



Durrell Pocket Park and Community Garden Work Plan

Somerville, MA

April 2021

Prepared for:

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Purpose

In an effort to promote the health of existing trees within Durrell Pocket Park and Community Garden, all trees and soils within the park were assessed and the following maintenance recommendations are provided.

Key Recommendations

- 2 Trees recommended for removal
- 4 Trees recommended for pruning (see Appendix III for pruning specifications)
- Mulching recommended for 4 trees
- Soil Amendments recommended for 4 trees

Removals

Tree removal activities shall adhere to the following specifications:

1. ANSI Z-133 standards for tree worker safety will be followed.
2. Trees shall be removed safely and in parts as necessary.
3. The tree stump will be pulled out whenever possible. If the stump cannot be pulled out, it will be ground out to a depth of six (6) inches below the normal surface level including all surface roots. Immediately after grinding each stump, the grindings must be removed from the work area.
4. Backfill consisting of clean earthen soil, free from debris, shall be used to fill any cavities remaining after stump removal. Wood chips will NOT be used as backfill. Sufficient backfill shall be used to bring the cavity to grade. The backfill soil shall then be covered with a seeding mix approved by the City Urban Forester.
 - a. Planting and backfill soil shall be a natural, fertile, friable loam typical of cultivated topsoil of the locality, containing at least 10% and not more than 20% decayed organic matter (humus). Topsoil shall be free of sub-soil, stones greater than 1-¼ inches in diameter in the longest dimension, earth clods, sticks, stumps, clay lumps, roots, or other objectionable, extraneous matter or debris. Topsoil shall not be by test either excessively acid or alkaline nor contain toxic substances. Soil soluble salt content shall be less than 2 dS/m, and pH shall be between 5.5 and 6.5. Topsoil shall not be delivered or used for planting while in a frozen or muddy condition.
5. Any tree parts (branches, leaves, wood chips, grindings) shall be cleaned from adjacent sidewalks, lawns, streets, and gutters at the end of the work, or if the work spans multiple days, then at the end of each day.
6. All labor, supervision, equipment, materials, and supplies necessary for the execution of this work must shall provided for by the contractor at no additional cost to the City.
7. All debris disposals will be provided by the contractor at no additional cost to the City.

Tree #42626 is an approximately 30" *Ailanthus altissima*. (tree-of-heaven). It is in poor condition and is recommended for removal. It also presents an elevated risk as it is located close to the building on 42 Harrison St. Additionally, the Massachusetts Invasive Plant Advisory Group (MIPAG) lists *Ailanthus altissima* as an invasive species.



Tree #42606 is an approximately 27" *Robinia pseudoacacia* (black locust). It is in poor condition and is recommended for removal. It also presents an elevated risk as it is located close to the building on 42 Harrison St. for removal. It has a pronounced lean. At one point this was a multi stem tree but one leader has been lost compromising the tree's stability. Additionally, the Massachusetts Invasive Plant Advisory Group (MIPAG) lists *Robinia pseudoacacia* as an invasive species.



Pruning

All pruning activities shall adhere to the following specifications:

1. All pruning work will conform to the latest revision of the American National Standards Institute (ANSI): Standard A300, developed by the Tree Care Industry Association.
2. Tree pruning work may include any or all of the following:
 - a. **Young Tree Training:** pruning of young trees to correct or eliminate weak, interfering, or objectionable branches to improve structure. These trees can be up to 20 feet tall and can be worked with a pole pruner by a person standing on the ground.
 - b. **Crown Cleaning:** selective removal of dead, dying, damaged, diseased, and broken branches from the tree crown. Shall include removal of all deadwood >2" diameter.
 - c. **Canopy Thinning:** selective removal of live branches to provide light or air penetration through the tree or to lighten the weight of the remaining branches.
 - d. **Clearance Pruning:** The heading back or removal of specific limbs to provide clearance from buildings, wires, lights, etc.
 - e. **Crown Raising:** selective removal of lower branches from a tree crown to provide clearance. Trees impeding vehicle or pedestrian traffic should be raised up at least 13 feet over streets and 8 feet over sidewalks. Tree obstructing control devices should be trimmed for adequate visibility.
 - f. **Structural Pruning:** pruning to develop strong tree structure. This includes maintaining a dominant leader by reducing the length or removing any competing leaders, suppressing growth on branches with bark inclusions, ensuring appropriate spacing of main branches along a dominant trunk, and keeping all branches less than one-half the trunk diameter.
 - g. **Aesthetic pruning:** selective removal of downward growing limbs, limbs growing backwards toward the trunk, and other limbs that are making the tree unsightly.
 - h. **Pruning of crossing or rubbing limbs.**
3. All pruning cuts shall be made as close as possible to the trunk or parent limb, without cutting into the branch collar or leaving a protruding stub. Bark at the edge of all pruning cuts should remain firmly attached. Sharp tools shall be used so that clean cuts will be made at all times.
4. All branches too large to support with one hand shall be pre-cut to avoid splitting or tearing of the bark. Where necessary, ropes or other equipment should be used to lower branches or stubs to the ground.
5. Treatment of cuts and wounds with wound dressing or paints is prohibited.
6. Equipment that will damage the bark and cambium layer shall NOT be used on or in the trees. For example, the use of climbing spurs (hooks or irons) is not an acceptable work practice for pruning operations on live trees.
7. All cut limbs shall be removed from the crown upon completion of the pruning. Clean-up of branches, logs, or any other debris resulting from any tree pruning shall be promptly and properly accomplished.
8. The work area shall be kept safe at all times until the clean-up operation is completed. Under no condition shall the accumulation of brush, branches, logs, or other debris be allowed upon a public property in such a manner as to result in public hazard.

The following trees are recommended for Crown Cleaning:

#42617 - 17" *Ailanthus altissima* (tree-of-heaven). Fair condition. Although this tree is an invasive species, the negative impact to the tree canopy in this area resulting from the removal of this tree would be severe. Therefore, crown cleaning is recommended to retain a source of shade for the park as well as buildings on Harrison St.

#42621 - 9" *Robinia pseudoacacia* (black locust). Fair condition. Although this tree is an invasive species, the negative impact to the tree canopy in this area resulting from the removal of this tree would be severe. Therefore, crown cleaning is recommended to retain a source of shade for the park as well as buildings on Harrison St.

#42621 - 8" *Robinia pseudoacacia* (black locust). Fair condition. Although this tree is an invasive species, the negative impact to the tree canopy in this area resulting from the removal of this tree would be severe. Therefore, crown cleaning is recommended to retain a source of shade for the park as well as buildings on Harrison St.

The following trees are recommended for Clearance Pruning:

Hedgerow of Arborvitae - Good condition. Trees are starting to interfere with the neighbors walk way and should be pruned bak.

The following trees are recommended for Aesthetic Pruning:

#42635 - 3" Atlantic whitecedar. Fair condition. This tree requires the removal of vines from its canopy.

Mulching

Mulching is recommended for all trees in Durrell Pocket Park and Community Garden. Mulch shall be applied according to the following procedures:

1. Mulch shall be applied to trees for moisture retention in soil abatement of dust and weeds, and for nutrient enrichment of the soil.
2. Mulched area shall be six feet in diameter around the trunk of the tree unless otherwise specified by the City Urban Forester. A three inch layer of mulch (after settlement) will be applied around the tree, tapering towards the trunk. Mulch shall NOT come in contact with the trunk of the plant or the root flare. No mulch shall be placed within 2 to 3 inches of the trunk. "Volcano" mulching is strictly prohibited.
3. Mulch shall be high quality, premium course-grade bark mulch, 15 mm minimum length, consisting of clean organic plant material. Mulch shall conform to the following:
 - a. Must be uniform, natural wood color, without dyes, which shall not exhibit a noticeable degree of color change characteristic when wet.
 - b. Must not have an unpleasant odor.
 - c. Must be free of dirt, insects, disease, and extraneous debris that would be harmful to the trees being planted.
 - d. pH: between 4.0 and 8.0
 - e. Particle size: 100% passing through a 50 mm (2 inch) screen
 - f. Soluble salt content: less than 4.0 mmhos/cm

Soil Recommendations

One soil sample was taken at Durrell Pocket Park and Community Garden. The following recommendations are given:

- The soil pH of the tree pit sample was determined to be 5.9 and is considered outside of the desirable range (too acidic). The incorporation of dolomitic lime is recommended. This will help correct soil pH by adding magnesium. Phosphorus and Nitrogen levels were in the Medium range and the addition of Arbor Green Pro fertilizer is recommended to maintain optimum levels of soil nutrients. The texture of the tree pit sample was determined to be sandy loam.

Park Closure, Traffic Management, and Sequence of Events

Work will likely take one full day and will require the park to be closed during operations. Police detail will not be required for this work if access is granted at 245 Beacon St. However, if access is not granted, a police detail will be required. Pedestrian/bicycle traffic and parking will also need to be restricted in front of the park during operations.

Tree removals and pruning will take place first. Once the tree work is complete, Soil will be aerated and soil amendments and fertilizer will be incorporated to the soil. Finally, mulch will be added to all trees.

Crew and Equipment

Access to the park will be via Beacon St. Work crew will consist of 3 individuals and will require the following heavy equipment:

- Bucket Truck
- Chipper
- Crane

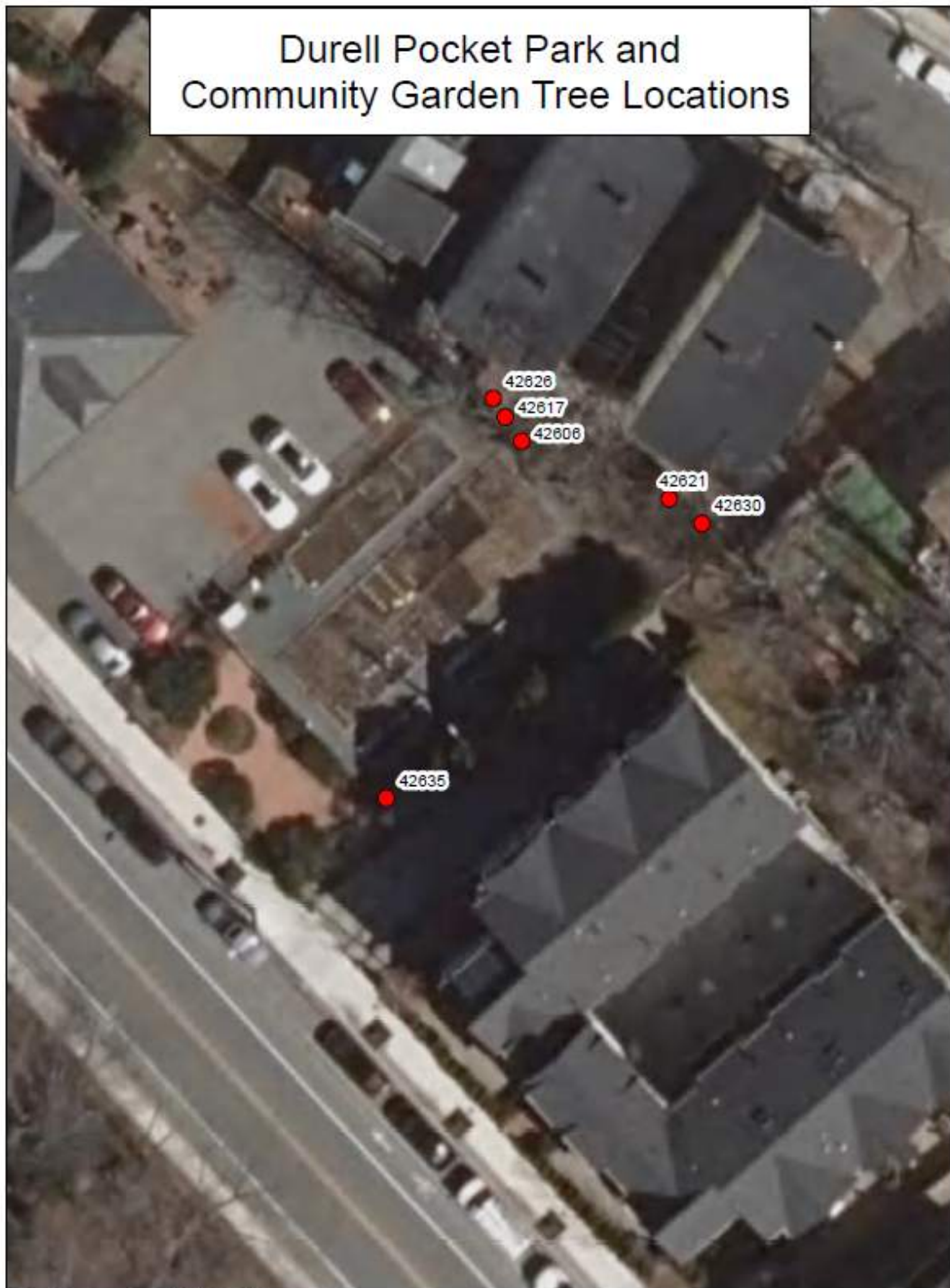
All wood material removed from trees will be chipped on site and removed. All effort will be made to protect city infrastructure. All garden equipment and fencing will be protected with plywood and moving blankets to prevent damage.

Maintenance Schedule

Tree Number	Species	DBH	Maintenance Recommendation	Priority
42626	tree of heaven	30	Removal	High
42606	black locust	27	Removal	High
42617	tree of heaven	17	Crown Cleaning	Low
42621	black locust	9	Crown Cleaning	Low
42630	black locust	8	Crown Cleaning	Low
42635	Atlantic whitecedar	3	Aesthetic Pruning	Low
	Arborvitae		Clearance Pruning	Low
42617	tree of heaven	17	Lime and Fertilizer soil amendments	Low
42621	black locust	9	Lime and Fertilizer soil amendments	Low
42630	black locust	8	Lime and Fertilizer soil amendments	Low
42635	Atlantic whitecedar	3	Lime and Fertilizer soil amendments	Low
4 Trees			Mulch	Low
			Posting of No Parking Signs	
			Police Detail	
				Total:

APPENDIX I

Tree Location Map



Ortho Imagery from MASS GIS.

APPENDIX II

Soil Test Results

Turf and Ornamental Soil Analysis Report

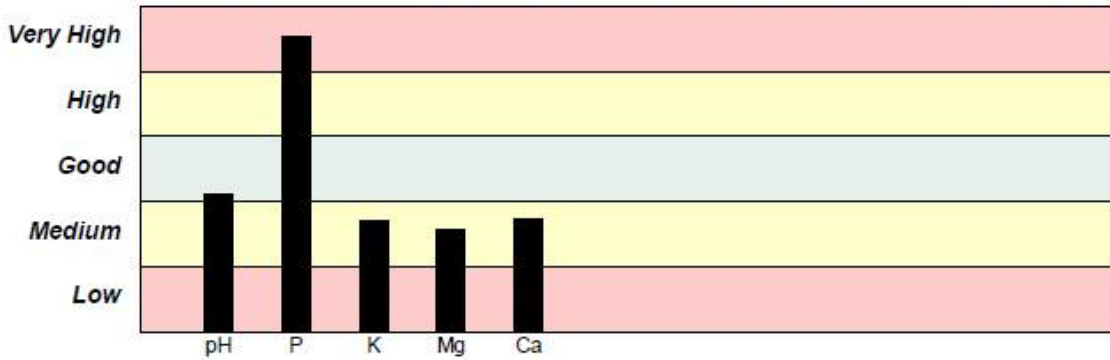
Spectrum Analytic
 1087 Jamison Road NW
 Washington Court House, OH 43160-8748
 www.spectrumanalytic.com

THE DAVEY TREE EXPERT CO-SOIL LAB
 PO BOX 5193
 KENT, OH 44240

Prepared For
SOMMERVILLE-104550 SOMMERVILLE, MA

Sample Information			
Sample	180	Sampled	03-23-2021
Lab Number	G19936	Tested	03-26-2021

Analysis	Result	Optimal	Analysis	Result	Optimal
Soil pH	5.9	5.8-6.6	Clay	% 12	
Buffer pH	6.6		Sand	% 76	
Organic Matter	% 4.0		Silt	% 12	
CEC	10.6		Texture	Sandy Loam	
K Saturation	% 2.6	2.0-4.0			
Mg Saturation	% 8.8	10-20			
Ca Saturation	% 43.4	50-70			
K/Mg Ratio	1.0				
Ca/Mg Ratio	9.7				
Phosphorus	m3-ppm 178	50-80			
Potassium	m3-ppm 128	150-240			
Magnesium	m3-ppm 127	170-310			
Calcium	m3-ppm 1226	1400-2000			



Recommendations		Nutrients expressed in broadcast lbs/1000 sqft, except Fe (foliar) and Mn (row)										
Yr	Crop	CaCO3	N	P2O5	K2O	Mg	S	B	Cu	Fe	Mn	Zn
21	Trees, Deciduous-Undefined	56D	3.0	0.0	2.6	0.3						

Lime expressed in 100% pure CaCO3. Adjust accordingly. D=Dolomitic. C=Calcitic.

Trees, Deciduous-Undefined: Limit N to 1 lb./1000 sq. ft. within dripline in year 1. Split N 50% early spring and 50% late summer. Fertilized area under tree starts 2 ft. from trunk, to 3 ft. outside of dripline. Adjust future fertilizer rates based on annual leaf analysis.

APPENDIX III

Tree Condition Definitions

Condition: Condition indicates the current state of a tree's health and structural soundness. As adapted from the Council of Tree and Landscape Appraiser's "Guide for Plant Appraisal", condition is determined through a visual evaluation of the roots, trunk, and scaffold branches, as well as branches, twigs, foliage and buds. The overall health of any given tree is essentially the sum of the condition for all of these woody and vegetative components. The Council's condition rating system returns a numerical value (1-4) that can then be characterized as "Dead", "Poor", "Fair", and "Good", respectively, as represented in i-Tree Streets v5. General characteristics of overall health are provided below; however, it is important to remember that these ratings account for the sum of a tree's parts. Also, condition may change at any time for any number of factors including exacerbation of known and unknown defects, introduction or advancement of insects and disease, environmental stress, and adverse site factors, among others.

Good

The tree has no major structural problems, no significant mechanical damage, no insect or disease issues of concern, and minimal to no signs of stress.

Fair

The tree may exhibit minor structural problems; mechanical damage that decreases the stability of a tree's roots, trunk, or scaffold branches; presence of and/or damage from harmful insects and diseases; and general signs of stress such as wilting or minor twig dieback.

Poor

The tree may have major structural defects, extensive wounds or decay (localized or widespread), mechanical damage that increases the likelihood of failure, significant crown dieback, and insect or disease issues that result in a noticeable decline in tree health.

Dead

Trees in this category are dead.