87 Cambridge Park Drive
Tree Inventory | 2020

Submitted by:
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MAKING THE MOST OF YOUR INVENTORY REPORT

Those who operate a large business or institution understand how inventory impacts operations and budgeting. One must know what's there, how much or how many, and where it all is. But the task doesn't end there. To obtain the greatest benefit from inventory, owners or their designees must manage it. Are a company's tools, for example, old and defective, in need of repair, in short supply, or useless and taking up space that could be better occupied? A good management plan will address these issues and keep the inventory current, in good condition, and functioning for the benefit and safety of those involved.

Managing trees on a large property can seem like an overwhelming task, but the same principles of inventory management apply. This inventory and report should provide managers the data they need to develop realistic budgets for their tree maintenance needs, and it will help make the 87 Cambridge Park Drive a safer and more beautiful environment.

The following tips will assist you in making the most of this document:

Who's Who

Those who conducted the inventory and prepared this document are members of the Bartlett Inventory Solutions team. They are also employees of Bartlett Tree Experts. The Bartlett Inventory Solutions team is overseen by Technical Advisors out of the Bartlett Tree Research Laboratories in Charlotte, North Carolina. The advisors are primarily charged with client support, coordination, quality control, and documentation of inventories and the related data. Extensively trained Regional Inventory Arborists from local Bartlett Tree Experts offices are the primary data collectors and authors of the report. Readers may interpret the terms "Bartlett Tree Experts," "Bartlett," "the Inventory Team," "the team," "we," and "our" as the Bartlett company and those who conducted the inventory and prepared this report. In addition to the primary author(s) listed on the cover page, Team Member(s) involved in this project included:

Technical Advisor

Chris Breedlove, Consulting Advisor
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Data Collection

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Subject Trees

In this document, the term "subject trees" refers (depending on context) to some or all of the 90 trees included in the inventory.

Definitions & Bolded Terms

Some definitions or specifications are detailed within a given section to explain how readers should interpret certain terms or classifications. We have also appended a Glossary for other terms that appear throughout the document. The first reference to each of these terms appears in **bold** for the reader's convenience.

How This Document is Organized

An outline appears below that introduces the order in which the sections of the report will appear. The report layout is as follows:

- **Table of Contents**
  - Road map for the report
- **Making the Most of Your Inventory**
  - Explanations for how to efficiently and effectively understand and navigate this document
- **Executive Summary**
  - Synopsis of the major findings and recommendations
- **Introduction**
  - Brief explanation of the inventory and what was included
- **Goals & Objectives**
  - Explanation of the specific goals and objectives for this inventory
- **Data Collection & Tree Inspection Methodology**
  - Lists, explanations, and definitions of all data collected during the inventory
- **Stand Dynamics Results**
  - Summary information for the entire tree population inventoried
- **Entire Inventory**
  - List of all trees collected in a table display
- **Additional Resources**
  - Listing of all appended items for this report

EXECUTIVE SUMMARY

In January 2020, the Bartlett Inventory Solutions (BIS) Team from Bartlett Tree Experts conducted an inventory of trees on the 87 Cambridge Park Drive site. We identified 90 trees which included 22 species. The attributes that we collected include tree latitude and longitude, size, age and condition class, and a visual assessment of tree structure, health, and **vigor**.

We conducted the attribute collection using a sub-meter accuracy Global Positioning Satellite Receiver (GPSr) device with an error-in-location potential of not greater than three meters. Our recommendations for the subject trees are based on the number of desired management cycles. All tree work activities will comply with current American National Standards Institute (ANSI) Z133.1 requirements for safety.

INTRODUCTION

In January 2020, 87 Cambridge Park Drive in Cambridge, MA retained Bartlett Tree Experts to perform an inventory of trees on 87 Cambridge Park Drive site. Team member Tim Armstrong visited the site on January 18, 2020 to conduct the inventory.

The inventory included:

- identifying trees and assigning a Tree ID number (Tree ID numbers ranging from 1 to 631);
- identifying the trees' condition, health, and vigor;
- mapping the trees using GPSr hardware and Geographic Information System (GIS) software, and Bartlett Tree Experts' ArborScope™ web-based management system

The methods and procedures we used to make the above determinations and recommendations are detailed in the following sections.

GOALS & OBJECTIVES

An effective report communicates clear goals and the specific objectives designed to carry out those goals. We intend "goal" to mean the overall aim or result we expect to achieve for the client in producing the inventory document. The objectives are the specific actions taken or recommended to support goal completion. The table below describes each goal and its corresponding objective(s).

GOALS & OBJECTIVES

GOAL	OBJECTIVES TO ACCOMPLISH GOAL
Establish the tree inventory (per numbers agreed) on the 87 Cambridge Park Drive site.	• Using Trimble® Geo GPSr hardware and ArborScope™ Inventory Management Tools, collect data such as tree name, location, size, age class, and condition class. • Assign a Tree ID number to each tree inventoried.

DATA COLLECTION & TREE INSPECTION METHODOLOGY

In conducting the inventory, we used specialized equipment and software and followed specific procedures to determine tree characteristics, risk evaluations, and recommendations. The following explanation will assist the reader in interpreting the findings of this report.

Data Collection Equipment & Attribute Data

The Inventory Team used Trimble® Geo GPSr hardware units, TerraSync® and GPS Pathfinder® Office GIS software, and Bartlett Tree Experts' ArborScope™ web-based management system to inventory the trees. The attribute data we collected on site are listed below.

- botanical name and regional common name according to local ISA Chapter Tree Species List
- tree location based on GPS coordinate system
- tree ID number
- diameter at breast height (**DBH**)
- canopy radius
- age class
- height class
- condition class

Specifications/Definitions

Age Class

New Planting	Tree not yet established
Young	Established tree but not in the landscape for many years
Semi-mature	Established tree but has not yet reached full growth potential
Mature	Tree within its full growth potential
Over-mature	Tree that is declining or beginning to decline due to its age

Height Class

Small	Less than 15 feet
Medium	15 to 40 feet
Large	Greater than 40 feet

Condition Class

Dead	
Poor	Most of the canopy displays dieback and undesirable leaf color, inappropriate leaf size or inadequate new growth. Tree or parts of tree are in the process of failure.
Fair	Parts of canopy display undesirable leaf color, inappropriate leaf size, and inadequate new growth. Parts of the tree are likely to fail.
Good	Tree health and condition are acceptable.

STAND DYNAMICS RESULTS

STAND DYNAMICS RESULTS

In reviewing the results and recommendations, the reader will find useful the specifications and definitions detailed in the preceding methodology above. We used the following categories to organize the stand dynamics results, which are displayed in tables:

- **Subject Trees Summarized According to:**
  - Tree Species Identified
  - Condition Class
  - Age Class
  - Tree Size per DBH

Where appropriate, we have included explanations, photos, drawings, or other information to illuminate the table contents.

Stand Dynamics

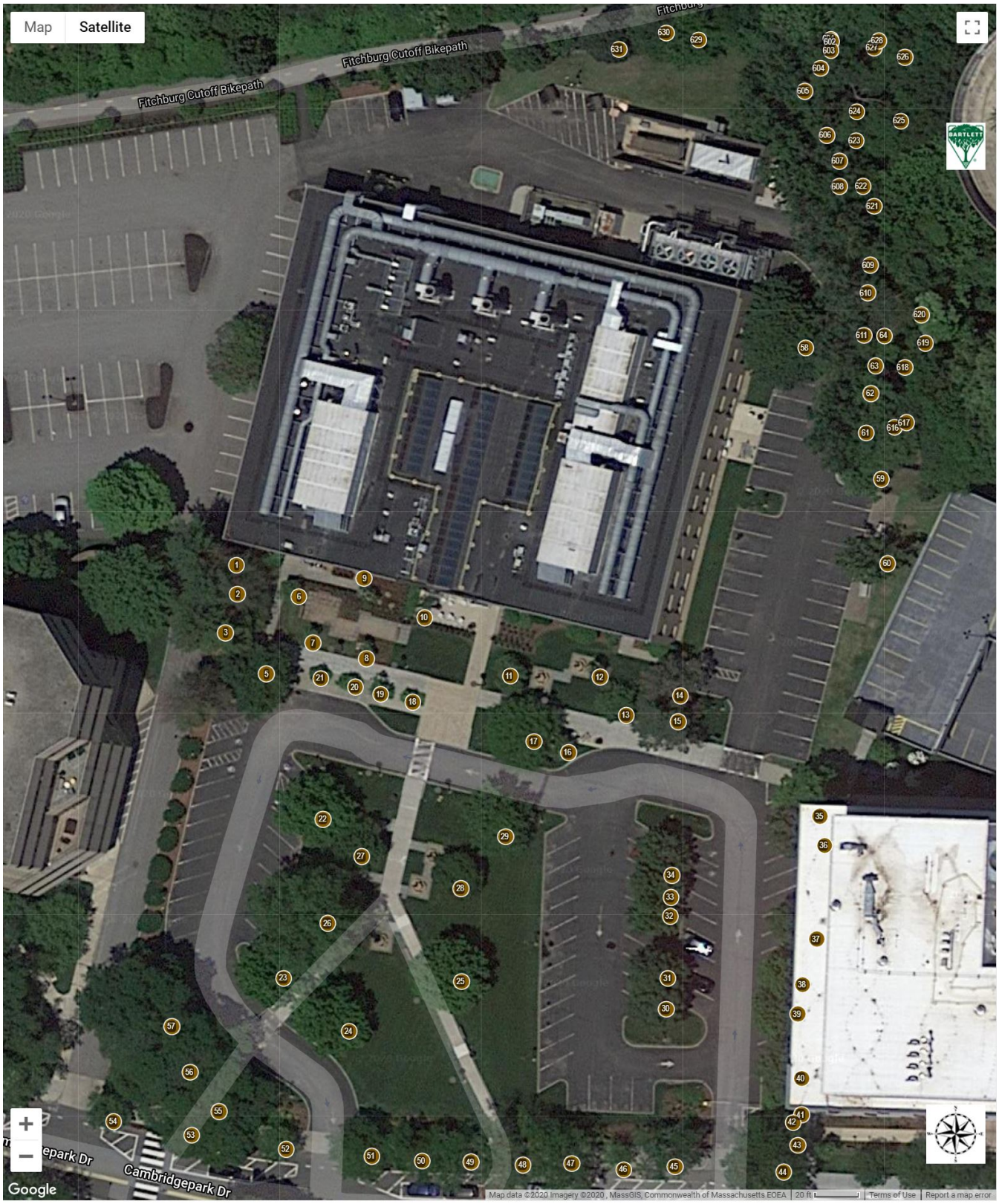
Tree Species Identified

Our inventory revealed 22 species of trees, as detailed in the following table:

TREE SPECIES IDENTIFIED

Genus	Species	Common Name	Count	% Distribution Total
Acer	*platanoides*	Maple-Norway	8	9%
	rubrum	Maple-Red	5	6%
	saccharum	Maple-Sugar	8	9%
***Acer* Total**			**21**	**23%**
Ailanthus	*altissima*	Tree of Heaven	2	2%
Betula	*nigra*	Birch-River	1	1%
Cladrastis	*kentukea*	Yellowwood	3	3%
Cornus	*florida*	Dogwood-Flowering	2	2%
	kousa	Dogwood-Kousa	3	3%
***Cornus* Total**			**5**	**6%**
Fraxinus	*pennsylvanica*	Ash-Green	1	1%
Gleditsia	*triacanthos* var. inermis	Honeylocust-Thornless Common	15	17%
Halesia	*carolina*	Silverbell-Carolina	2	2%
Magnolia	sp.	Magnolia	7	8%
Morus	*rubra*	Mulberry-Red	1	1%
Pinus	*rigida*	Pine-Pitch	2	2%
	strobus	Pine-Eastern White	6	7%
***Pinus* Total**			**8**	**9%**
Populus	*deltoides*	Poplar-Eastern	9	10%
	grandidentata	Aspen-Bigtooth	2	2%
***Populus* Total**			**11**	**12%**
Prunus	*serrulata*	Cherry-Flowering	2	2%
	sp.	Cherry	1	1%
***Prunus* Total**			**3**	**3%**
Robinia	*pseudoacacia*	Locust-Black	7	8%
Syringa	*reticulata*	Lilac-Japanese Tree	1	1%
Ulmus	*rubra*	Elm-Slippery	2	2%
Grand Total			**90**	**100%**

2020 TREE INVENTORY

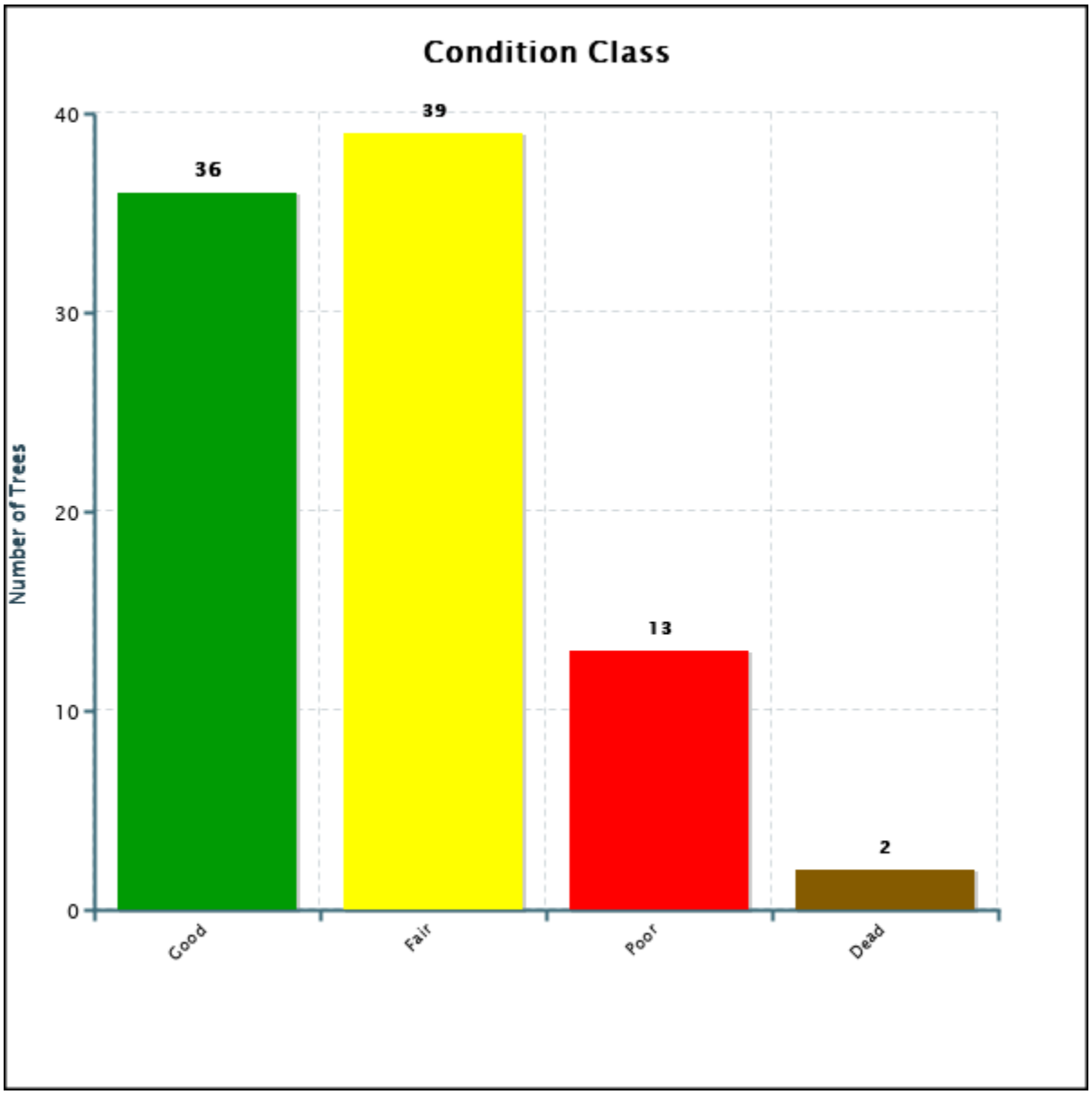


Condition Class

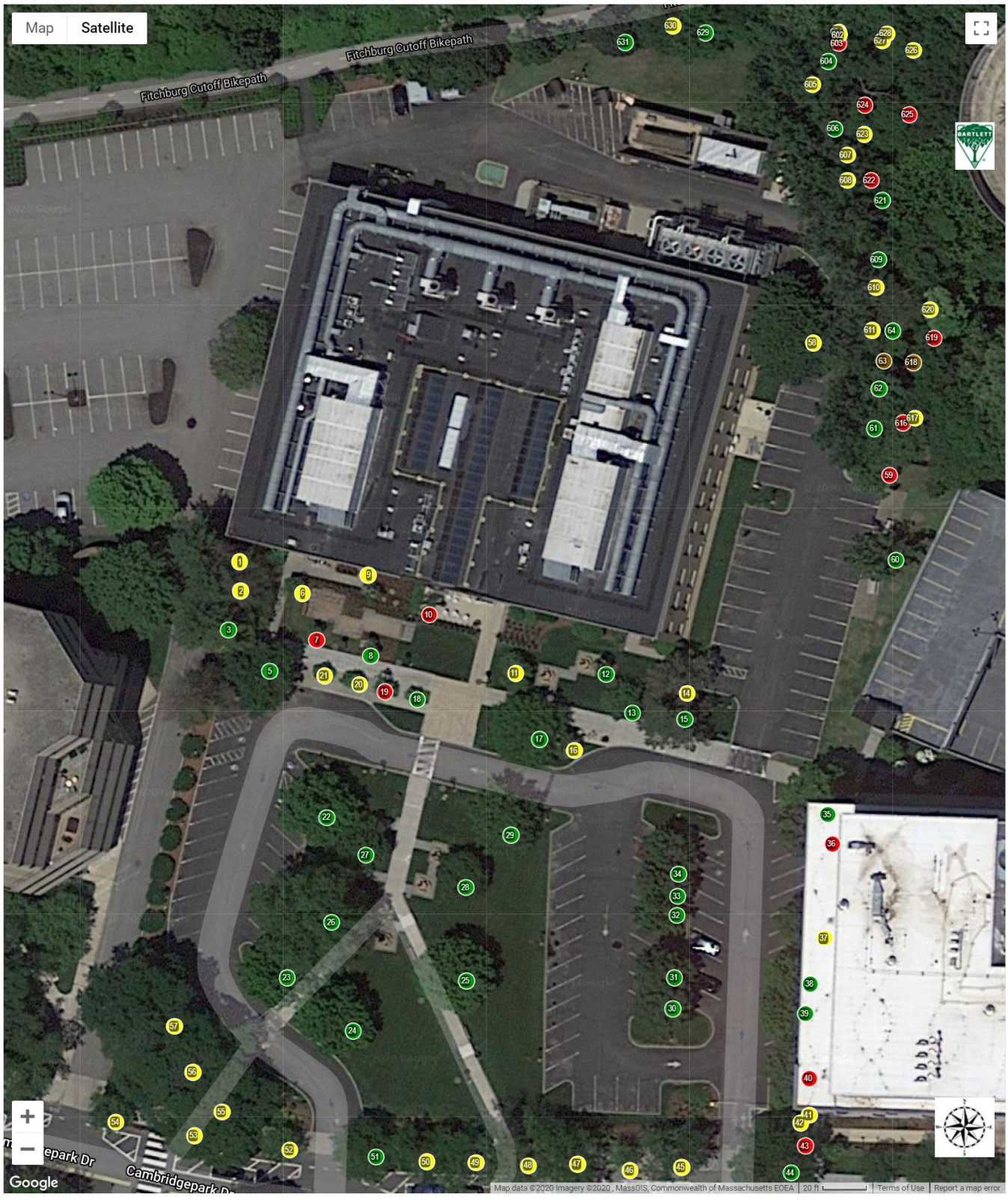
The breakdown of tree condition follows:

CONDITION CLASS BREAKDOWN

Condition Class	Quantity	% of Total
Good	36	40%
Fair	39	43%
Poor	13	14%
Dead	2	2%



INVENTORIED TREES BY CONDITION CLASS



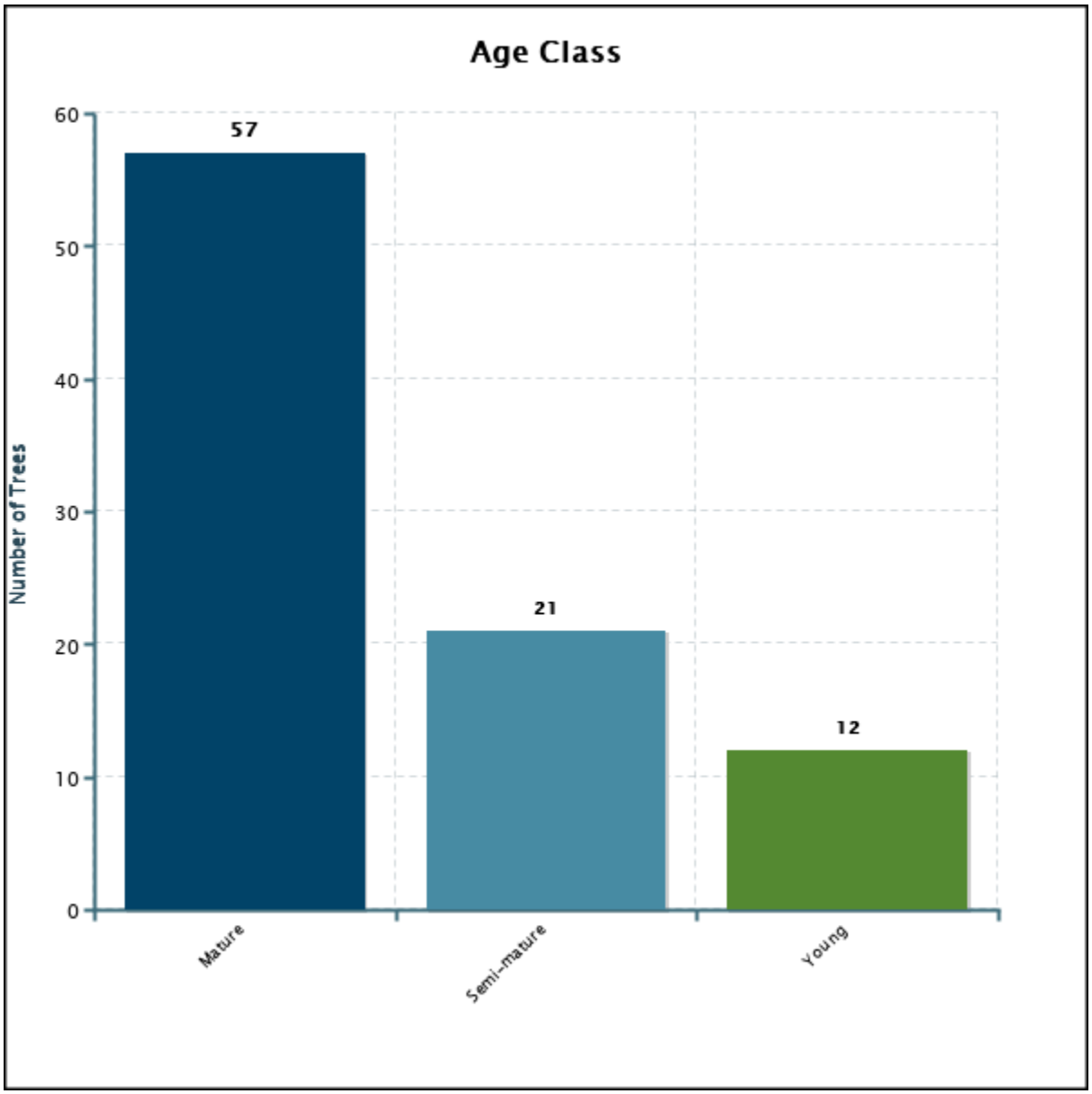
Condition: Good Fair Poor Dead

Age Class

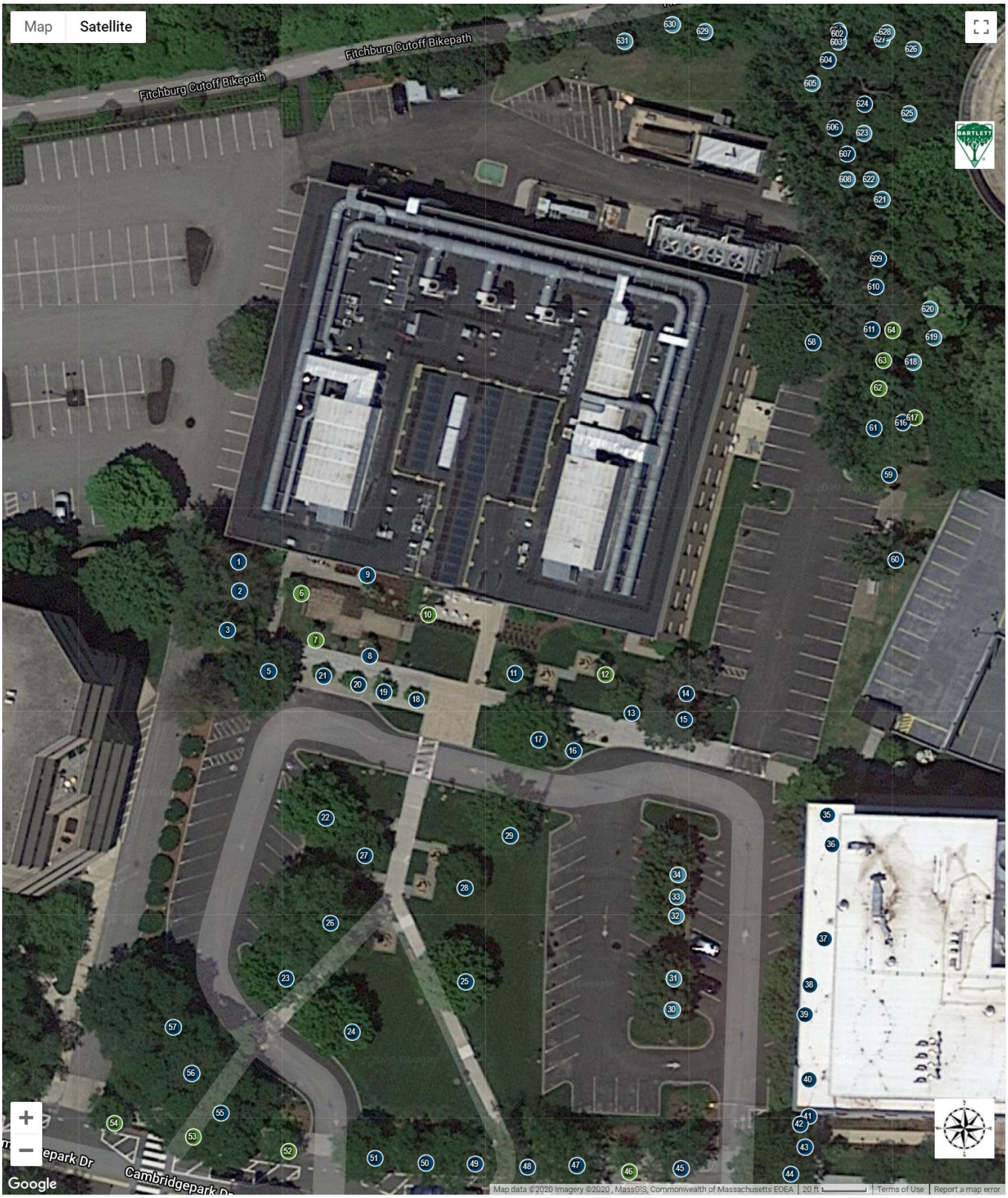
The breakdown of tree age class follows:

AGE CLASS BREAKDOWN

Age Class	Quantity	% of Total
Mature	57	63%
Semi-mature	21	23%
Young	12	13%



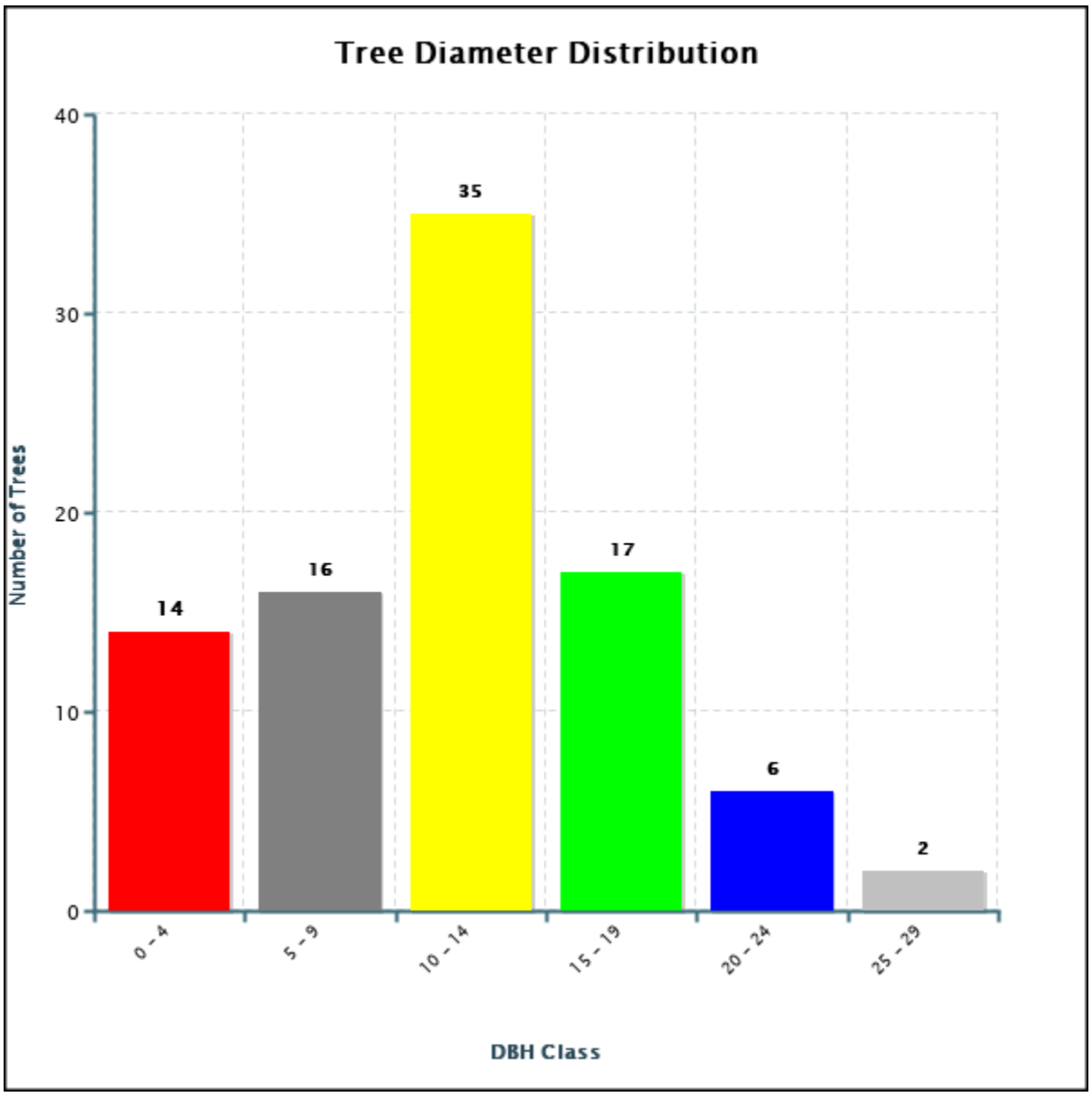
INVENTORIED TREES BY AGE CLASS



Age: Young Semi-mature Mature

Tree Size (DBH)

The following chart illustrates numbers of trees according to size per DBH:



ENTIRE INVENTORY

ENTIRE INVENTORY (90 Trees)

Tree ID	Common Name	Genus	Species	DBH	Age Class	Stems	Condition Class
1	Pine-Eastern White	*Pinus*	*strobus*	21	Mature	1	Fair
2	Pine-Eastern White	*Pinus*	*strobus*	20	Mature	1	Fair
3	Pine-Eastern White	*Pinus*	*strobus*	21	Mature	1	Good
5	Yellowwood	*Cladrastis*	*kentukea*	12	Mature	1	Good
6	Silverbell-Carolina	*Halesia*	*carolina*	4	Young	1	Fair
7	Silverbell-Carolina	*Halesia*	*carolina*	4	Young	1	Poor
8	Dogwood-Kousa	*Cornus*	*kousa*	2,2,2,2,2	Mature	5	Good
9	Dogwood-Kousa	*Cornus*	*kousa*	2,2,2,2,1,1	Mature	6	Fair
10	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	4	Young	1	Poor
11	Dogwood-Flowering	*Cornus*	*florida*	4,3,3	Mature	1	Fair
12	Lilac-Japanese Tree	*Syringa*	*reticulata*	3	Young	1	Good
13	Dogwood-Flowering	*Cornus*	*florida*	4	Mature	1	Good
14	Pine-Pitch	*Pinus*	*rigida*	16	Mature	1	Fair
15	Pine-Pitch	*Pinus*	*rigida*	18	Mature	1	Good
16	Dogwood-Kousa	*Cornus*	*kousa*	3,2,2,2,2	Mature	5	Fair
17	Yellowwood	*Cladrastis*	*kentukea*	12	Mature	1	Good
18	Magnolia	*Magnolia*	sp.	2	Mature	1	Good
19	Magnolia	*Magnolia*	sp.	3,2,2	Mature	1	Poor
20	Magnolia	*Magnolia*	sp.	3,2,2	Mature	3	Fair
21	Magnolia	*Magnolia*	sp.	3	Mature	1	Fair
22	Maple-Red	*Acer*	*rubrum*	12	Mature	1	Good
23	Maple-Red	*Acer*	*rubrum*	11	Mature	1	Good
24	Maple-Red	*Acer*	*rubrum*	12	Mature	1	Good
25	Maple-Red	*Acer*	*rubrum*	13	Mature	1	Good
26	Birch-River	*Betula*	*nigra*	19,17	Mature	2	Good
27	Cherry-Flowering	*Prunus*	*serrulata*	11	Mature	1	Good
28	Cherry-Flowering	*Prunus*	*serrulata*	12	Mature	1	Good
29	Yellowwood	*Cladrastis*	*kentukea*	10	Mature	1	Good
30	Maple-Norway	*Acer*	*platanoides*	11	Semi-mature	1	Good
31	Maple-Norway	*Acer*	*platanoides*	10	Semi-mature	1	Good

Tree ID	Common Name	Genus	Species	DBH	Age Class	Stems	Condition Class
32	Maple-Norway	*Acer*	*platanoides*	10	Semi-mature	1	Good
33	Maple-Norway	*Acer*	*platanoides*	9	Semi-mature	1	Good
34	Maple-Norway	*Acer*	*platanoides*	10	Semi-mature	1	Good
35	Maple-Sugar	*Acer*	*saccharum*	13	Mature	1	Good
36	Maple-Sugar	*Acer*	*saccharum*	14	Mature	1	Poor
37	Maple-Sugar	*Acer*	*saccharum*	12	Mature	1	Fair
38	Maple-Sugar	*Acer*	*saccharum*	10	Mature	1	Good
39	Maple-Sugar	*Acer*	*saccharum*	11	Mature	1	Good
40	Maple-Sugar	*Acer*	*saccharum*	13	Mature	1	Poor
41	Magnolia	*Magnolia*	sp.	6	Mature	1	Fair
42	Magnolia	*Magnolia*	sp.	7	Mature	1	Fair
43	Magnolia	*Magnolia*	sp.	6	Mature	1	Poor
44	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	22	Mature	1	Good
45	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	19	Mature	1	Fair
46	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	4	Young	1	Fair
47	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	17	Mature	1	Fair
48	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	17	Mature	1	Fair
49	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	14	Mature	1	Fair
50	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	11	Mature	1	Fair
51	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	9	Mature	1	Good
52	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	6	Young	1	Fair
53	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	6	Young	1	Fair

Tree ID	Common Name	Genus	Species	DBH	Age Class	Stems	Condition Class
54	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	5	Young	1	Fair
55	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	22	Mature	1	Fair
56	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	18	Mature	1	Fair
57	Honeylocust-Thornless Common	*Gleditsia*	*triacanthos* var. inermis	19	Mature	1	Fair
58	Maple-Norway	*Acer*	*platanoides*	17	Mature	1	Fair
59	Maple-Sugar	*Acer*	*saccharum*	12	Mature	1	Poor
60	Maple-Sugar	*Acer*	*saccharum*	13	Mature	1	Good
61	Poplar-Eastern	*Populus*	*deltoides*	20	Mature	1	Good
62	Poplar-Eastern	*Populus*	*deltoides*	8	Young	1	Good
63	Poplar-Eastern	*Populus*	*deltoides*	9	Young	1	Dead
64	Maple-Red	*Acer*	*rubrum*	11	Young	1	Good
601	Tree of Heaven	*Ailanthus*	*altissima*	11,10	Mature	1	Fair
602	Tree of Heaven	*Ailanthus*	*altissima*	17	Mature	1	Fair
603	Pine-Eastern White	*Pinus*	*strobus*	11,9	Semi-mature	1	Poor
604	Pine-Eastern White	*Pinus*	*strobus*	17	Mature	1	Good
605	Maple-Norway	*Acer*	*platanoides*	10	Semi-mature	1	Fair
606	Poplar-Eastern	*Populus*	*deltoides*	26	Mature	1	Good
607	Poplar-Eastern	*Populus*	*deltoides*	24	Mature	1	Fair
608	Poplar-Eastern	*Populus*	*deltoides*	17	Semi-mature	1	Fair
609	Poplar-Eastern	*Populus*	*deltoides*	27	Mature	1	Good
610	Poplar-Eastern	*Populus*	*deltoides*	19	Mature	1	Fair
611	Poplar-Eastern	*Populus*	*deltoides*	18	Mature	1	Fair
616	Elm-Slippery	*Ulmus*	*rubra*	16	Mature	1	Poor
617	Elm-Slippery	*Ulmus*	*rubra*	9	Young	1	Fair
618	Aspen-Bigtooth	*Populus*	*grandidentata*	9	Semi-mature	1	Dead
619	Ash-Green	*Fraxinus*	*pennsylvanica*	8	Semi-mature	1	Poor
620	Aspen-Bigtooth	*Populus*	*grandidentata*	14	Semi-mature	1	Fair
621	Pine-Eastern White	*Pinus*	*strobus*	12	Semi-mature	1	Good
622	Locust-Black	*Robinia*	*pseudoacacia*	8	Semi-mature	1	Poor

Tree ID	Common Name	Genus	Species	DBH	Age Class	Stems	Condition Class
623	Locust-Black	*Robinia*	*pseudoacacia*	10	Semi-mature	1	Fair
624	Locust-Black	*Robinia*	*pseudoacacia*	16,14	Mature	1	Poor
625	Locust-Black	*Robinia*	*pseudoacacia*	12	Semi-mature	1	Poor
626	Locust-Black	*Robinia*	*pseudoacacia*	11	Semi-mature	1	Fair
627	Locust-Black	*Robinia*	*pseudoacacia*	10,8	Semi-mature	1	Fair
628	Locust-Black	*Robinia*	*pseudoacacia*	12	Semi-mature	1	Fair
629	Mulberry-Red	*Morus*	*rubra*	11	Semi-mature	1	Good
630	Cherry	*Prunus*	sp.	14	Semi-mature	1	Fair
631	Maple-Norway	*Acer*	*platanoides*	9	Semi-mature	1	Good

APPENDIX

ADDITIONAL RESOURCES

Bartlett publishes a variety of tree-resource documents, including technical reports, plant health care recommendations, and service brochures. The following technical reports may be pertinent to your inventory. To access these documents and view the complete Bartlett Resource Library online, please follow this URL:

https://www.bartlett.com/resourcelist.cfm