



Plant Healthcare Consultants, Inc.

American Society of Consulting Arborist ▪ International Society of Arboriculture
Massachusetts Arborist Association ▪ Massachusetts Tree Wardens and Foresters Association
TREE INVENTORIES ▪ APPRAISALS ▪ DIAGNOSIS ▪ TREE RISK ASSESSMENTS



Assessment of Trees in Buffer Zone

Prepared for:

Anthony Moro
38 Robert Frost Road
Sudbury, MA 01776

Prepared by:

Daniel E. Cathcart
Registered Consulting Arborist
Plant Healthcare Consultants, Inc.
134 Allen Street
Braintree, MA 02184

~~August 5, 2023~~

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Summary

I was retained to inspect and assess 29 trees at the residence of Mr. Anthony Moro of 38 Robert Frost Road, Sudbury, MA. The 29 trees consist of 23 eastern white pines (*Pinus strobus*), 4 northern red oaks (*Quercus rubra*), 1 Norway maple (*Acer platanoides*) and 1 red maple (*Acer rubrum*). 14 of the 29 trees are located within the 100' Buffer Zone of the upland resource area.

The purpose of this assessment is due to the fact that Mr. Moro is concerned for the safety of his property and family if these trees are to fail. All the trees referenced in this report are of significant size and within striking distance of Mr. Moro's dwelling and yard.

This report is to accompany a Notice of Intent ("NOI") to seek approval from the Sudbury Conservation Commission to remove these 14 trees in the resource area (entire project is 29 trees). Also included in this report is a mitigation planting for the removal of the trees in the 100' Buffer Zone of the resource area.

It is my professional opinion that removal of the requested trees, along with appropriate mitigation plantings, will have little effect on integrity of the protected wetlands.

Introduction

Background & History

The Sudbury Conservation Commission ("SCC") was established in 1962 to protect local natural resources and features and to act as stewards of the town's conservation properties.

The SCC has legal authority granted under The Conservation Commission Act, by the Massachusetts Wetlands Protection Act, and by the Sudbury Wetlands Administration Bylaw.

To receive the proper permits to perform the tree removals Mr. Moro is required to submit appropriate documentation and applications to the SCC, including a Notice of Intent ("NOI").

The work Mr. Moro is proposing falls under Notice of Intent Project - Category 1:

- a.) Work on single family lot; addition, pool, etc.;
- b.) Site work without a house;
- c.) Control vegetation;
- d.) Resource improvement;
- e.) Work on septic system separate from house;
- f.) Monitoring well activities minus roadway;
- g.) New agricultural or aquaculture projects.

Assignment

The scope of this assignment was to inspect and assess 29 trees on Mr. Moro's property and create a narrative for the justification for removing the trees.

I was also requested to prepare the documentation for the NOI including a WPA3 form and submit them to the MassDEP and Sudbury Conservation Commission.

Limits of Assignment

The recommendations and conclusions provided in this report are based on my visual observations only. I did not examine the plant's interiors, nor did I collect soil or plant tissue samples for laboratory testing.

NOTE: Wetland Delineation was determined by the most recent GIS available data from the Mass.gov website.

Purpose and Use of Report

This report is to support the submission of the NOI and WPA3 with the goal of receiving approval to remove 29 trees from the residence of Mr. Anthony Moro of 38 Robert Frost Road, Sudbury, MA.

This report is the property of Anthony Moro and may be used and shared as he sees fit.

Observations

All observations referenced in this report are a result of personal site visits to 38 Robert Frost Road, Sudbury, MA by me on October 20, 2022, and August 5, 2023.

All photographs included in this report were taken by me on those site visits.

Site

38 Robert Frost Road is a single-family residence in Sudbury, MA. The lot is heavily wooded, and the rear and side yards are within the 100' Buffer Zone of a protected wetland.

The trees Mr. Moro is seeking approval to remove are all around the perimeter of his house and finished yard (see Appendix A – Site Map, page 11).

Tree

Photographs of each tree are located in Appendix B – Photographs, pages 12-31.

Tree #1 has a large cavity at the base of the trunk and a poor live crown ration (“LCR”).

Tree #2 has limited root development area and poor LCR.

Tree #3 has a cavity in the trunk and a poor LCR.

Tree #4 has some impact from the driveway and due to its size failure is a concern.

Tree #5 has a poor LCR and is very close to the house and more susceptible to high wind damage.

Tree #6 is impacted by the driveway and has a poor LCR.

Tree #7 has a poor LCR and poor trunk taper.

Tree #8 has a poor LCR and poor trunk taper.

Tree #9 has a poor LCR and poor trunk taper.

Tree #10 has a significant lean over the property. **If pruning is performed to eliminate the lean over the driveway, not enough viable live material will remain to sustain the tree and it will decline and die.**

Tree #11 has had its root collar buried during a previous regrading of the rear yard.

While a tree would tend to fall in the direction of the lean, that is not always so.

Regardless of the direction of a lean, a tree can fall in any direction. Especially during an extreme weather event and/or potential decay in the root collar.

Tree #12 has had its root collar buried during a previous regrading of the rear yard.

Tree #13 has had its root collar buried during a previous regrading of the rear yard.

Tree #14 is an immature invasive species – Norway maple - and removal is desirable.

Daniel E. Cathcart

Plant Healthcare Consultants, Inc.

134 Allen Street, Braintree, MA 02184 • Phone (617) 237-7695

dan.cathcart@gmail.com • www.treeconsultant.com

Tree #15 has had its root collar buried during a previous regrading of the rear yard.

Tree #16 has had its root collar buried during a previous regrading of the rear yard.

Along with suspect root collars this tree, in fact all the pines, have a poor LCR (live crown ratios). This top-heavy growth effects the stability and structural integrity of the tree and makes it prone to failure. Failure at the base, due to root collar issues, or snapping off higher in the stem, present significant risk to the property.

Tree #17 has had its root collar buried during a previous regrading of the rear yard.

Along with suspect root collars this tree, in fact all the pines, have a poor LCR (live crown ratios). This top-heavy growth effects the stability and structural integrity of the tree and makes it prone to failure. Failure at the base, due to root collar issues, or snapping off higher in the stem, present significant risk to the property.

Tree #18 has had its root collar buried during a previous regrading of the rear yard.

Tree #19 is large and in close proximity to the house. Pruning may reduce risk but will not eliminate it. This tree is lies just outside the 100' Buffer and as such, I request consideration in removing it.

Tree #20 is large and in close proximity to the house.

Tree #21 is large and in close proximity to the house. This tree is very close to the 100" Buffer and suggest we remove it but leave a 12-15' snag to mitigate and prove wildlife habitat.

Tree #22 is large and in close proximity to the house. This tree is outside the 100' Buffer.

Tree #23 is large and in close proximity to the house. This tree is outside the 100' Buffer.

Tree #24 is very large, on a slope, and very close to the house and has some decay and erosion at the root collar.

Tree #25 is very large, on a slope, and very close to the house and has some decay and erosion at the root collar.

Tree #26 is on a slope, very close to the house and there are concerns of erosion at the root collar.

Tree #27 leans over the house.

Tree #28 leans over the house and over Tree #27.

Tree #29 is growing on a slope and erosion around the root collar is a concern.

Tree Inventory

Below is a summary of the 29 trees included for removal in the NOI.

Table 1 – Tree Inventory

Tree #	Common Name	Latin Name	DBH	~Height	Longitude	Latitude
1	White Pine	<i>Pinus strobus</i>	18	90	-71.41968653	42.34797399
2	White Pine	<i>Pinus strobus</i>	22	90	-71.41970631	42.34800992
3	White Pine	<i>Pinus strobus</i>	23	90	-71.4196857	42.34803811

Daniel E. Cathcart

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134 Allen Street, Braintree, MA 02184 • Phone (617) 237-7695

dan.cathcart@gmail.com • www.treeconsultant.com

4	Red Oak	<i>Quercus rubra</i>	30	85	-71.419641	42.34809651
5	White Pine	<i>Pinus strobus</i>	32	85	-71.41956794	42.34812682
6	White Pine	<i>Pinus strobus</i>	28	90	-71.419477	42.34811889
7	White Pine	<i>Pinus strobus</i>	12	90	-71.41946136	42.34813549
8	White Pine	<i>Pinus strobus</i>	15	90	-71.41943899	42.34815405
9	White Pine	<i>Pinus strobus</i>	14	90	-71.41946452	42.34815354
10	Red Maple	<i>Acer rubrum</i>	12	65	-71.41933096	42.34827691
11	White Pine	<i>Pinus strobus</i>	30	90	-71.41936073	42.3483426
12	White Pine	<i>Pinus strobus</i>	28	90	-71.41930948	42.34837347
13	White Pine	<i>Pinus strobus</i>	27	90	-71.41933914	42.34840858
14	Norway Maple	<i>Acer platanoides</i>	9	30	-71.41930882	42.3484082
15	White Pine	<i>Pinus strobus</i>	13	70	-71.41932669	42.34842913
16	White Pine	<i>Pinus strobus</i>	13	90	-71.41929727	42.34845339
17	White Pine	<i>Pinus strobus</i>	15	90	-71.41930525	42.34847176
18	White Pine	<i>Pinus strobus</i>	20	90	-71.41937963	42.348431
19	Red Oak	<i>Quercus rubra</i>	15	75	-71.41947484	42.34847188
20	White Pine	<i>Pinus strobus</i>	30	90	-71.41950303	42.34848688
21	White Pine	<i>Pinus strobus</i>	18	90	-71.41949096	42.34850206
22	White Pine	<i>Pinus strobus</i>	16	90	-71.41951727	42.34850558
23	White Pine	<i>Pinus strobus</i>	21	90	-71.41954125	42.34849603
24	White Pine	<i>Pinus strobus</i>	30	90	-71.41962939	42.34844839
25	White Pine	<i>Pinus strobus</i>	24	90	-71.419634	42.34844387
26	White Pine	<i>Pinus strobus</i>	12	90	-71.41964504	42.34844129
27	Red Oak	<i>Quercus rubra</i>	14	60	-71.4197405	42.34831667
28	Red Oak	<i>Quercus rubra</i>	14	65	-71.41978659	42.34832012
29	White Pine	<i>Pinus strobus</i>	18	45	-71.41985772	42.34817386

Discussion

Trees #1, #3, #24 & #25 currently pose a high-risk to the site and should be removed at earliest convenience.

Tree #14 is an invasive species and should also be removed.

There is a concern about Trees #2 & Trees #4 - #21. These trees were impacted at the time of development of the site and/or other regrading projects. The trees along the driveway are susceptible to compaction, limiting root development. The trees in the rear yard have had their root collars buried, promoting decay, and insect and disease infestations. Trees with impacts to the root collars are susceptible to full tree failure. If any of these trees fail there is a strong likelihood of striking the house, causing severe damage.

Daniel E. Cathcart

Plant Healthcare Consultants, Inc.

134 Allen Street, Braintree, MA 02184 • Phone (617) 237-7695

dan.cathcart@gmail.com • www.treeconsultant.com

The trees on the front and north side of the house are very large, on a slope and very close to the house. Erosion is ongoing and there is undermining of the soil around the root collar. These trees are also in risk of failure.

Proposed Mitigation

Alternative Analysis for Altering Upland Resource Area

As this NOI is requesting permission to remove trees from the site alternative options are quite limited.

Option 1 – Do not remove the trees.

This option is not practical because it does not remove the risk of tree failure.

Option 2 – Remove the trees and implement mitigation to limit impact to upland resource area. This is the only viable option to reduce the risk of tree failure and damage to people and property while maintaining the integrity of the protected wetlands.

Mitigation Plan

Based on the 100' Buffer Zone there are 14 trees proposed for removal in this NOI. Trees #6-18 & #21.

Trees #1 - #5, #19 - #20, #22 - #29 are outside the 100' Buffer Zone and require no mitigation. Tree #14 is an invasive species so no mitigation is proposed for this tree.

A mitigation planting schedule for the remaining 13 trees is detailed below.

Mitigation Planting Plan

Trees #21 - #23 will be cut to a height of ~12-15' and left as a snag to provide habitat for wildlife.

The remaining 10 trees requiring mitigation will be accommodated by the following planting plan.

Using a four-shrub planted/tree removed ratio, the following native species will be planted to replace the removed trees. This will help preserve the area and restore it to

its condition prior to the removal of the trees. The approximately 30 new plantings will be placed along the rear of the property, following the arc of the removed trees, to restore a natural feel and provide habitat for wildlife. Approximately 10 additional planting will be placed at the bottom of the driveway.

Latin Name	Common Name	Size	# of units	Benefits
<i>Amelanchier canadensis</i>	Shadblow Serviceberry	5 gal	4	Produce berries for birds
<i>Ilex verticillata</i>	Winterberry	5 gal	9	Favorable to pollinators
<i>Vaccinium corymbosum</i>	Highbush Blueberry	3-4'	9	Favorable to pollinators, produce berries for birds
<i>Kalmia latifolia</i>	Mountain Laurel	3-4'	9	Shade tolerant
<i>Cornus cericea</i>	Red osier dogwood	5 gal	9	

Daniel E. Cathcart

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dan.cathcart@gmail.com • www.treeconsultant.com

Mitigation Planting Map



Conclusion

Based on my education, training, and many years of experience in the field of arboriculture it is my professional opinion that the proposed removal of the 29 trees at 38 Robert Frost Road, Sudbury, MA, will reduce the risk of damage to people and property, combined with the proposed mitigation plan, with minimal impact to the integrity of the protected wetland.

Glossary of Terms

ASCA	American Society of Consulting Arborists, professional association of arborist specializing in arboricultural consulting
Branch Union	The structural union of a lateral branch to the tree stem.
Canopy	The part of the crown composed of leaves and small twigs.
Certified Arborist	A professional arborist possessing current certification issued by the Massachusetts Arborists Association (MAA) and/or the International Society of Arboriculture (ISA)
Clinometer	A device used to measure the height of an object
Co-dominant	Stems or branches, equal in size and relative importance usually associated with either the trunk/stems or scaffold limbs/ branches in the crown.
Crown	The upper part of a tree, measured from the lowest branch, including all the branches and foliage
DBH	Stands for Diameter Breast Height. The diameter of a tree measured at 4.5 feet above the ground.
Dripline	Perimeter of the area under a tree including the branches and leaves
Establishment	The process of a tree becoming acclimated to a new environment, usually correlating the new root development that can sustain normal biological functions of the tree
Included Bark	An inherent weak point where two or more stems grow independently pressing on one another
ISA	International Society of Arborists, a global, professional association of arborist
Level II Tree Risk	A visual assessment only. The tree is inspected from the Assessment ground only and diagnostic tools used
Level III Tree Risk Assessment	I more intensive inspection of the tree using diagnostic tool, such as a Resistograph and may also include inspection in the tree canopy
Parity	The time, usually in years, that it takes for a replacement tree to provide similar attributes and benefits of a removed tree
Pruning	Systematic removal of branches of a plant usually a woody perennial
RCA	Registered Consulting Arborist, a credential issued by ASCA to an arborist that has demonstrated higher skills in certain technical areas related to trees and tree care, providing objective, independent opinions, with training for higher communication, presentation, and/or report writing skills.

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dan.cathcart@gmail.com • www.treeconsultant.com

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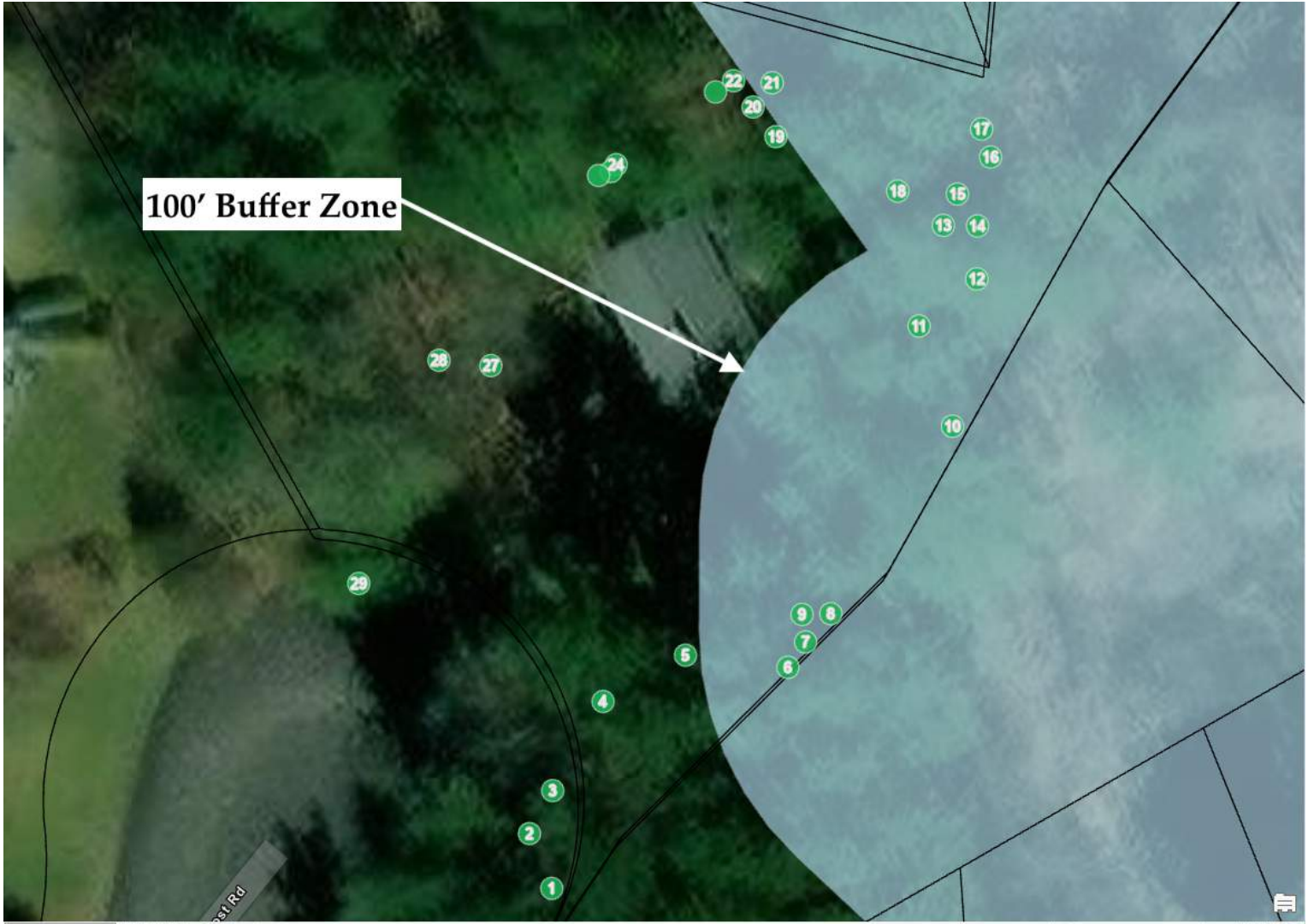
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Appendix A – Site Map



Appendix B – Photographs



Daniel E. Cathcart

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134 Allen Street, Braintree, MA 02184 • Phone (617) 237-7695

dan.cathcart@gmail.com • www.treeconsultant.com



Tree 1





Tree 4







Tree 9

Tree 8

Tree 7



Tree 10



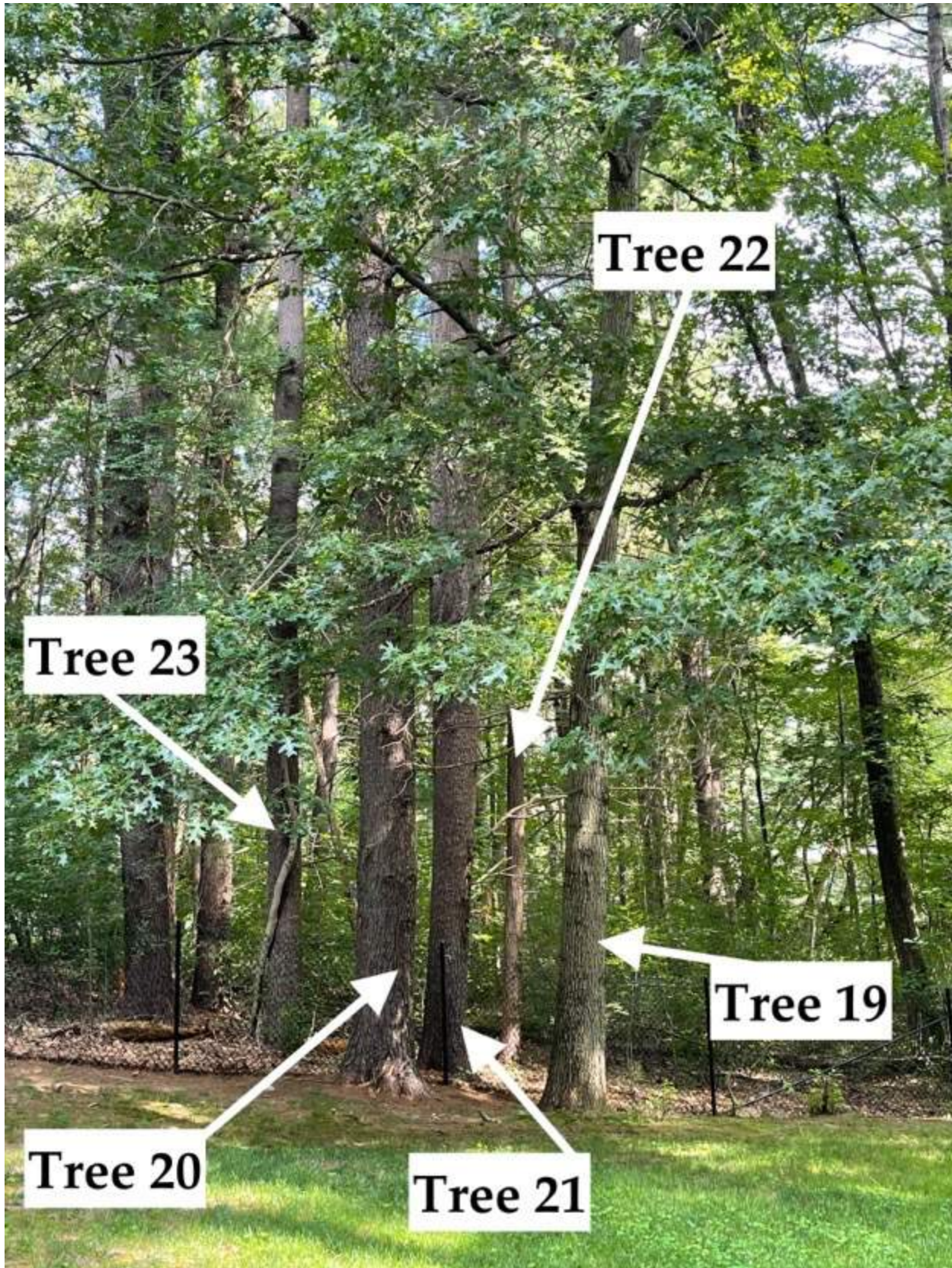
Tree 12

Tree 11







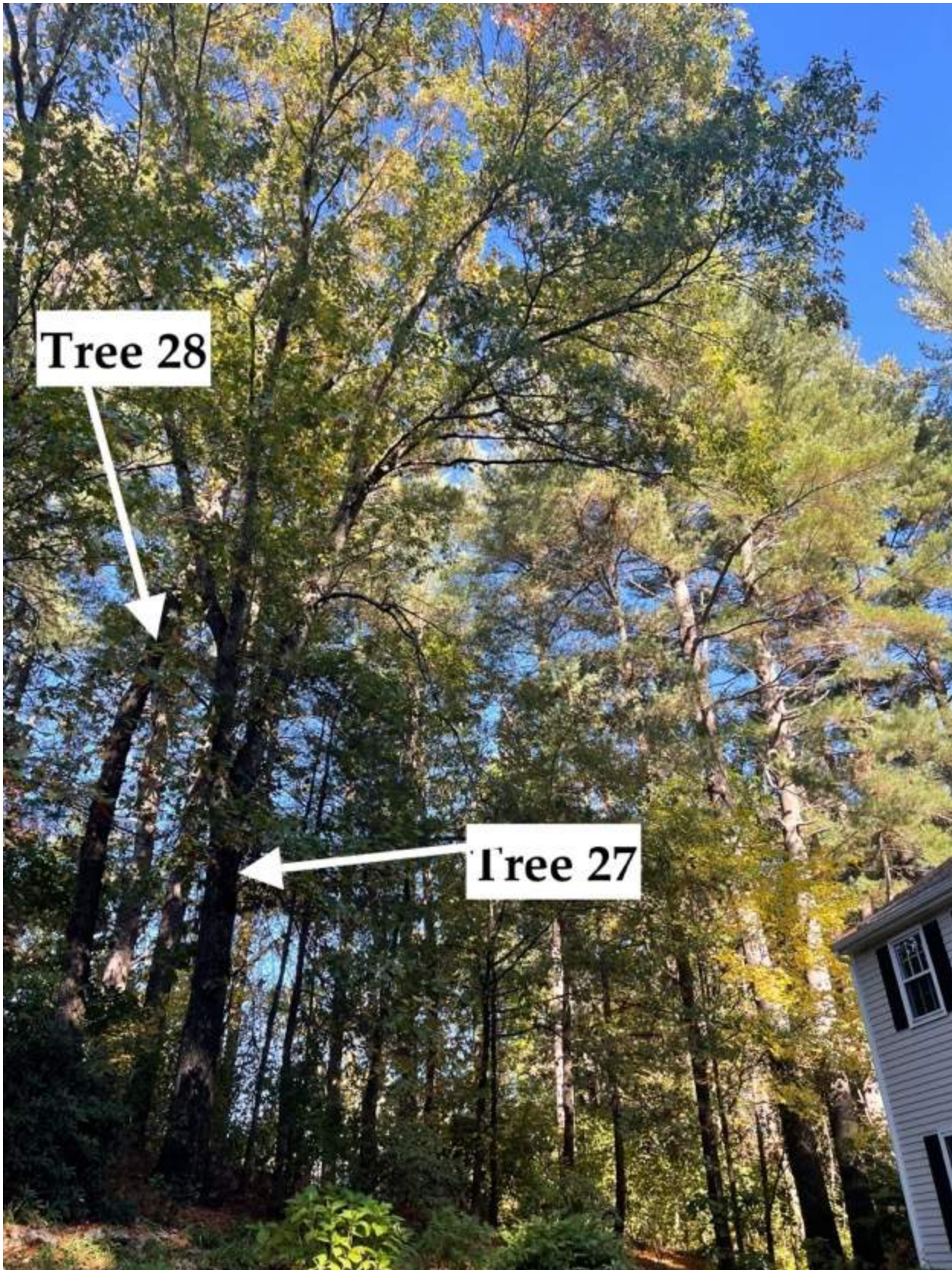
















Appendix C - Assumptions and Limited Conditions

1. It is assumed that any property is not in violation of any applicable codes, ordinances, statutes, or other governmental regulations.
2. 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.
3. The consultant shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.
4. Unless required by law, otherwise, possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior expressed written or verbal consent of the consultant.
5. Unless required by law, neither all nor any part of the contents of this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales or other media, without the prior expressed written or verbal consent of the consultant-particularly as to value conclusions, identity of the consultant, or any reference to any professional society or institute or to any initialed designation conferred upon the consultant as stated in his qualifications.
6. This report expressed herein represent the opinion of the consultant, and the consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.
7. Sketches, drawings, 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 unless expressed otherwise. The reproduction of any information generated by architects, engineers, or other consultants on any sketches, drawings, or photographs is for the express purpose of coordination and ease of reference only. Inclusion of said information on any drawings or other documents does not constitute a representation by *Plant Healthcare Consultants, Inc.* as to the sufficiency or accuracy of said information.
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9. Loss or alteration of any part of this report invalidates the entire report.

Daniel E. Cathcart

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dan.cathcart@gmail.com • www.treeconsultant.com

Appendix D - Certification of Performance

Plant Healthcare Consultants, Inc. certify that:

1. We have personally inspected the tree and property referred to in this report and have stated our findings accurately.
2. We have no current or prospective interest in the trees or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved.
3. The analysis, opinions and conclusions stated herein are our own and are based on current scientific procedures and facts.
4. Our analysis, opinions and conclusions were developed, and this report has been prepared according to commonly accepted arboricultural practices.
5. No one provided significant professional assistance to us, except as indicated within the report.
6. Our compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party or upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.

We further certify that Plant Healthcare Consultants, Inc. is a member in good standing of the Massachusetts Arborist Association, American Society of Consulting Arborists, the International Society of Arboriculture and Massachusetts Tree Wardens and Foresters Association. We have been involved in the field of Arboriculture for over 30 years.



Daniel E. Cathcart

ASCA Registered Consulting Arborist® #766
ISA Board Certified Master Arborist® #TX-1357B
ISA Tree Risk Assessment Qualified®
Massachusetts Certified Arborist #41801
Massachusetts Qualified Tree Warden #1097