



Tree Health Assessment Report

West Branch Library

Somerville Parks Tree Health Program

IFB 25-26

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Overview:

This site is a heavily-trafficked public library with a small parking lot and some outdoor seating areas, both located at the rear of the property. There are mostly shrub and ornamental plantings in beds throughout the site, but it also includes a handful of mature trees. There are (2) fastigiate European Beech trees and a Dawn Redwood located in the front of the property. There is also a mature, sprawling Norway Maple located at the center rear of the property.

General Tree Health

While the Dawn Redwood is in fair to good shape, the other trees are in poor to fair health due to limited root zones and pest pressure as will be discussed below.

Soil Health

The soil here is characteristic urban soil with a dark gray, sandy appearance and a small amount of organic matter in the top 2-4 inches. No distinct horizons or odors were detected when sampling. Our soil probe was able to fully penetrate most soils throughout the site, likely due to the presence of sidewalks to minimize foot traffic and compaction. We recommend treating the soils within the critical root zone of the (2) European Beech and the Dawn Redwood with an organic liquid biostimulant: a blend of humic acids, kelp extract and natural compounds to enhance soil structure, microbial activity and nutrient availability. This amendment will help aid in the (2) Beech Tree's ability to naturally defend itself from Beech Leaf Disease (as discussed below) due to increased vitality. The results from the Soil Test show slightly low levels of Phosphorous and moderately elevated levels of Iron, Aluminum, and Lead. We do not recommend corrective measures at this time but do suggest monitoring these levels over the next several years.

Pests and Diseases

There is currently high pest pressure on the Beech Trees (#40796 and #40831) from a relatively new condition called Beech Leaf Disease (BLD). Damage from BLD is caused by microscopic nematodes feeding within the leaf buds, resulting in leaves emerging with a distorted, crinkly, or leathery look and feel. This leads to diminished photosynthesis through the growing season, and in serious cases premature shedding causing the tree to force another flush of leaves, furthering depletion of energy reserves critical to plant growth and defense. Subsequent dieback and death of the buds can result in significant decline and mortality. One of the main symptoms is dark, interveinal banding on the foliage. While a positive diagnosis could not be made during our assessment, the presence of BLD is probable due to high pest pressure from other infested Beech trees in the area. Observation of the marcescent leaves during this assessment showed potential signs of distortion and possible interveinal banding, likely from BLD.

The Norway Maple #40894 has visible decay in the main union and evidence of decay on the lower trunk.

Other Corrections of Adverse Conditions

The Dawn Redwood #40784 and the Beech Trees onsite were issued a “low” risk rating based on a Level 1 TRAQ assessment. However, the Norway Maple located at the rear of the property was issued a rating of “moderate to high” risk, which we will discuss in the next section.

Although foliar sprays with a nematicide exist for the control of BLD nematode, a series of canopy pesticide sprays on these tall, public trees is not practical or desirable. Neither do we recommend trunk injection with a systemic product due to concerns of trunk wounding on these trees. The application of phosphite solutions is a lower impact option that has shown positive results in recent field studies. Evidence shows that Potassium phosphite is an “inducing agent,” switching on a tree’s range of natural defenses thus increasing immunity. Based on this encouraging (if early) research we recommend a systemic bark spray of phosphite with a surfactant to the lower trunks of both Beech trees to help defend these valuable trees from potential BLD damage.

Removal Needs

We recommend removal of the rear Norway Maple #40894. This tree was inspected from the ground on December 20, 2024 by a TRAQ Arborist. The tree has a history of recent storm damage and canopy breakage. Open visible decay in the main union and evidence of decay on the lower trunk, as well as several large breaks in the upper canopy were observed in this brittle species. There is a highly-used outdoor seating area directly below as well as a new library addition with large glass windows and several residential yards and buildings under tree. (See photos below) Failure of the tree in the next 3-5 years is probable, and failure would likely lead to significant damage to persons and/or property below. Based on these observations, the tree was determined to be a moderate to high risk. Cabling or pruning are not practical long-term mitigation options in this case. The tree is therefore recommended for removal.



Norway Maple #40894, showing potential targets including seating area, residential sites and new glass library addition



Library bench directly under Norway Maple #40894. There was a broken branch resting on the fence during the assessment

We recommend grinding the stump of the Norway Maple after removal to make space for new plantings. Finally, we recommend removing all Silver Maple volunteer saplings located at the northeast corner of the building to prevent further establishment and encroachment into other plants or the building.



Silver Maple sapling against the northeast side of the library building

Pruning Needs

We recommend pruning in the (2) Beech Trees located in the front of the site to remove dead, broken branches greater than 1.5" in diameter and pruning to contain outlying limbs by 2-5' in lower half of tree to maintain uniform shape and fastigate form.

We also recommend pruning the recently planted Black Birch clumps (not listed on map) located in the rear, southwest corner of the property to simplify stems and provide clearance from the ground, surrounding shrubs and parking area.

2025 Priorities:

- Pruning: Canopy cleaning and pruning to form for (2) Beech Trees
- Pruning new Black Birch plantings
- Declining/hazard tree removal
- Removing Silver Maple saplings
- Organic biostimulant for soil health of trees in the front of the property
- Systemic phosphite bark spray to (2) Beech Trees

5-10 Year Priorities:

- Replacement plantings after Norway Maple removal
- Biostimulant for remaining plants that are establishing
- Continued treatment and monitoring for Beech leaf disease on the 2 European Beeches out front.
- Monitor soil nutrient levels over time



Accredited Tree Care by Certified Arborists

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January 22, 2025
Proposal #: 85584

Job Site: 30
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Tree and Shrub Care Recommendations on 12/20/2024

Description of Services

- Work Plan for West Branch Library Pruning/Removal/Stump Grinding/Plant Healthcare Winter/Spring 2025.

Rear and front entrance to library, as well as staff parking area will need to be closed from 7AM- 4PM on Friday, March 21 for the pruning and stump removal work. Side entrance off College st may remain open. We will post permits and arrange for sidewalk closing and police detail as needed on public streets. Trees within park will all be accessed by climbers if not reachable from the street.

- (2) Fastigate European Beech Trees out front (#40831, 40796)

Canopy Cleaning - Selective pruning to remove dead and broken branches greater than 1.5" in diameter.

Canopy Reduction - Selective pruning to decrease outlying limbs in the lower half of tree by 2-5 feet to maintain uniform shape and fastigate form.

8hrs x \$150/hr = \$1,200.00

- Bio-stimulant Application - Early season. Treat soils within the critical root zone (typically within the dripline) of the (2) European Beech and the Dawn Redwood front left with an organic liquid blend of humic acids, kelp extract and natural compounds to enhance soil structure, microbial activity and nutrient availability.

1,600ft sq. x .25/ft = \$400.00



This proposal is valid for 45 days, assuming there are no changes to the site (driveway, plantings, buildings etc. remain unchanged).
All work performed in accordance with ANSI A300 Standards.

Payment due upon completion of work. 1 ½% per month, 18% per year on unpaid balances.



Tree and Shrub Care Recommendations on 12/20/2024

Description of Services

- **Beech Tree Treatment** - Spring application. Apply a systemic phosphite fungicide to the lower trunk and flare to help manage cankers on (2) Fastigate European Beech Trees out front (#40831, 40796) This treatment will help to boost the natural defense mechanisms of the plant to resist invasion by disease causing pathogens.

- **32" diameter Norway Maple in the center back:**

Tree Removal & Stump Grinding - Take down, dispose of brush, logs and chipped debris generated from removal operations. Grind stump and exposed flare 6" below grade; backfill with loam and remove excess grinding debris. Machine will grind up to 4-6" from adjacent immobile objects. We will not remove other inorganic debris, nor are we responsible for damage to unmarked irrigation and underground non-utility services.

Note: this tree was inspected from the ground on December 20, 2024 by a TRAQ Arborist. The tree has a history of recent storm damage and canopy breakage. Open visible decay in the main union and evidence of decay on the lower trunk, as well as several large breaks in the upper canopy was observed in this brittle species. Highly-used outdoor seating area directly below as well as new library addition with large glass windows and several residential yards and buildings under tree. Failure of the tree in the next 3-5 years is probable, and failure would likely lead to significant damage to persons/property below. Based on these observations taken the tree was determined to be a moderate- high risk. Cabling/pruning are not practical long-term mitigation options in this case. The tree is therefore recommended for removal.

- Remove approx (10) Volunteer Silver Maples growing out of the front right foundation. Then prune to raise/thin stems, remove broken out of the Black Birch clusters in the back left at the end of the driveway.

- **Debris Disposal:** Costs include removal and disposal of brush, logs and chipped debris generated from tree care operations.

Thank you for considering Barrett Tree Service East, Inc. Sincerely,

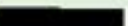
Alden Johnson
Certified Arborist



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Tree List: West Branch Library

Site ID	Species	Recommendations	DBH	Condition - Overall	TRAQ-Risk Rating	Cost
40784	dawn redwood (Metasequoia glyptostroboides)	Biostimulant- soil for soil health. 600ft sq	16.2	Good	Low	
40796	beech: European (Fagus sylvatica)	Biostimulant- soil for soil health. 600ft sq Systemic treatment for Beech leaf disease. (PHC 550). Prune to remove dead, broken branches greater than 1.5" in diameter. Prune to contain outlying limbs by 2-5' in lower half of tree to maintain uniform shape and fastigate form. (600)	15.2	Fair	Low	
40831	beech: European (Fagus sylvatica)	Biostimulant- soil for soil health. 400ft sq Systemic treatment for Beech leaf disease. (PHC 500). Prune to remove dead, broken branches greater than 1.5" in diameter. Prune to contain outlying limbs by 2-5' in lower half of tree to maintain uniform shape and fastigate form. (600)	15.3	Fair	Low	
40876	maple: Norway (Acer platanoides)	Remove. Grind stump	31.9	Poor	Moderate-High	
NA	volunteer saplings	Remove Silver Maple saplings growing out of front foundation. Prune Black Birch clumps back left to simplify systems, raise crown.		NA	NA	
					Total Work	

Map of existing and removed trees/stumps

