

Use the tree ID numbers and the map to see which trees are being pruned, removed, etc.



**Tree Health Assessment Report
Marshall Street Playground**

Somerville Parks Tree Health Program

IFB #20-19

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December 11, 2019

Overview:

Marshall St Playground is an active park with a playground. It is currently home to 28 deciduous shade trees and evergreen ornamentals. There is a high density of young-medium aged plantings in the park.

General tree health

This is a very densely planted park with limited root space for the tree population, which is divided primarily into two shade tree species: Callery Pear and Red Maple. Many of the trees display good vigor and growth, while several, in particular along the north and east borders, are displaying signs of stress and decline. Poor past pruning practices, trunk damage as well as limited root space and quality soil as well as competition from surrounding trees are likely all contributing stress factors. The north side of the park contains a large mature American Elm in advanced decline. I believe the above-mentioned stress factors are all contributors to the Elm's decline, in addition to advanced age and likely disturbance to the tree's root system during initial construction of the playground.

Soil Health

The soil throughout the park consists of two major types: many layers of old organic mulch material that has partly composted and developed into a thick fibrous root mat. Areas other than the mulch/root mat material consist of stone dust masonry base material under a thin layer of mulch. Medium compaction, No odor. Soil test results indicate PH and macronutrient levels are close to optimum levels.

Pest treatment

No evidence of critical tree pests at this time.

Other correction of adverse conditions

Shallow root systems and limited soil area have contributed to girdling roots in many of the red maples in the park. Girdling roots should be lightly excavated with an Airspade and be pruned appropriately where possible. Because this park is so densely planted, I believe certain trees will need to be removed in coming decade as growth and competition advance. Our Level 1 TRAQ assessment of all trees results in a "low" risk rating, with the exception of all declining trees to be removed which pose a "moderate" risk.

Removal needs

The large Elm (#42116) at the north entrance to the park is in advanced decline and should be removed, as well as the Red Maple on the north side, and volunteer Mulberry, Elm Norway maple saplings growing through the fence on the south side.

Pruning needs

The Pear and Maple trees in this group present a low risk, and should be pruned to provide 6-8' of clearance off street lights, fences, 10' off the sidewalk and playground and 14' vertical off Marshall St. and neighbor's property. Canopy clean to remove dead and broken branches 1" and larger. Codominant stems should be subdued through select 2-3" reduction cuts in the upper 1/3rd of canopy. Remove sucker sprouts at the base of the pear trees and deadwood from the Cedar trees. The large Silver Maple growing through the fences on the south of the park should be pruned to raise off the playground and remove deadwood 2" in diameter and larger.

2020 Priorities:

- -Declining tree removal
- -Root pruning
- -Canopy cleaning, raising, improving structure

Future priorities:

- Thinning out/removal of select Callery pears to limit competition and make room for a replacement generation
- Gradual Replacement of Callery Pears with more suitable ornamental trees



Accredited Tree Care by Certified Arborists

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December 11, 2019
Proposal #: 37452

Job Site:
Somerville Parks Tree Health Program
IFB#20-19
Various Locations
Somerville, MA 02143

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Tree and Shrub Care Recommendations on 12/5/2019

Description of Services

- Marshall Playground Work Plan

- **Map:** See attached

Schedule and sequence: We plan to complete the pruning and removal work proposed during the hours of 7AM-3PM over the course 3 business days to be named in February-March 2020. Root air excavation and pruning work would one day and be scheduled for March-April 2020.

Crew and Equipment:

Pruning work 2 person crew, including a certified arborist, bucket truck and wood chipper.

Removal work: 3 person crew with a certified arborist, boom truck, bucket truck and chipper for removal work.

Root air excavation/root pruning work: 1 person crew including a certified arborist, trailer-mounted air compressor, Air-Spade tool and light-duty truck.

Park Closures: Playground should be closed for 2 weekdays from 7AM-3PM this winter for pruning and removal operations, and (1) weekday this spring for root work.

Traffic and Pedestrian Management plan: Allow for vehicular traffic and pedestrians to safely pass the work site. Use proper signage, cones and caution tape to clearly identify the work site, and utilize a police detail to ensure safety. Written plan to be submitted to city traffic engineer for approval prior to work.

Equipment access All truck access will be on hard-paved paved surfaces All other access will be on foot. No equipment on poured-in-place surface.



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.



- 32" diameter American Elm (#42116) at the north entrance to the park

Tree Removal - Take down and cut stump at a height as directed for future art project. Dispose of brush, logs and chipped debris generated from removal operations.

- 9.2" diameter declining Red Maple (#42075) on the north side

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. We will not remove other inorganic debris, nor are we responsible for damage to unmarked irrigation and underground non-utility services.

- All remaining Red Maples in the park (10 trees total)

Structural Pruning - Selective pruning to improve branch architecture and subdue codominant stems through select 2-3" reduction cuts in the upper 1/3rd of canopy.

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

Canopy Raising - Selective pruning to provide 6-8' of clearance off street lights, fence as well as 10 vertical feet off the sidewalk and playground and 14' off Marshall St. and neighboring properties

- All remaining Red Maples in the park (10 trees total)

Root Crown pruning - Utilize air excavation tools to expose root flare; inspect and evaluate area for girdling roots, and prune roots

- All Pear trees in park (6 total):

Structural Pruning - Selective pruning to improve branch architecture; select, develop and maintain strong, properly spaced scaffold branches by reducing or removing interfering, overextended, defective and poorly attached limbs.

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

Canopy Raising - Selective pruning to provide a 10 foot envelope of clearance off the playground and any structures

*Remove sucker sprouts at the base of all Pear trees

- 9" diameter Pear (#42097) north side of the playground:

Root Crown Excavation/pruning - Utilize air excavation tools to remove soil, organic matter and mulch to expose root flare; inspect and evaluate area for girdling roots, prune accordingly.



- **Row of (10) White Cedar (#41966) along the eastern edge of the park**
Canopy Cleaning - Selective pruning to remove declining, dead and broken branches greater than 2" in diameter.

- **(3) Mulberry, Maple Saplings growing through the southern fence**
Weed Tree Removal - Take down and cut stump low to grade as equipment allows, dispose of brush, logs and chipped debris generated from removal operations.

- **38" diameter Silver Maple (#41961) south side of the park, in between the fences:**
Canopy Cleaning - Selective pruning to remove declining, dead and broken branches greater than 2" in diameter.
Canopy Raising - Selective pruning to provide a minimum of 20 feet of clearance over the playground.

- Posting of "No Parking" signs on Marshall St and Mortimer Pl

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



Marshall Street Playground



Marshall Playground

| Site ID | Species | DBH | Work Recommended | Risk rating |
|---------|---|------|---|-------------|
| 42116 | elm: American (Ulmus americana) | 31.2 | Tree Removal | Moderate |
| 42104 | pear: callery (Pyrus calleryana) | 11 | Structural Prune, Canopy Clean & Raise | Low |
| 42097 | pear: callery (Pyrus calleryana) | 9 | Structural Prune, Canopy Clean & Raise, Root Excavation & Prune | Low |
| 42084 | maple: red (Acer rubrum) | 9.8 | Structural Prune, Canopy Clean & Raise, Root Excavation & Prune | Low |
| 42075 | maple: red (Acer rubrum) | 9.2 | Tree Removal, stump grinding | Moderate |
| 42067 | maple: red (Acer rubrum) | 10.2 | Structural Prune, Canopy Clean & Raise, Root Excavation & Prune | Low |
| 42057 | maple: red (Acer rubrum) | 13.4 | Structural Prune, Canopy Clean & Raise, Root Excavation & Prune | Low |
| 42049 | maple: red (Acer rubrum) | 11.6 | Structural Prune, Canopy Clean & Raise, Root Excavation & Prune | Low |
| 42038 | maple: red (Acer rubrum) | 11.5 | Structural Prune, Canopy Clean & Raise, Root Excavation & Prune | Low |
| 42030 | whitecedar: Atlantic (Chamaecyparis thyoides) | 2.3 | Canopy Cleaning | Low |
| 41995 | maple: Norway (Acer platanoides) | 1 | Weed Tree Removal | Low |
| 41975 | elm: hybrid (Ulmus x) | 5 | Not in Scope | Low |
| 41985 | boxelder (Acer negundo) | 2 | Weed Tree Removal | Low |
| 41966 | whitecedar: Atlantic (Chamaecyparis thyoides) | 2.3 | Canopy Cleaning | Low |
| 41961 | maple: silver (Acer saccharinum) | 38 | Canopy Clean & Raise | Low |
| 42003 | pear: callery (Pyrus calleryana) | 7.4 | Structural Prune, Canopy Clean & Raise | Low |
| 42134 | maple: red (Acer rubrum) | 6.1 | Structural Prune, Canopy Clean & Raise, Root Excavation & Prune | Low |
| 42139 | mulberry: white (Morus alba) | 2 | Weed Tree Removal | Low |
| 42125 | maple: red (Acer rubrum) | 8.8 | Structural Prune, Canopy Clean & Raise, Root Excavation & Prune | Low |

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|-------|----------------------------------|------|---|-----|
| 42117 | maple: red (Acer rubrum) | 11.1 | Structural Prune, Canopy Clean & Raise, Root Excavation & Prune | Low |
| 42107 | maple: red (Acer rubrum) | 10 | Structural Prune, Canopy Clean & Raise, Root Excavation & Prune | Low |
| 42095 | maple: red (Acer rubrum) | 10.4 | Structural Prune, Canopy Clean & Raise, Root Excavation & Prune | Low |
| 42086 | pear: common (Pyrus communis) | 11.3 | Structural Prune, Canopy Clean & Raise | Low |
| 42066 | pear: common (Pyrus communis) | 8.7 | Structural Prune, Canopy Clean & Raise | Low |
| 42077 | pear: common (Pyrus communis) | 10.6 | Structural Prune, Canopy Clean & Raise | Low |
| 42055 | pear: common (Pyrus communis) | 6.7 | Structural Prune, Canopy Clean & Raise | Low |
| 42021 | pear: callery (Pyrus calleryana) | 8.5 | Structural Prune, Canopy Clean & Raise | Low |
| 42010 | pear: callery (Pyrus calleryana) | 8.8 | Structural Prune, Canopy Clean & Raise | Low |