	Mature	Moderate	52.73	17.29
27	Maple-Sugar	Good	30	Mature	Moderate	36.30	12.50
28	Oak-Pin	Fair	10.5	Young	Moderate	10.40	4.38
29	Oak-Pin	Good	27	Young	High	24.30	11.25

Tree ID	Common Name	Condition Class	DBH (inches)*	Age Class	Suitability For Preservation	TPZ (feet)	CRZ (feet)
30	Oak-Pin	Fair	18	Semi-mature	Low	19.80	7.50
31	Oak-Northern Red	Good	11	Semi-mature	High	11.55	4.58
32	Oak-Pin	Good	11	Semi-mature	High	11.00	4.58
33	Oak-Pin	Fair	17.5	Semi-mature	Moderate	19.25	7.29
34	Oak-Pin	Good	29	Mature	High	31.90	12.08
35	Oak-Pin	Fair	29	Mature	Low	35.09	12.08
36	Oak-Pin	Poor	31	Mature	Low	42.63	12.92
37	Oak-Pin	Good	29.5	Mature	Moderate	32.45	12.29
38	Oak-Pin	Good	25	Mature	High	27.50	10.42
39	Oak-Pin	Good	13	Semi-mature	High	13.00	5.42
40	Oak-Swamp White	Good	11.5	Semi-mature	Moderate	11.50	4.79
41	Hickory-Mockernut	Good	23	Mature	Moderate	27.83	9.58
42	Cherry-Black	Poor	18	Semi-mature	Low	24.75	7.50
43	Oak-Northern Red	Good	30	Mature	Moderate	34.65	12.50
44	Oak-Northern Red	Poor	7	Young	Low	8.27	2.92
45	Hophornbeam-American	Fair	9	Young	Moderate	8.91	3.75
46	Linden-Littleleaf	Poor	22	Mature	Low	30.25	9.17
47	Linden-Littleleaf	Poor	31	Mature	Low	42.63	12.92
48	Oak-Northern Red	Fair	13	Semi-mature	Moderate	15.02	5.42
49	Linden-Littleleaf	Good	29	Mature	Moderate	31.90	12.08
50	Oak-Northern Red	Good	21	Mature	High	24.26	8.75
51	Oak-Northern Red	Good	15	Mature	High	17.33	6.25
52	Tree of Heaven	Fair	36	Mature	Low	43.56	15.00
53	Linden-Littleleaf	Good	29	Mature	Moderate	31.90	12.08
54	Yew	Fair	18.5	Young	Low	18.32	7.71
55	Oak-Pin	Good	22	Semi-mature	Moderate	22.00	9.17
56	Oak-Pin	Good	21	Mature	Moderate	23.10	8.75
57	Oak-Pin	Fair	27	Mature	Moderate	32.67	11.25
58	Oak-Pin	Good	20	Mature	Moderate	22.00	8.33
59	Oak-Pin	Good	43	Mature	Moderate	47.30	17.92
60	Oak-Pin	Good	18	Mature	Moderate	19.80	7.50

Tree ID	Common Name	Condition Class	DBH (inches)*	Age Class	Suitability For Preservation	TPZ (feet)	CRZ (feet)
61	Oak-Black	Good	19	Mature	Low	21.95	7.92
62	Oak-Swamp White	Good	17.5	Mature	Moderate	19.25	7.29
63	Oak-Pin	Good	28	Mature	Moderate	30.80	11.67
64	Oak-Pin	Good	23	Mature	Moderate	25.30	9.58
65	Locust-Black	Fair	11	Mature	Low	13.31	4.58
66	Oak-Pin	Good	32	Mature	Moderate	35.20	13.33
67	Tree of Heaven	Fair	20.5	Mature	Low	24.81	8.54
68	Cherry-Black	Fair	14.5	Semi-mature	Low	17.55	6.04
69	Oak-Pin	Good	31	Mature	Moderate	34.10	12.92
70	Tupelo-Black	Good	12	Semi-mature	High	12.00	5.00
71	Oak-Northern Red	Fair	13	Semi-mature	Moderate	15.02	5.42
72	Oak-Northern Red	Dead	9	Young	Low	0.00	0.00

* DBH values were adjusted to reflect multiple stems where applicable. In the case of a tree with multiple stems, the DBH of the largest stem was added to the half of any other additional stems observed.

The tree identified with red lettering in this table was identified as dead at the time of the site visit and does not have calculated TPZ or CRZ values. This tree should be removed regardless of any site construction plans.

Appendix III – Selected Tree Images

Photo 1. Image of existing stadium infrastructure on the eastern side of White Stadium.

Photo 2. Image of multiple trees (Trees 7-13) growing along the existing stadium wall. These trees, though in good condition, were determined to have a low suitability for preservation. This is because, based on conversation with Crowley Cottrell, demolition was planned for the existing structure. It would be impossible to demolish the existing wall without seriously impacting the tree root zones. Even if demolition were not planned, these trees would continue to grow and will likely negatively impact the adjacent infrastructure.

Photo 3. Image focusing on Trees 10, 11, and 12. These trees are located very close to the existing wall. Tree 12 was observed very close to touching the existing wall.

Photo 4. Image of Trees 1-3.

Photo 5. Image of Tree 16. This tree was the largest tree observed in the site area. It was determined that this tree has a low suitability for preservation because of extensive stem decay.

Photo 6. Image of Trees 16-18. All three of these trees were determined to have a low suitability for preservation because of significant structural issues.

Photo 7. Image of Tree 20. This tree was determined to be in good condition at the time of the site visit. The tree was given a moderate suitability for preservation rating because it will be more difficult to retain a tree in the mature age class. Pin oaks are, generally, tolerant of construction activities but older pin oaks are less tolerant to the stresses associated with construction.

Photo 8. Image of Trees 27, 28, 34, and 35.

Photo 9. Image of Trees 51-53. Tree 52 was identified as one tree with multiple co-dominant stems. It is possible that these stems all sprouted from the same parent source or stump.

Photo 10. Image of Trees 55-61. These trees are also in close proximity to the existing infrastructure and may be unsuitable to preserve based on the means and methods of demolition. Final site plans and building activities may also cause these trees to be unsuitable to preserve for the future.

Photo 11. Image of Trees 44-49.

Photo 12. Image of Trees 61-65.

White Stadium
Boston, MA

Tree Preservation Report

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BARTLETT TREE EXPERTS
SCIENTIFIC TREE CARE SINCE 1907

Submitted on May 6, 2024

Table of Contents

Summary

Bartlett Tree Experts was retained by Stantec to evaluate trees at White Stadium, located at 450 Walnut Avenue in Boston, MA. These trees were on the western side of White Stadium. Bartlett Tree Experts was also asked to prepare a Tree Preservation Report for the trees.

Seventy trees were evaluated on site for health and structural condition on April 15, 2024. Trees were identified starting at 1001. Trees assessed on the property with Crowley Cottrell in December 2023 were identified starting at 1. Existing site maps were supplied by Stantec, however no design plans were considered during this assessment. This evaluation was only based on the assumption of the demolition of the existing infrastructure. No assumptions were made concerning the final design or any site plans that may exist following the demolition of the existing infrastructure.

It was determined that multiple trees were in dead or poor condition and may not survive long term, regardless of construction activities. Other trees in good or fair condition are more likely to survive if care and precautions are taken to limit impacts during construction. Trees of an undesirable species or are in poor condition may also be appropriate to remove during the construction process. Trees where roots may sustain significant damage by construction activities are not recommended for retention. Additionally, mature trees are more difficult to retain during construction activities than younger trees.

To help reduce construction impacts to the trees if they are to be preserved, Tree Preservation Guidelines have been provided in this report.

Introduction

Stantec will be re-developing White Stadium located at 450 Walnut Avenue in Boston, MA. Bartlett Tree Experts was asked to evaluate the trees and prepare a Tree Preservation Report.

Assignment

This report communicates the anticipated impacts to trees from construction to the client. The report is designed to provide the design team/construction contractors with the tree-related details they will need to prepare a Tree Preservation Plan to meet that requirement, including:

- observations of the health and structural condition of the trees,
- determination of potential for being retained through construction,
- evaluation of the potential impacts to trees, and
- guidelines for tree preservation throughout the development process

Limits of the Assignment

Trees were assessed from the ground for visual conditions. This tree inventory was not a tree risk assessment. As such, no trees were assessed for risk in accordance with industry standards, nor are there any tree risk ratings or risk mitigation recommendations provided within this report.

Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.

Illustrations, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.

Information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection. There is no warranty or guarantee, expressed or implied, that problems of deficiencies of the plans or property in question may not arise in the future.

There is no guarantee for the preservation of the trees contained in this report, however, the preservation report is made with the best interest intended for the trees being preserved.

Methods

Trees were assessed on April 15, 2024. The assessment was of seventy trees along the western side of the existing stadium infrastructure. Construction activities were proposed throughout the stadium area, however only the western side was considered in this assessment. The provided site map is provided in Appendix I.

1. Identifying the species of tree;
2. Measuring the trunk diameter at a point 54 inches above grade;
3. Evaluating the health and structural condition:
4. Evaluating if planned construction activities eliminate potential for tree retention.

Good A healthy tree that may have a slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected;

Fair Tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care;

Poor Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated;

Observations

The trees were located to the west of an existing track stadium located in Boston, Massachusetts. The area of focus was identified by Stantec in a map that may be found in Appendix II. Seventy trees were located in the focus area. Generally, these trees were primarily large and mature trees that have developed in a park-like setting. Multiple trees were observed to be close to existing stadium infrastructure. Many others were further from the existing footprint of the stadium and were surrounded by maintained grassy areas.

These findings may be summarized in the following table.

TABLE 1: TREE CONDITION AND ABUNDANCE

Common Name	Scientific Name	Dead	Poor	Fair	Good	Total
Maple-Norway	*Acer platanoides*	-	5	4	-	9
Maple-Red	*Acer rubrum*	-	-	-	1	1
Maple-Sugar	*Acer saccharum*	-	1	-	-	1
Tree of Heaven	*Ailanthus altissima*	-	-	1	-	1
Birch-Paper	*Betula papyrifera*	1	-	-	-	1
Birch-Gray	*Betula populifolia*	-	1	1	-	2
Hornbeam-American	*Carpinus caroliniana*	-	-	1	-	1
Dogwood-Flowering	*Cornus florida*	-	1	-	-	1
Crabapple	*Malus sp.*	1	2	-	-	3
Tupelo-Black	*Nyssa sylvatica*	-	-	-	2	2
Cherry-Black	*Prunus serotina*	-	-	2	-	2

Common Name	Scientific Name	Dead	Poor	Fair	Good	Total
Cherry-Flowering	*Prunus serrulata*	-	-	-	1	1
Oak-Swamp White	*Quercus bicolor*	-	-	-	2	2
Oak-Pin	*Quercus palustris*	-	1	11	16	28
Oak-Northern Red	*Quercus rubra*	-	-	-	5	5
Oak-Black	*Quercus velutina*	-	2	-	-	2
Yew	*Taxus sp.*	-	1	3	2	6
Elm-American	*Ulmus americana*	1	-	-	1	2
Total		3	14	23	30	70

To summarize the determined suitability for preservation ratings of the trees observed at White Stadium:

- Seven trees were determined to have a high suitability for preservation rating;
- Twenty-eight trees received a moderate suitability for preservation rating;
- Thirty-five trees were determined to have a low suitability for preservation rating.

Additional images of select trees and the site can be found in Appendix III.

Tree Impacts

Tree Protection Zones (TPZ) and Critical Root Zones (CRZ) were calculated for all trees existing on the site for the purposes of illustrating how much space would be required for trees growing in an open area. The Tree Protection Zone (TPZ) and Critical Root Zone (CRZ) values can be found on the Tree Inventory Table (Appendix II).

The Tree Protection Zone is an area surrounding the tree in which most of the tree's water and nutrient uptake occurs. The TPZ is an area in which construction activities are prohibited or restricted in order to safeguard tree health, especially before and during construction. This value was based on condition rating, age class, and species tolerance of construction activity. Generally, trees that are young and in good condition are more able to tolerate damage associated with construction activities than those that are mature, stressed, or in low vigor. Trees that are in poor condition prior to construction activities even have the potential to continue to decline regardless of any construction occurring.

The TPZ also includes the Critical Root Zone, which is a smaller circular area located directly next to the trunk. The Critical Root Zone has roots that are the most important to tree health and structural stability. The CRZ was calculated based on tree Diameter at Breast Height (DBH). On this site, trees close to paved surfaces and proximity to existing infrastructure may impact the shapes of root zones. Compacted conditions associated with hardscape may be a more difficult place for roots to grow.

No site plans documents were reviewed in order to view specific impacts to trees. Conversation on site with Stantec suggested that the existing infrastructure is planned to be demolished. Multiple trees were observed to be growing adjacent to existing infrastructure. Some trees were touching or almost touching the existing walls to be demolished. The existing infrastructure is within the TPZ, or even CRZ, of additional trees. It may not be possible to retain these trees during the demolition process.

The potential to retain these trees also depends on the site construction planned to build the new infrastructure. The footprint of the new stadium itself and the access required to build the new stadium may seriously impact existing trees. Heavy machinery operation, excavation, equipment storage, and many other construction processes have the potential to negatively impact existing trees. The trees anticipated to be the most impacted by demolition activities were given a low suitability for preservation rating. This rating, in some cases, was independent of condition class and other tree-related factors because of the severity of the anticipated impacts to trees.

Trees that are further away from the existing stadium may be more suitable to retain during construction. It is important to note that many trees in these areas were mature. Mature trees are generally less tolerant of construction and the stresses associated with such activities. For that reason, many trees were determined to have a moderate suitability for preservation rating even if they were found to be in generally good condition. Extra care may be required in order to maintain tree health and vigor sustainably during construction.

Other factors that may have contributed to suitability for preservation rating include desirability of the species, significant structural defects, and tree species tolerance to construction. For example, some trees were identified to be undesirable species. These species included Norway maple, Tree of Heaven, and black cherry. These trees were also given a lower suitability for preservation rating than trees of a more desirable species such as pin oak, Northern red oak, and black tupelo. Trees with significant structural defects such as co-dominant stems with included bark or decay were given lower suitability for preservation ratings than those without those defects present. And finally, tree species known to be intolerant of construction activities, such as sugar maple, were given a lower suitability for preservation rating.

Tree Preservation Guidelines

Tree preservation is intended to not only foster tree survival during development, but also to promote maintenance of tree health and beauty into the future. Retained trees that are injured or damaged during construction or are insufficiently maintained afterward become a liability rather than an asset. How individual trees respond to disturbances will depend on the extent of excavation and grading, the care with which demolition is undertaken, and the construction methods employed. Coordinating any construction activity inside the Tree Protection Zone (TPZ) can minimize these impacts.

The following recommendations will reduce impacts to trees from development and maintain and improve their health and vitality through the clearing, grading and construction phases.

Design Recommendations

1. Any plans involving the trees should be reviewed by the consulting arborist with regard to tree impacts. These include, but are not limited to, site plans, improvement plans, utility and drainage plans, grading plans, landscape and irrigation plans, and demolition plans.
2. No excavation or impacts to the Critical Root Zone shall be planned unless approved by the Consulting Arborist.
3. Irrigation systems must be designed so that no trenching severs roots larger than 1 inch in diameter will occur within the Tree Protection Zone.

4. **Tree Preservation Guidelines** prepared by the Consulting Arborist, which include specifications for tree protection during demolition and construction, should be included on all plans.
5. Any herbicides used must be safe for use around trees and labeled for that use.
6. Ensure adequate but not excessive water is supplied to trees; in most cases occasional irrigation will be required. Avoid directing runoff toward trees.

Tree Protection Zone

1. A Tree Protection Zone shall be identified for each tree to be preserved. Tree protections zone distances are listed above in the Tree Impacts section. In this case, the Tree Protection Zone is also synonymous with the tree pit area because that is the only available growing space for trees.
    a. Tree protection fences shall be installed to encompass the Tree Protection Zone, or as much of the Tree Protection Zone as possible to complete construction activities. Fences shall be metal chain-link fencing a minimum of 6 feet high, supported by 2 inch x 6 foot steel posts installed 8 feet on center. For trees that are surrounded by paved surfaces, posts and fencing must be installed to protect tree pit areas. The fencing must not be movable in a way that bumping fencing may cause damage to the tree or tree pit area.
    b. Fences must be installed prior to beginning demolition and must remain until construction is complete.
    c. No grading, excavation, construction or storage or dumping of materials shall occur within the Tree Protection Zone.
    d. No underground services including utilities, sub-drains, water or sewer shall be placed in the Tree Protection Zone.

Pre-demolition and Pre-construction Treatments and Recommendations

1. The demolition and construction superintendents shall meet with the Consulting Arborist before beginning work to review all work procedures, access routes, storage areas, and tree protection measures.
2. Fence all trees to be retained to completely enclose the Tree Protection Zone prior to demolition, grubbing or grading. Fences are to remain until all grading and construction is completed.
3. A site mobilization plan should be created, if not done so already, to communicate acceptable driving and operating areas for machinery. This plan should ensure that oversized vehicles do not operate in a way that may cause damage to tree canopies or impact tree protection fences.
4. Erosion control should be deployed in a fashion that does not negatively impact Critical Root Zones or Tree Protection Zones. Trenchless silt fence is preferred in order to reduce impacts to roots.
5. Prune trees to be preserved to remove dead branches 2 inches and larger in diameter, raise canopies and provide building clearance as needed for construction activities. No more than 20% of live tree canopies may be removed.

a. All pruning shall be done by an ISA Certified Arborist® or ISA Certified Tree Worker® in accordance with the Best Management Practices for Pruning (International Society of Arboriculture, 2019) and adhere to the most recent editions of the American National Standard Z133.1 Safety Requirements 2017 for Tree Care Operations and ANSI A300 (Part 1)- Pruning 2017.

b. While in the tree (such as using an aerial lift) the arborist shall perform an aerial inspection to identify any defects, weak branch and trunk attachments and decay not visible from the ground. Any additional work needed to mitigate defects shall be reported to the property owner.

6. Soil samples may reveal nutrient deficiencies or excess within the tree pits. The findings of these soil samples will guide specific soil treatments that should be applied. The soil should be monitored during construction. Soil samples may be taken once per year and should continue until at least three years following the completion of construction.
7. Trees to be removed shall be felled so as to fall away from the Tree Protection Zone and avoid pulling and breaking of roots of trees to remain. If roots are entwined, the Consulting Arborist may require first severing the major woody root mass before extracting the trees, or grinding the stump below ground.

Recommendations for Tree Protection during Construction

1. Any approved grading, construction, demolition or other work within the Tree Protection Zone should be monitored by the Consulting Arborist.
2. All contractors shall conduct operations in a manner that will prevent damage to trees to be preserved. This includes all stages of construction, including but not limited to, curb removal, hardscape installation, and infrastructure installation. Driving heavy machinery within the Tree Protection Zone and Critical Root Zone is not permitted.
3. Tree protection devices are to remain until all site work has been completed within the work area. Fences or other protection devices may not be relocated or removed without permission of the Consulting Arborist.
4. Construction trailers, traffic and storage areas must remain outside the Tree Protection Zone at all times.
5. Any root pruning required for construction purposes shall receive the prior approval of and be supervised by the Consulting Arborist. Roots should be cut with a saw to provide a flat and smooth cut. Removal of roots larger than 2 inches in diameter should be avoided.
6. If roots are 2 inches and greater in diameter are encountered during site work and must be cut to complete the construction, the Consulting Arborist must be consulted to evaluate effects on the health and stability of the tree and recommend treatment.
7. Prior to grading or trenching, trees may require root pruning outside the Tree Protection Zone**.** Any root pruning required for construction purposes shall receive the prior approval of, and be supervised by, the Consulting Arborist.
8. If injury should occur to any tree during construction, it should be evaluated as soon as possible by the Consulting Arborist so that appropriate treatments can be applied.
9. No excess soil, chemicals, debris, equipment or other materials including liquids shall be dumped or stored within the Tree Protection Zone.

10. Any additional tree pruning needed for clearance during construction must be performed by an ISA Certified Arborist and not by construction personnel.

Maintenance of Impacted Trees

Preserved trees will experience a physical environment different from that of the pre-development conditions. As a result, tree health and structural stability should be monitored. Occasional pruning, fertilization, mulch, pest management, replanting and irrigation may be required. In addition, provisions for monitoring both tree health and structural stability following construction must be made a priority. Inspect trees annually and following major storms to identify conditions requiring treatment to manage risk associated with tree failure.

Our procedures included assessing trees for observable defects in structure. This is not to say that trees without significant defects will not fail. Failure of apparently defect-free trees does occur, especially during storm events. Wind forces, for example, can exceed the strength of defect-free wood causing branches and trunks to break. Wind forces coupled with rain can saturate soils, reducing their ability to hold roots, and blow over defect-free trees. Although we cannot predict all failures, identifying those trees with observable defects is a critical component of enhancing public safety.

Furthermore, trees change over time. Our inspections represent the condition of the tree at the time of inspection. As trees age, the likelihood of failure of branches or entire trees increases. Annual tree inspections are recommended to identify changes to tree health and structure. In addition, trees should be inspected after storms of unusual severity to evaluate damage and structural changes. Initiating these inspections is the responsibility of the client and/or tree owner.

If you have any questions about my observations or recommendations, please contact me.

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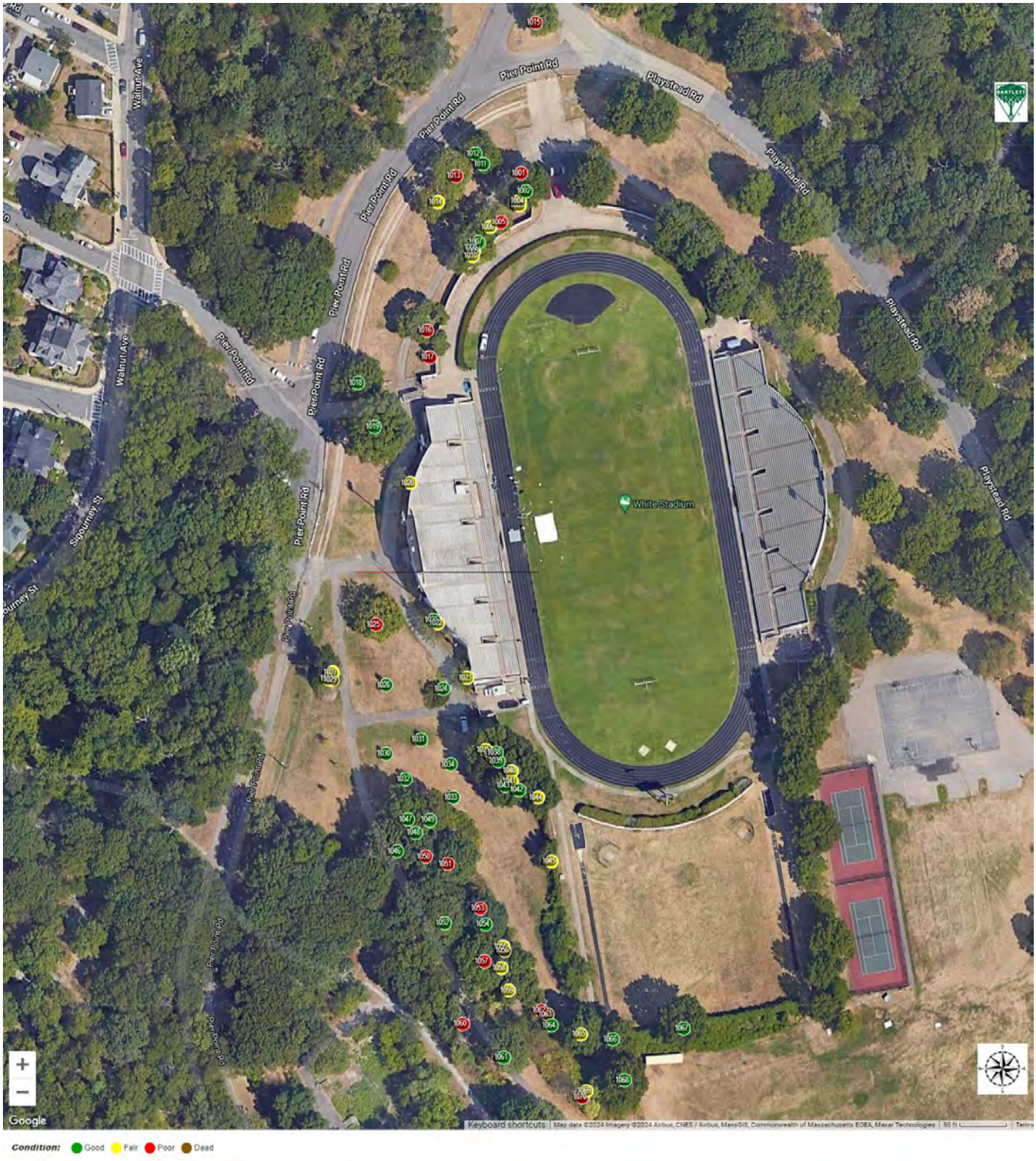
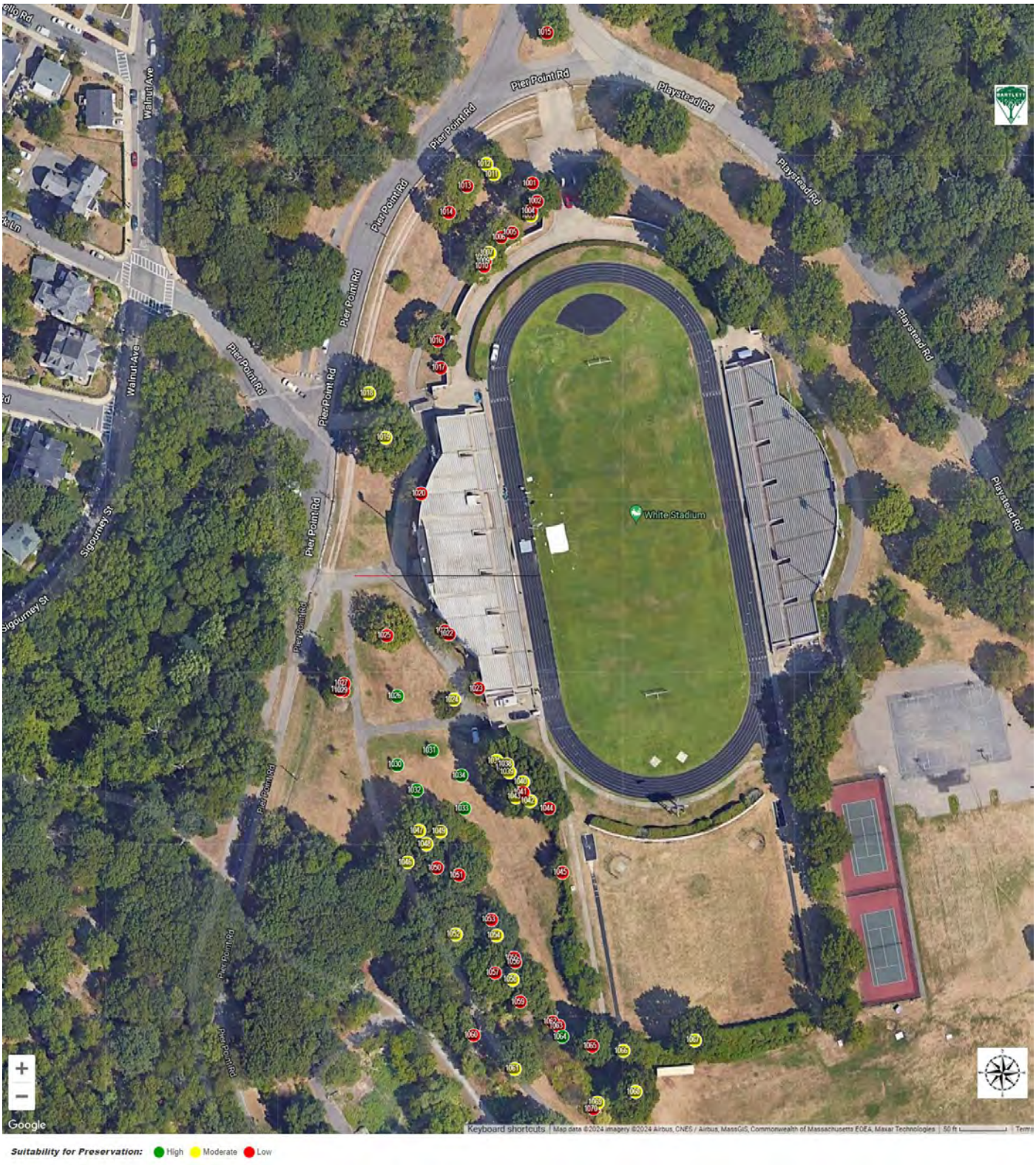
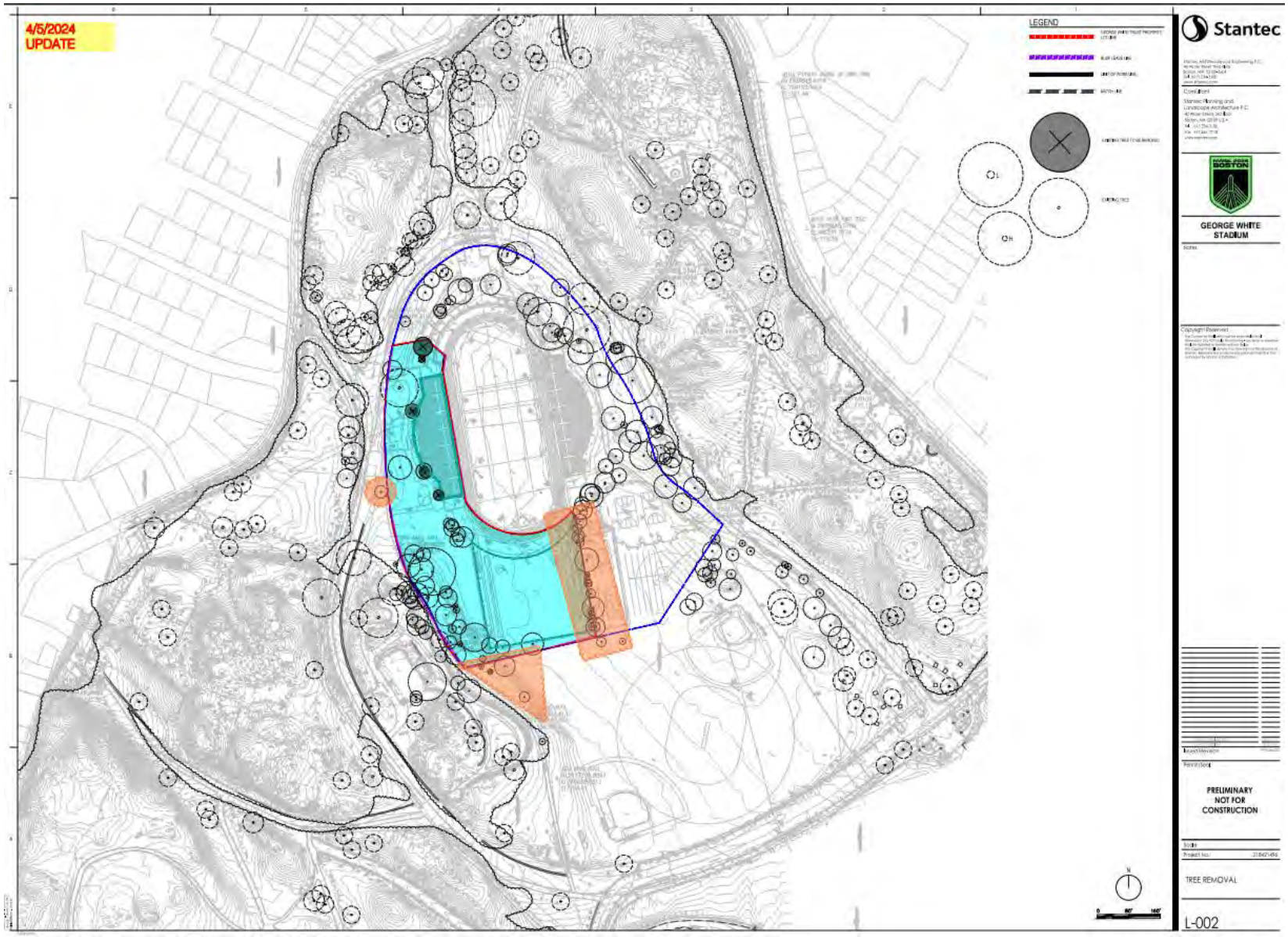
Appendix I –Maps and Provided Documents



Map 1. Condition map generated using the Arborscope program. This map shows all trees included in this report and their assigned condition classes recorded during the site visit on April 15, 2024.



Map 2. Suitability for preservation map generated using the Arborscope program. This map shows all trees included in this report and their assigned suitability for preservation rating recorded during the site visit on April 15, 2024.



Map 3. Existing site map provided by Stantec. This map highlights the desired tree evaluation area. Both blue and orange areas were included in the tree evaluation. Additional trees were identified for inclusion in the evaluation during the site visit and were included in the tree inventory.

Appendix II – Tree Inventory Table

Tree ID	Common Name	Condition Class	DBH	Age Class	Suitability For Preservation	CRZ (feet)	TPZ (feet)
1001	Yew	Poor	17	Semi-mature	Low	7.1	21.3
1002	Oak-Pin	Good	20	Mature	Low	8.3	22
1003	Oak-Pin	Fair	19	Mature	Moderate	7.9	23
1004	Oak-Pin	Fair	18	Semi-mature	Low	7.5	19.8
1005	Maple-Norway	Poor	16	Semi-mature	Low	6.7	20
1006	Maple-Norway	Fair	17.5	Semi-mature	Low	7.3	19.3
1007	Oak-Pin	Good	16	Semi-mature	Moderate	6.7	16
1008	Oak-Pin	Good	20	Mature	Moderate	8.3	22
1009	Maple-Norway	Fair	19	Mature	Low	7.9	21.8
1010	Oak-Pin	Fair	17	Semi-mature	Low	7.1	18.7
1011	Oak-Pin	Good	17.5	Semi-mature	Moderate	7.3	17.5
1012	Oak-Pin	Good	23	Semi-mature	Moderate	9.6	23
1013	Maple-Norway	Poor	22	Mature	Low	9.2	30.3
1014	Maple-Norway	Fair	19	Mature	Low	7.9	21.8
1015	Oak-Black	Poor	33	Mature	Low	13.8	49.9
1016	Maple-Norway	Poor	34	Mature	Low	14.2	46.8
1017	Dogwood-Flowering	Poor	10	Semi-mature	Low	4.2	13.8
1018	Oak-Northern Red	Good	27	Mature	Moderate	11.3	31.2
1019	Oak-Pin	Good	45	Mature	Moderate	18.8	49.5
1020	Yew	Fair	18	Semi-mature	Low	7.5	19.8
1021	Yew	Good	18	Semi-mature	Low	7.5	18
1022	Yew	Fair	18	Semi-mature	Low	7.5	19.8
1023	Yew	Fair	25.5	Semi-mature	Low	10.6	28.1
1024	Yew	Good	7	Semi-mature	Moderate	2.9	7
1025	Maple-Sugar	Poor	28	Mature	Low	11.7	48.1
1026	Elm-American	Good	3	Young	High	1.3	3
1027	Cherry-Black	Fair	26.5	Mature	Low	11	33.7
1028	Hornbeam-American	Fair	14	Semi-mature	Low	5.8	15.4
1029	Elm-American	Dead	8	Young	Low	0	0

Tree ID	Common Name	Condition Class	DBH	Age Class	Suitability For Preservation	CRZ (feet)	TPZ (feet)
1030	Oak-Swamp White	Good	2	Young	High	0.8	1.6
1031	Maple-Red	Good	3	Young	High	1.3	2.7
1032	Oak-Swamp White	Good	2	Young	High	0.8	1.6
1033	Tupelo-Black	Good	1	Young	High	0.4	0.9
1034	Tupelo-Black	Good	1	Young	High	0.4	0.9
1035	Oak-Pin	Fair	15	Semi-mature	Moderate	6.3	16.5
1036	Oak-Pin	Fair	16	Semi-mature	Moderate	6.7	17.6
1037	Oak-Pin	Fair	20	Mature	Moderate	8.3	24.2
1038	Oak-Pin	Good	16	Semi-mature	Moderate	6.7	16
1039	Oak-Pin	Good	23	Mature	Moderate	9.6	25.3
1040	Oak-Pin	Fair	9	Semi-mature	Moderate	3.8	9.9
1041	Oak-Pin	Fair	24	Mature	Low	10	29
1042	Oak-Pin	Good	27	Mature	Moderate	11.3	29.7
1043	Oak-Pin	Good	25	Mature	Moderate	10.4	27.5
1044	Oak-Pin	Fair	26	Mature	Low	10.8	31.5
1045	Tree of Heaven	Fair	10	Semi-mature	Low	4.2	11
1046	Oak-Northern Red	Good	34	Mature	Moderate	14.2	39.3
1047	Oak-Pin	Good	27	Mature	Moderate	11.3	29.7
1048	Oak-Pin	Good	20	Mature	Moderate	8.3	22
1049	Oak-Pin	Good	19	Mature	Moderate	7.9	20.9
1050	Oak-Black	Poor	28	Mature	Low	11.7	42.4
1051	Oak-Pin	Poor	44.5	Mature	Low	18.5	61.2
1052	Oak-Northern Red	Good	45	Mature	Moderate	18.8	52
1053	Crabapple	Poor	15	Semi-mature	Low	6.3	20.6
1054	Oak-Northern Red	Good	23	Mature	Moderate	9.6	26.6
1055	Cherry-Black	Fair	8	Young	Low	3.3	8.3
1056	Crabapple	Dead	7	Young	Low	0	0
1057	Maple-Norway	Poor	34	Mature	Low	14.2	46.8
1058	Oak-Pin	Fair	22	Mature	Moderate	9.2	26.6
1059	Maple-Norway	Fair	21	Mature	Low	8.8	24.1
1060	Maple-Norway	Poor	32	Mature	Low	13.3	44

Tree ID	Common Name	Condition Class	DBH	Age Class	Suitability For Preservation	CRZ (feet)	TPZ (feet)
1061	Oak-Northern Red	Good	26	Mature	Moderate	10.8	30
1062	Crabapple	Poor	8	Young	Low	3.3	9.9
1063	Birch-Paper	Dead	21	Semi-mature	Low	0	0
1064	Cherry-Flowering	Good	8	Young	High	3.3	7.2
1065	Oak-Pin	Fair	34	Mature	Low	14.2	41.1
1066	Oak-Pin	Good	21	Mature	Moderate	8.8	23.1
1067	Oak-Pin	Good	37	Mature	Moderate	15.4	40.7
1068	Oak-Pin	Good	30	Mature	Moderate	12.5	33
1069	Birch-Gray	Fair	11	Young	Moderate	4.6	12
1070	Birch-Gray	Poor	7.5	Young	Low	3.1	9.3

* DBH values were adjusted to reflect multiple stems where applicable. In the case of a tree with multiple stems, additional stems were multiplied by 0.5 and added to the DBH of the largest stem.

The tree identified with red lettering in this table was identified as dead at the time of the site visit and does not have calculated TPZ or CRZ values. This tree should be removed regardless of any site construction plans.

Appendix III – Selected Tree Images

Photo 1. Image of existing stadium infrastructure on the western side of White Stadium.

Photo 2. Image of the northern side of the existing infrastructure. Trees included in this assessment were on the right side of the entrance. Trees on the left side of this entrance were investigated in December 2023 with Crowley Cotrell.

Photo 3. Image focusing on trees close to the existing stadium infrastructure. Tree 1016 in a multi-stem Norway maple with significant defects such as stem decay. This tree is in poor condition, is an undesirable species, and is located. The tree was given a low suitability for preservation rating for these reasons.

Photo 4. Image of Tree 1019 located adjacent to the existing parking area. This tree, and any other tree with observable compaction, is recommended for a Root Invigoration ™.

Photo 5. Image of small, newly planted trees (identified as trees 1030-1034) located in the field area. These trees were determined to be a high suitability for preservation during construction. The larger pin oaks beyond were identified as Trees 1035-1044. These trees are close to existing infrastructure and may be challenging to retain as construction is underway. These trees were determined to be moderate to low suitability for preservation.

Photo 6. Image of Trees 1046-1049. These mature trees were observed to be in generally good condition. Conversation with Stantec suggested that construction impacts will be lower in this area than others closer to the stadium. If this is the case, these trees would be good examples of trees suitable for retention if tree preservation measures are followed.

Photo 7. Image of Tree 1060. This tree was observed to be in poor condition at the time of the site visit. Significant defects included extensive storm damage, large dead branches, stem decay, and low vigor. This tree may not be suitable for retention on the property regardless of construction activities.

Photo 8. Image of Trees 1060 at the southern end of the existing stadium. This tree is in good condition. It is recommended to remove the vines from the canopy of this tree and others on the property. Vines can limit photosynthetic capacity in the canopy and cause stress.