

City of Somerville Urban Forestry Committee

To: Department of Conservation and Recreation
Regarding: Planned Tree Removals at Foss Park Athletic Field
Date: June 4, 2020

About the Committee:

Somerville's Urban Forestry Committee (UFC) was established by ordinance in 2017. Committee members are appointed by the Mayor and subject to confirmation by the City Council. The committee includes nine residents, with at least one expert in urban forestry and at least one expert in landscape design. In addition to the residents, two city staff members serve in ex-officio roles, the city's Senior Urban Forestry and Landscape Planner, and the Tree Warden.

The UFC is tasked with advising the city with respect to the management and maintenance of all existing and new trees and shrubs on all public grounds and public ways of the City of Somerville.

About this Document:

The UFC created a working group to review DCR's planned removal of trees from Foss Park at its public meeting on April 2. This group produced the memorandum and recommendations below, which were unanimously approved at the committee's next meeting on April 16.

Memorandum and Recommendations:

On April 16, 2020, Somerville's Urban Forestry Committee discussed the planned removal of seven trees from Foss Park as part of the DCR's renovation project. This tree removal is a recent update to the original DCR renovation plan, and is proposed specifically to accommodate the installation of a larger artificial turf field than the original design. DCR currently proposes to replace these mature trees with 12-15 young trees.

The species and DBH of the trees proposed for removal are as follows:

White Ash 21.5 in
White Ash 15.8 in
White Ash 20.8 in
White Ash 14.4 in
Green Ash 13.6 in
White Ash 17.3 in
Pin Oak 14.3 in

The current DCR design would also place the edge of the proposed field very close to the root system of an additional large Pin Oak tree and Sugar Maple tree, likely impacting the root system of these trees and leading to possible future mortality. Analysis with iTree suggests that the current ecosystem value of the trees to be removed is \$937/year in air quality improvements,

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carbon sequestration, stormwater uptake, urban heat reduction and property value (\$1164/year if the two additional trees likely to be impacted are included).

Two members of the Urban Forestry Committee, with backgrounds in entomology and plant pathology, also inspected the six Ash trees slated for removal for any signs of Emerald Ash Borer (EAB) damage.

There is possible evidence of Emerald Ash Borer (EAB) on the Green Ash, including D-shaped exit holes (Fig. 1), curving tunnels under the bark (Fig. 2), bark cracking/blonding (Fig. 3), and some canopy dieback (<10%), but these symptoms appear to be restricted. This evidence needs to be reviewed and confirmed as these could be indications of a native borer and not EAB. There were very few (only one or two per tree) round-shaped exit holes observed on the White Ash that could be evidence of native borers. While both Green and White Ash are susceptible to infestation by EAB, the lone Green Ash had the only evidence of possible past infestation. Somerville's Senior Urban Forestry and Landscape Planner communicated with DCR about treating the Foss Park Ash trees for EAB in 2018, and believes that many Ash trees on the property were treated with emamectin benzoate at that time. It is very possible the damage we observed on the Green Ash tree was prior to this treatment. Emamectin benzoate treatment gives three years of protection so these trees, if they were indeed treated, should still be under that protection. We did not observe further damage on the White Ash trees or other nearby Ash trees in Foss Park. To date, there have not been any confirmed cases of infected Ash trees in Somerville, although the EAB has been found in traps. We believe these Ash trees are currently at a low risk for EAB infestation.



Fig. 1. D-shaped exit hole observed on Green Ash.

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Fig. 2. Curving, slightly serpentine-shaped, tunnels under bark at base of Green Ash tree.



Fig. 3. Cracking and 'blonding' on Green Ash.

Recommendations of the UFC for the Foss Park renovation:

- 1.) We recommend that the DCR consider the following options for preserving these mature trees: 1.) keeping the field at the size it was in the original plans or 2.) re-designing the placement of the field as to avoid all mature trees on the lot. The value of these mature trees is too high for the city to lose them in exchange for a few extra feet of artificial turf, especially as they are located in a park that is bordered by two highways and experiences extremely high levels of air pollution.
- 2.) If DCR does remove these trees, we have strong concerns that the current proposal to replace them with 12 – 15 young trees is insufficient. These trees total 118 inches in DBH (149 if the two likely impacted trees are included). Young trees do best when planted at a small DBH, 2-3 inches or less, meaning it will take many years for 12-15 trees to match the total DBH of trees being lost. It will take even longer for these young

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trees to fully match the ecosystem services of mature trees, as the canopy and root system of a young tree is not a 1 to 1 equivalent of the canopy and root system of a mature tree. Young trees also suffer high mortality rates in urban areas, so it is unlikely all the planted trees will reach maturity.

- 3.) We strongly recommend a more appropriate replacement strategy to add the equivalent or greater of the DBH lost from the removed mature trees with young trees. This will help compensate for the lost ecosystem services, young tree mortality, and likely loss of two additional mature trees at the edges of the turf field. For example, if 3-inch DBH new trees are to be planted, it would require 39 young trees added. We would also recommend that DCR monitor these new trees for mortality over the first few years and replace any that die. If the two mature trees near the edge of the field do die due to root damage we will also request additional trees to compensate for their loss.
- 4.) An additional recommendation would be for DCR to add no-mow areas and areas planted with native understory plants, to compensate for some of the ecosystem services and insect habitat lost due to the conversion of a grass field into artificial turf.
- 5.) Finally, recognizing the potential for EAB damage to the local Ash population and subsequent spread to neighboring communities, we propose that DCR explore and discuss options for continued monitoring and managing this pest at Foss Park if such a plan is not already in place. There are a range of chemical treatments available in addition to emamectin benzoate (recommended after flowering); these are effective if the tree is exhibiting <30% dieback¹. Parasitoid wasps may be available for use as a biological control. Together, these measures can be an integrated approach to managing EAB.

Members of the committee would be pleased to provide additional information and support for these recommendations, on request.



Althea Northcross (Urban Forestry Committee Co-Chair)



Chris Dwan (Urban Forestry Committee Co-Chair)

¹<https://ag.umass.edu/landscape/fact-sheets/emerald-ash-borer>