



Tree Health Assessment Report
Nathan Tufts Park

Somerville Parks Tree Health Program

IFB #22-11

Prepared by Alden Johnson, MCA, ISA

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February 3, 2022

Overview:

Nathan Tufts Park is a large active park surrounded by high traffic roadways and in close proximity to Davis Square and Tufts University. It occupies 5 acres and is home to 152 deciduous and evergreen shade and ornamental tree, as well as 2 historical structures, open areas of turfgrass and many well-traveled walking paths transecting the park. While the park has diversity of tree species represented, a signature feature of the parks design are the rows of large mature Oak trees that line the major paths running diagonally through the park.

General tree health

The trees within the park area show moderately good vigor, with some structural issues and deferred pruning and root and soil issues. Soil compaction due to heavy foot traffic and mechanical damage by equipment to lower trunks and roots is particularly pronounced and is probably the single most major stress factor for the majority of the trees in this park, limiting these tree's ability to function with the same efficiency as trees in optimal growing conditions. Diverting pedestrian "cut through" traffic away from trees, as well as subsurface injections of an organic biostimulant, air-spading root collars and adding mulch rings will help mitigate future damage and stress.

There is a large amount of deadwood in the mature oak trees lining the main north/south corridors through the park and sidewalks. Pruning to remove hazardous deadwood over high traffic areas should be made a priority. Given extent of work needed and budgetary restraints this work is the primary focus of the work plan attached. Several mature shade trees have major decay of structural wood and/or canopy decline and should be removed as a priority due to public safety concerns.

Other Notable trees

In addition to the predominant Oaks, there are mature Larch trees in close proximity to the two historical structures in the park, which are a lovely and uncommon feature for an urban park. These trees have some storm damaged limbs that should be pruned out as a priority. A large American Elm in the middle of the park provides a nice landmark, and Birch, Gingko, Beech, White Pine, and Red Pine spread throughout the park provide interesting contrast and diversity of canopy.

The large Beech (#39388) at the corner of Broadway and Liberty is in decline, and likely near the end of its life cycle. The attached work plan calls for heavy retrenchment pruning to limit leverage and risk of failure over the street and sidewalk, but this tree is unlikely to recover its past glory as a cornerstone of the park. Instead, the priority should be to encourage the growth and health of the young European Beech (#39265) nearby to take its place.

Soil Health

The soil throughout the park area is highly compacted, particularly in proximity to walking paths and intersections. A 1-2" layer of dark organic soil over a light-colored sandy/gravelly 6" layer

of urban soil, down to 8 inches below grade. No odor, average moisture. Soil test showed a PH of 6.2, which is favorable for most species in the park, although organic matter and select macronutrient levels were low, typical of urban soil in the area.

Removal needs

Several large trees over heavily trafficked areas have severe defects that designate them as higher risk trees, per our Level 1 TRAC assessment and should be removed. These include:

-28" diameter Oak (#39382) with extensive decay at the corner of Powder House Terrace and Liberty Ave

-21.6" Sugar Maple (#39248) with trunk decay On Liberty Ave,

-21.9" Sugar Maple (#39263) with trunk decay on Liberty Ave,

-19.2" diameter Sugar Maple (#39263) with extensive trunk decay along Liberty Ave.

-22" diameter Birch (#39646) with extensive decline and trunk decay leaning towards residence on Powder House Ter,

-24.3" diameter Oak (#39733) over walking path and play area (tree has significant canopy decline and wood decay fungus on trunk).

There are also a few smaller ornamental trees (Crabapple and Birch) that are declining or dead and need to be removed as they have reached the end of their life cycle.

Invasive Trees:

Ailanthus and Norway Maple saplings are growing along the rocky escarpment and should be removed. These are fast growing, invasive brittle trees that will outcompete other more desirable species surrounding them. This is provided for in work plan but will be an ongoing process and should be monitored in the future.

Pruning needs

The large deciduous shade trees should be pruned to remove deadwood, and provide safe clearances from roadways, structures, and to provide proper lines of site. In several cases weight reduction pruning should be done on longer extended limbs over roadways and pathways. Root pruning is needed on the 10" Sugar Maple (#39399) on Liberty Ave and the 13" Beech at the corner of Liberty and Broadway (#39265). I have also recommended a biostimulant injection on these trees. I recommend root pruning on large mature Oaks be done in conjunction with future decompaction/aeration and mulching work.

Pest/Disease treatment

Elm

There are a few trees that are prone to insect pest and disease issues. The feature American Elms in the center of the park and near the traffic circle are susceptible to Dutch Elm Disease, although

no signs disease present at the time of this report. Several Mature American Elms in Somerville succumb to this disease every year. To prevent future infection this tree should be injected with a systemic fungicide at a 3 year rate.

Birches

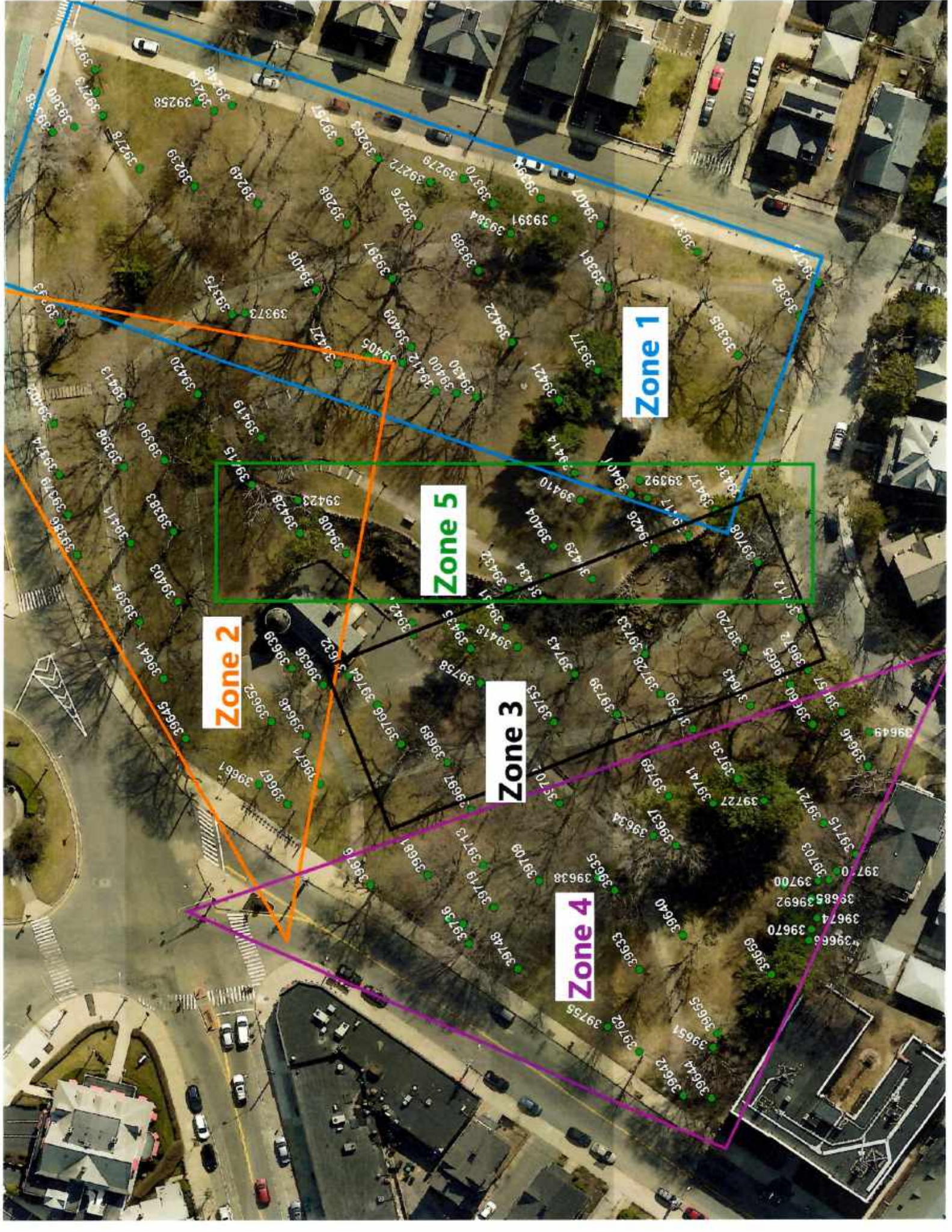
There is a series of Birch trees along the rocky median that runs through the center of the park. These Birches are susceptible to Bronze Birch Borer *Agrilus anxius*, live wood-boring beetle found recently infesting nearby Birches in Somerville. Birch trees facing urban stresses are oversusceptible to borer infestation and these trees should be treated prophylactically with a systemic insecticide every 1-2 years.

2022 Priorities:

- Remove declining, hazardous trees
- Prune to remove large deadwood in Oaks, prune to provide clearances from structures, roadways, pedestrians.
- Canopy cleaning, structural pruning, root pruning of young and medium-sized trees.
- Prophylactic treatments for Dutch Elm disease and Bronze Birch Borer

10-Year Priorities:

- Soil treatments to add organic material to boost soil health and microbial activity.
- Airspading, mulching and re-routing pedestrians and traffic to mitigate soil compaction near walking paths and large mature Oaks.
- Replacement replanting of trees in areas where trees are removed



Zone 1

Zone 5

Zone 2

Zone 3

Zone 4



Accredited Tree Care by Certified Arborists

City of Somerville
93 Highland Ave
Somerville, MA 02143

Home:
Mobile:
Office: 617-625-6600
e-mail: yboukili@somervillema.gov
Alt e-mail:

February 4, 2022
Proposal #: 57529

Job Site:9
Nathan Tufts Park
IFB 22-11 Parks Health Program
Liberty Ave
Somerville, MA 02143

Phone:
Email:
Alt Phone:

Tree and Shrub Care Recommendations on 2/2/2022

Description of Services

- *Work Plan for Nathan Tufts Park, Winter/Spring 2022: February 22-Late March, 2022.*
- *Zone 1: Liberty Ave, from Powder House Terrace to Broadway, Pruning and Select Removals. February 22-25.*
- **28" diameter Oak (#39382) with extensive decay at the corner of Powder House Terrace and Liberty Ave, 21.6" Sugar Maple (#39248) with trunk decay On Liberty Ave, 21.9" Sugar Maple (#39263) with trunk decay on Liberty Ave:**
Tree Removal & Stump Grinding - Take down, dispose of brush, logs and chipped debris generated from removal operations. Grind stump and exposed flare 4-6" below grade; backfill and remove excess grinding debris. Machine will grind up to 4-6" from adjacent immobile objects.
- **19.2" diameter Sugar Maple (#39263) with extensive trunk decay along Liberty Ave:**
Tree Removal & Stump Grinding - Take down, dispose of brush, logs and chipped debris generated from removal operations. Grind stump and exposed flare 4-6" below grade; backfill and remove excess grinding debris.



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 1/2% per month, 18% per year on unpaid balances.



Tree and Shrub Care Recommendations on 2/2/2022

Description of Services

- Oaks along main paths on Liberty Ave side of the Park

Mature Tree Pruning:

Canopy Cleaning/Raising/Reduction - Selective pruning to remove declining, dead and broken branches greater than 2" in diameter, and provide clearances, weight reduction as specified per tree in the attached spreadsheet.



- Deciduous and Evergreen Trees along Liberty ave, (Maples, Oak, Pines, Spruce, Planetree):

Mature Tree Pruning:

Canopy Cleaning/Raising/Reduction - Selective pruning to remove declining, dead and broken branches greater than 2" in diameter, and provide clearances, weight reduction as specified per tree in the attached spreadsheet.



- Trees around the Powderhouse: Larch, White Pine, Crabapple

Mature Tree Pruning:

Canopy Cleaning/Raising/Reduction - Selective pruning to remove declining, dead and broken branches greater than 2" in diameter, and provide clearances, weight reduction as specified per tree in the attached spreadsheet.



- 8" diameter Crabapple (#39273) and 5.8" Crabapple (#39380), both declining/dead:

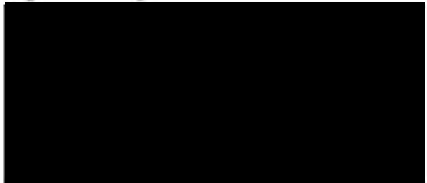
Tree Removal & Stump Grinding - Take down, dispose of brush, logs and chipped debris generated from removal operations. Grind stump and exposed flare 4-6" below grade; backfill and remove excess grinding debris.



- Trees at the corner of Broadway and Liberty: Beech, Crabapple.

Mature Tree Pruning:

Canopy Cleaning/Raising/Reduction - Selective pruning to remove declining, dead and broken branches greater than 2" in diameter, and provide clearances, weight reduction as specified per tree in the attached spreadsheet.



- Fees and Permits for Zone 1 work described above:



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 2/2/2022

Description of Services

- **Posting No Parking signs along length of Liberty Ave** [REDACTED]
- **Police detail 4 days.** [REDACTED]
- **Park Closure:** Note the above work will require the park areas, including the main paths through this section of the park to be closed for approximately 4 days (Feb 22-25) from 7AM until 3PM during the project.
- ***Zone 2: Broadway And Powder House Circle Pruning February 25-March 4.***
- **Mature Tree Pruning:**
Canopy Cleaning/Raising/Reduction - Selective pruning to remove declining, dead and broken branches greater than 2" in diameter, and provide clearances, weight reduction as specified per tree in the attached spreadsheet.
[REDACTED]
- **Mature Oaks along main walking Path, Broadway/Traffic Circle:**
- **Mature Tree Pruning:**
Canopy Cleaning/Raising/Reduction - Selective pruning to remove declining, dead and broken branches greater than 2" in diameter, and provide clearances, weight reduction as specified per tree in the attached spreadsheet.
[REDACTED]
- **Young Oaks and Pear near Traffic Circle, Ornamental Trees surrounding the Historic Stone Building:**
- **Mature Tree Pruning:**
Canopy Cleaning/Raising/Reduction - Selective pruning to remove declining, dead and broken branches greater than 2" in diameter, and provide clearances, weight reduction as specified per tree in the attached spreadsheet.
[REDACTED]
- ***Zone 3: Mature trees between College Ave and Powder house Terrace March 3- March 7.***
- **Mature Oaks (as well as Pines, Birch) along main walking Path, Historic Building to Powderhouse Terrace.**
- **Mature Tree Pruning:**
Canopy Cleaning/Raising/Reduction - Selective pruning to remove declining, dead and broken branches greater than 2" in diameter, and provide clearances, weight reduction as specified per tree in the attached spreadsheet.
[REDACTED]



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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 2/2/2022

Description of Services

- **24.3" diameter Oak (#39733) over walking path and play area (tree has significant canopy decline and wood decay fungus on trunk):**

Tree Removal & Stump Grinding - Take down, dispose of brush, logs and chipped debris generated from removal operations. Grind stump and exposed flare 4-6" below grade; backfill and remove excess grinding debris.

- **Fees and Permits for Zone 3 work described above:**

- **Police detail 2 days.**

- **Park Closure:** Note the above work will require the park areas, including the main paths through this section of the park to be closed for approximately 3 days (March 3-7) from 7AM until 3PM during the project.

- **Zone 4: Mature trees between College Ave and Powder house Terrace Late March 2022.**

- **Mature Tree Pruning:**

Canopy Cleaning/Raising/Reduction - Selective pruning to remove declining, dead and broken branches greater than 2" in diameter, and provide clearances, weight reduction as specified per tree in the attached spreadsheet.

- **22" diameter Birch (#39646) with extensive decline and trunk decay leaning towards residence:**

Tree Removal & Stump Grinding - Take down, dispose of brush, logs and chipped debris generated from removal operations. Grind stump and exposed flare 4-6" below grade; backfill and remove excess grinding debris.

- **5.6" diameter dead Crabapple (#39642) along College Ave**

Tree Removal & Stump Grinding - Take down, dispose of brush, logs and chipped debris generated from removal operations. Grind stump and exposed flare 4-6" below grade; backfill and remove excess grinding debris.

- **Park Closure:** Note the above work will require the park areas, including the main paths through this section of the park to be closed for approximately 4 days Late March 2022 from 7AM until 3PM during the project.

- **Police detail 2 days.**



This proposal is valid for 45 days, assuming there are no changes to the site (driveway, plantings, buildings etc. remain unchanged).
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Payment due upon completion of work. 1 ½% per month, 18% per year on unpaid balances.



Tree and Shrub Care Recommendations on 2/2/2022

Description of Services

- **Zone 5: The Rock Escarpment.** *This work to be done in conjunction with any other zone, as schedule allows.*

- **Mature trees (Birch, Pine, Oak Elm,) and Invasive saplings along Central Rock Wall/Escarpment:**

- **Mature Tree Pruning**

Canopy Cleaning/Raising/Reduction - Selective pruning to remove declining, dead and broken branches greater than 2" in diameter, and provide clearances, weight reduction as specified per tree in the attached spreadsheet.

- **Invasive saplings on growing out of Rock Escarpment (Ailanthus and Norway Maple)**

Tree Removal - Take down and cut stump low to grade as equipment allows, dispose of brush, logs and chipped debris generated from removal operations.

- **6" diameter Birch (#39423) with 70% dieback**

Tree Removal - Take down and cut stump low to grade as equipment allows, dispose of brush, logs and chipped debris generated from removal operations.

- **Disease and Pest Management: Summer 2021**

Preventative treatment for Elms and Birches throughout park:

- **Bronze Birch Borer/Leaf Miner Control** - Apply a systemic insecticide to the lower trunk and flare to help control borer and leaf miner damage on the White Birches along the central Rock Escarpment.

- **Dutch Elm Disease Control** - Inject an systemic fungicide into the flare around the base of the tree to help control disease infection on **(2) Mature American Elms**. Treatment provides three growing seasons of protection following application.

- **Bio-stimulant Application** - Early season. Treat soils within the critical root zone (typically within the dripline) of the 10" Sugar Maple (#39399) on Liberty Ave and the 13" Beech at the corner of Liberty and Broadway (#39265) with an organic liquid blend of humic acids, kelp extract and natural compounds to enhance soil structure, microbial activity and nutrient availability.



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 1/2% per month, 18% per year on unpaid balances.



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

Alden Johnson
Certified Arborist



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.



Massachusetts Arborists Association

Site ID	Species	DBH	Primary Maintenance Need	Units
Tufts Park Zone 1				
39382	oak: northern red (Quercus rubra)	28	Removal	1
39248	maple: sugar (Acer saccharum)	21.6	Removal	1
39263	maple: sugar (Acer saccharum)	21.9	Removal	1
39258	maple: sugar (Acer saccharum)	19.2	Removal	1
39376	oak: northern red (Quercus rubra)	27.8	Prune to remove 2"DW, Raise 14-16' from street, sidewalk	4
39385	oak: northern red (Quercus rubra)	35.8	Prune to remove 2"DW (600), inspect cable (75), replace cable (380)	4
39381	oak: northern red (Quercus rubra)	41.5	Prune to remove D/W greater than 2", Raise 10-12 over sidewalk	6
39389	oak: swamp white (Quercus bicolor)	4.5	Young Tree Train/Structural prune, pruned surrounding trees to provide 6-8' clearance for tree to grow.	1
39422	oak: northern red (Quercus rubra)	32.9	Prune to remove D/W 2" and larger, Raise 10-12' off ground by removing 1st 4" drooping limb	8
39430	oak: white (Quercus alba)	31.4	Prune to remove D/W greater than 2" in diameter	4
39400	oak: white (Quercus alba)	14.1	Prune to remove D/W greater than 2"	1
39412	oak: white (Quercus alba)	19.5	Prune to remove D/W greater than 2"	3

39409	oak: white (Quercus alba)	17.5	Prune to remove D/W greater than 2"	3
39405	oak: white (Quercus alba)	16.9	Prune to remove D/W greater than 2"	2
39268	oak: black (Quercus velutina)	26.8	Prune to remove D/W greater than 2"	4
39387	oak: white (Quercus alba)	9	Prune to remove D/W 2" and larger	2
39396	oak: white (Quercus alba)	22.5	Prune to remove D/W greater than 2"	4
39427	oak: swamp white (Quercus bicolor)	22.1	Prune to remove D/W 2" and larger	4
39420	oak: northern red (Quercus rubra)	29.9	Prune to remove D/W 2" and larger	6
39373	oak: northern red (Quercus rubra)	29.4	Tree Clean Prune to remove 2" D/W	4
39375	oak: northern red (Quercus rubra)	32.4	Prune to remove 2" D/W	5
39406	oak: northern red (Quercus rubra)	50.5	Prune to remove D/W 2" and larger, Prune to reduce weight and leverage on the 30" diameter limb on the uphill side of the tree over walking path thru a series of (6-10) 2-4" cuts at branch ends	8
39397	oak: northern red (Quercus rubra)	43.8	Prune to remove D/W greater than 2"	8

39371	maple: sugar (Acer saccharum)	8.1	prune to remove 2" DW, Gstructure (150), Raise 10' sidewalk, prune girdling root (125)
39407	oak: northern red (Quercus rubra)	22.3	Prune to remove 2" D/W, Raise 14- 16' over the street
39391	pine: red (Pinus resinosa)	22.7	None
39384	pine: red (Pinus resinosa)	15.8	Prune to remove D/W greater than 2"
39399	maple: sugar (Acer saccharum)	7.9	Prune to remove D/W greater than 2" (150), Raise 10' over sidewalk, Prune gridling roots (125) Soil amendment (200)
39378	pine: red (Pinus resinosa)	11.7	Prune to remove D/W greater than 2"
39276	maple: Norway (Acer platanoides)	17.2	Prune to remove 2" D/W
39370	pine: red (Pinus resinosa)	15.3	Prune to remove D/W greater than 2"
39279	planetree: London (Platanus x acerifolia)	12.7	Prune to remove D/W greater than 2", Raise 10-12 over sidewalk, 14- 16 over street.
39272	spruce: white (Picea glauca)	15	Prune to remove D/W greater than 2"
39257	maple: sugar (Acer saccharum)	24.1	Prune to remove D/W greater than 2"

39264	maple: sugar (Acer saccharum)	24.2	Prune to remove D/W greater than 2"	4
39249	maple: Norway (Acer platanoides)	19	Prune to remove D/W greater than 2"	2
39239	maple: Norway (Acer platanoides)	28.2	Prune to remove D/W greater than 2", Raise 12-14' over sidewalk Retrenchment: Rmv large storm damaged stub, then reduce 15" leader over the light and walkway by making a 12" dia. reduction cut	8
39278	maple: Norway (Acer platanoides)	22.2	Prune to remove D/W greater than 2", Raise 10-12 over sidewalk	3
39377	pine: eastern white (Pinus strobus)	27.6	Prune to remove D/W greater than 2"	5
39421	pine: eastern white (Pinus strobus)	27.9	Prune to remove 2" D/W	5
39414	larch: European (Larix decidua)	23	Prune to remove large broken hanger. Raise 4-6' out of the light.	4
39401	larch: European (Larix decidua)	16.4	None	0
39410	larch: European (Larix decidua)	20.8	None	0
39392	larch: European (Larix decidua)	30.9	Prune to raise 4-6' from structure, remove 2" deadwood	4
39372	larch: European (Larix decidua)	14	None	0

39404	crabapple: flowering (Malus spp.)	17.6	Prune to remove deadwood greater than 2" in diameter, raise 8' of lawn and walkways	2
39395	crabapple: flowering (Malus spp.)	17.9	Prune to remove D/W greater than 1.5" in diameter. Raise 8' off lawn and pathway	2
39429	crabapple: flowering (Malus spp.)	12.9	Prune to remove D/W greater than 1.5" in diameter. Raise 8' off lawn and pathway	2
39273	crabapple: flowering (Malus spp.)	8	Removal	1
39380	crabapple: flowering (Malus spp.)	5.8	Removal	1
39271	crabapple: flowering (Malus spp.)	8.8	Prune to remove D/W greater than 1", Prune to improve structure	1
39265	beech: American (Fagus grandifolia)	13.7	Prune to remove D/W greater than 2", Raise 10-12 over sidewalk, prune to improve structure, Excavate root flare (200) Add compost (100) mulch ring (75) Root pruning (125) Soil amendment (200)	3
39388	beech: American (Fagus grandifolia)	33.8	Prune to remove D/W greater than 2", Raise 10-12 over sidewalk, 14-16' over the street. Reduce longer tips over the stret to limit leverage over traffic.	6
			Zone 2	
39393	oak: northern red (Quercus rubra)	41.6	Prune to remove 2" D/W, Raise 14-16' over street and sidewalk, (includes making a 6" reduction cut over the sign and sidewalk, 6-8' away from the streetlight	10

39402	beech: European (Fagus sylvatica)	23.2	Prune to remove D/W greater than 2" in diameter, raise to provide 14-16' over the street. Root prune to remove 2" girdling root (125)	4
39374	maple: red (Acer rubrum)	11.2	Prune to remove 2"DW, Raise 14-16' from street, sidewalk	2
39379	maple: red (Acer rubrum)	10.1	Prune to remove 2"DW, Raise 14-16' from street, sidewalk	2
39386	maple: red (Acer rubrum)	10.3	Prune to remove 2"DW, Raise 14-16' from street, sidewalk	2
39645	oak: northern red (Quercus rubra)	36.3	Prune to remove D/W greater than 2", Raise 10-12 over sidewalk, 14-16' over the street. Reduce longer limb over the traffic circle by making a 6" cut.	10
39641	oak: northern red (Quercus rubra)	32.7	Prune to remove D/W greater than 2" in diameter.	8
39394	oak: northern red (Quercus rubra)	43.2	Prune to remove D/W greater than 2"	9
39411	oak: northern red (Quercus rubra)	32.8	Prune to remove D/W 2" and larger	6
39398	oak: northern red (Quercus rubra)	32.1	Prune to remove D/W greater than 2"	6
39413	oak: northern red (Quercus rubra)	42.4	Prune to remove D/W 2" and larger, Raise 12-14' off the lawn and path, 6-8' out of the street light	10

39390	oak: northern red (Quercus rubra)	28.5	Prune to remove 2"DW	6
39383	oak: northern red (Quercus rubra)	30.4	Prune to remove 2" D/W	6
39403	oak: northern red (Quercus rubra)	38.8	Prune to remove D/W greater than 2" in diameter	6
39661	oak: northern red (Quercus rubra)	11.9	Prune to remove D/W greater than 2", Raise canopy to provide 8-12' of clearance off ground, pathways, signs, streetposts	2
39648	oak: northern red (Quercus rubra)	15.5	Prune to remove D/W greater than 2", Raise canopy to provide 8-12' of clearance off ground, pathways, signs, streetlights	3
39652	crabapple: flowering (Malus spp.)	15.5	Prune to remove D/W greater than 1.5" in diameter. Raise 8' off lawn and pathway	2
39667	oak: northern red (Quercus rubra)	14.8	Prune to remove D/W greater than 2", Raise canopy to provide 8-12' of clearance off ground, pathways, signs, streetposts	3
39671	pear: callery (Pyrus calleryana)	7.5	Prune to improve structure, reduce/thin competing leaders.	2
39632	crabapple: flowering (Malus spp.)	10.1	Prune to remove D/W greater than 1.5" in diameter. Raise 8' off lawn and pathway, off building as needed	2

39636	crabapple: flowering (Malus spp.)	14.3	Prune to remove D/W greater than 1.5" in diameter. Raise 8' off lawn and pathway, off building as needed	2
39639	crabapple: flowering (Malus spp.)	15.5	Prune to remove D/W greater than 1.5" in diameter. Raise 8' off lawn and pathway	2
39428	pine: red (Pinus resinosa)	16.5	Prune to remove D/W greater than 2" in diameter, including 6" hanger	3
39408	farch: European (Larix decidua)	17.4	Prune to raise out of streetlight 4-6	1
39424	dogwood: flowering (Cornus florida)	8	Prune to remove D/W greater than 1" diameter	0.5
39416	dogwood: flowering (Cornus florida)	4.3	Prune to remove D/W 1" and larger	0.5
39431	dogwood: flowering (Cornus florida)	5.1	Prune to remove D/W greater than 1" diameter	0.5
Zone 3				
39764	oak: northern red (Quercus rubra)	9.3	raise 10-12 of walkway, prune to improve struct. Remove 1.5" d/w	2
39766	oak: northern red (Quercus rubra)	34.4	Prune to remove D/W greater than 2"	6
39689	oak: white (Quercus alba)	25.5	Prune to remove D/W greater than 2"	4

39758	oak: northern red (Quercus rubra)	32.3	Prune to remove 2" D/W	6
39435	pine: eastern white (Pinus strobus)	19.6	Prune to remove D/W greater than 2" in diameter. Raise 8' off Dogwood	2
39418	pine: eastern white (Pinus strobus)	14	None	0
39433	pine: eastern white (Pinus strobus)	21.9	Prune to remove D/W greater than 2" in diameter. Raise 8' off Dogwood	2
39743	oak: northern red (Quercus rubra)	33.2	Prune to remove 2" D/W	8
39753	oak: northern red (Quercus rubra)	29.3	Prune to remove D/W greater than 2"	6
39739	oak: northern red (Quercus rubra)	38.8	Prune to remove 2" D/W	8
39733	oak: northern red (Quercus rubra)	24.3	Removal	1
39728	oak: northern red (Quercus rubra)	38.8	Prune to remove D/W greater than 2", Raise to remove 8" diameter limb crossing and rubbing the Birch	8
39750	birch: yellow (Betula alleghaniensis)	15.2	Prune to remove 1.5" D/W, Raise 10-12 off walkway	1
39643	birch: river (Betula nigra)	22.9	Prune to remove D/W greater than 2"	3

39720	oak: northern red (Quercus rubra)	38.4	Prune to remove D/W greater than 2"	8
39708	oak: northern red (Quercus rubra)	33.3	Prune to remove D/W greater than 2" diameter	6
39712	oak: northern red (Quercus rubra)	36.9	Prune to remove D/W greater than 2", Rentrancement pruning to reduce leverage over street through a series of (6-12) 3-5" diameter cuts	10
Zone 4				
39672	pine: red (Pinus resinosa)	22.1	Prune to remove D/W greater than 2"	1
39665	pine: red (Pinus resinosa)	16.5	Prune to remove D/W greater than 2"	1
39660	pine: red (Pinus resinosa)	19.2	Prune to remove D/W greater than 2"	1
39657	pine: red (Pinus resinosa)	19.6	Prune to remove D/W greater than 2"	1
39649	larch: European (Larix decidua)	21.6	Prune to remove D/W greater than 2", raise 4-6' out of the wires	3
39646	birch: paper (Betula papyrifera)	22.1	Removal	1
39727	spruce: Norway (Picea abies)	19.7	None	0
39735	pine: eastern white (Pinus strobus)	29.3	Prune to remove D/W greater than 2"	4

39741	spruce: Norway (Picea abies)	25	Prune to remove D/W greater than 2"	2
39759	douglas-fir (Pseudotsuga menziesii)	21.2	Prune to remove 2" D/W	3
39715	oak: northern red (Quercus rubra)	48	None	0
39710	pine: eastern white (Pinus strobus)	23.5	None	0
39703	pine: eastern white (Pinus strobus)	11.5	None	0
39721	hawthorn: spp. (Crataegus spp.)	3.6	Tree Clean	0
39700	pine: eastern white (Pinus strobus)	7.6	None	0
39685	pine: eastern white (Pinus strobus)	8.9	None	0
39679	pine: eastern white (Pinus strobus)	12.6	Prune to raise 8-10' over the ground. Clean to remove low deadwood greater than 1.5" in diameter	1
39666	pine: eastern white (Pinus strobus)	28.3	Prune to remove D/W greater than 2", raise to provide 8-10' clearance off of the building	8
39670	maple: red (Acer rubrum)	4	None	0
39674	maple: sugar (Acer saccharum)	5	Young Tree Train/Structural prune	0.5

39692	maple: Norway (Acer platanoides)	8.3	None	0
39659	pine: eastern white (Pinus strobus)	25.9	Prune to remove D/W greater than 2", raise to provide 8-10' clearance off of the building	4
39655	larch: European (Larix decidua)	18.6	Prune to remove D/W greater than 2"	3
39651	beech: American (Fagus grandifolia)	26.3	Prune to remove D/W greater than 1.5" in diameter. Raise 8' off lawn and pathway	3
39644	maple: red (Acer rubrum)	23.5	Prune to remove D/W greater than 2", Raise canopy to provide 8-12' of clearance off ground, pathways, signs, and 2-4' of clearance out of the communication wires	6
39762	ginkgo (Ginkgo biloba)	16.2	None	0
39642	crabapple: flowering (Malus spp.)	5.4	Removal	1
39755	beech: American (Fagus grandifolia)	17.5	Prune to remove 2" D/W, Raise 10-12' off sidewalk and lawn	2
39633	beech: American (Fagus grandifolia)	16.3	Prune to remove D/W greater than 1.5" in diameter. Raise 8-10' off lawn and pathway	2
39640	Japanese pagodatree (Styphnolobium japonicum)	16.7	Prune to remove D/W greater than 2" in diameter.	3
39637	beech: American (Fagus grandifolia)	34.4	None	0

39634	beech: American (Fagus grandifolia)	31.3	Prune to remove 2" D/W	4
39635	beech: American (Fagus grandifolia)	26.6	Prune to remove 2" D/W	4
39638	spruce: white (Picea glauca)	15.4	None	0
39702	oak: white (Quercus alba)	28.2	Prune to remove 2" D/W	6
39697	maple: Norway (Acer platanoides)	12	Prune to remove D/W greater than 2"	2
39709	maple: Norway (Acer platanoides)	28.8	Prune to remove D/W greater than 2" diameter	3
39713	maple: Norway (Acer platanoides)	19.3	Prune to remove D/W greater than 2"	3
39719	maple: Norway (Acer platanoides)	22.4	Prune to remove D/W greater than 2"	3
39681	maple: Norway (Acer platanoides)	25.4	ground, including one 3" and 1 5" low limbs. Clean to remove low deadwood greater than 2" in	4
39748	crabapple: flowering (Malus spp.)	7.6	Prune to remove D/W greater than 2"	1
39736	beech: American (Fagus grandifolia)	24.3	Prune to remove D/W greater than 2", Raise over street 14-16'	4
39729	beech: American (Fagus grandifolia)	13.5	Prune to remove D/W greater than 2"	1

39723	beech: American (Fagus grandifolia)	29.2	Prune to remove D/W greater than 2", Raise over street 14-16'	4
39676	elm: American (Ulmus americana)	23.5	Prune to raise 14-16' over the street. Clean to remove deadwood greater than 2" in diameter. Treat for DED 1200	4
Zone 5				
39436	pine: red (Pinus resinosa)	29.3	Prune to raise 3-5' wires, remove 2" deadwood	2
39417	oak: northern red (Quercus rubra)	14.7	Prune to remove D/W 2" and larger	3
39437	pine: eastern white (Pinus strobus)	22.8	none	0
39426	birch: paper (Betula papyrifera)	11.4	Prune to remove D/W greater than 2" diameter, treat for Borer	2
39425	birch: paper (Betula papyrifera)	7.8	Prune to remove D/W greater than 2" diameter, treat for Borer	3
39432	birch: paper (Betula papyrifera)	7.8	Prune to remove D/W greater than 2" diameter (150), treat for Borer (300)	3
39434	birch: paper (Betula papyrifera)	11.2	Prune to remove D/W greater than 2" diameter (150), treat for Borer (300)	4
39423	birch: paper (Betula papyrifera)	6.3	Removal	1
39415	birch: paper (Betula papyrifera)	10.5	Prune to remove D/W greater than 2" diameter, treat for Borer	4

39419	elm: American (Ulmus americana)	26.7	Prune to raise 14-16' over the street. Clean to remove deadwood greater than 2" in diameter. Treat for DED 1200	4	[REDACTED]
NA	Misc Volunteer invasives along rock wall	2"	Removal	20	