



Tree Protection & Preservation Bylaw

ARTICLE 47 – GENERAL BYLAW AMENDMENT

SUMMARY

- To put in place a General Bylaw with a primary goal of protecting and preserving trees on public and private property during significant demolition and / or development activity.
- The bylaw proposes a tree replacement schedule and creates a tree protection fund that can be used towards tree health assessments, replanting and maintaining trees in our community.

DISCUSSION POINTS

- Benefits of mature forests.
- Why does Boxborough need a Tree Protection & Preservation Bylaw?
- What is the review process if you are proposing the disturbance of more than three acres of forested land?
- Example of how this might impact a development parcel.
- Resources consulted / feedback received and incorporated into the Bylaw.
- Costs / Revenue / Savings



- Green space preservation in quickly developing communities is an integral part of urban planning.
- Understood long before the days of Olmstead with the protection of Boston's Emerald Necklace and New York City's Central Park. These preserved green spaces become the heart of a community and provide much needed reprieve from heat and air / noise pollution.



“The Lungs of the Earth”

- Forests remove CO₂ from the atmosphere and lock it away. Temperate forests like ours are among the best in the world at carbon sequestration.
- Mature trees capture / store carbon at a greater rate than smaller, younger trees. In one year, a single big tree can add the same amount of carbon to the forest as is contained in an entire mid-sized tree.
- About 100 tons of carbon emissions are avoided with every hectare of mature forests we preserve. A restored forest takes 30 years longer to capture the same amount of carbon as an old-growth forest = **not a 1:1 replacement!**
- This carbon sequestration is essential to mitigating global warming.



“The Lungs of the Earth”

- Increase biodiversity, reduce air pollutants, prevent flooding, provide cooling benefits, filter water through soils for cleaner drinking water, provide wildlife habitat, remove pollutants like nitrates and sulfide and prevent erosion.
- Deforestation releases stored carbon; eliminates future potential to store more.
- Deforestation results in loss of wildlife habitat, visual buffers, increased noise levels to abutting properties, and creates changes in stormwater and drainage patterns.

WHY DOES BOXBOROUGH NEED A TREE PRESERVATION BYLAW?

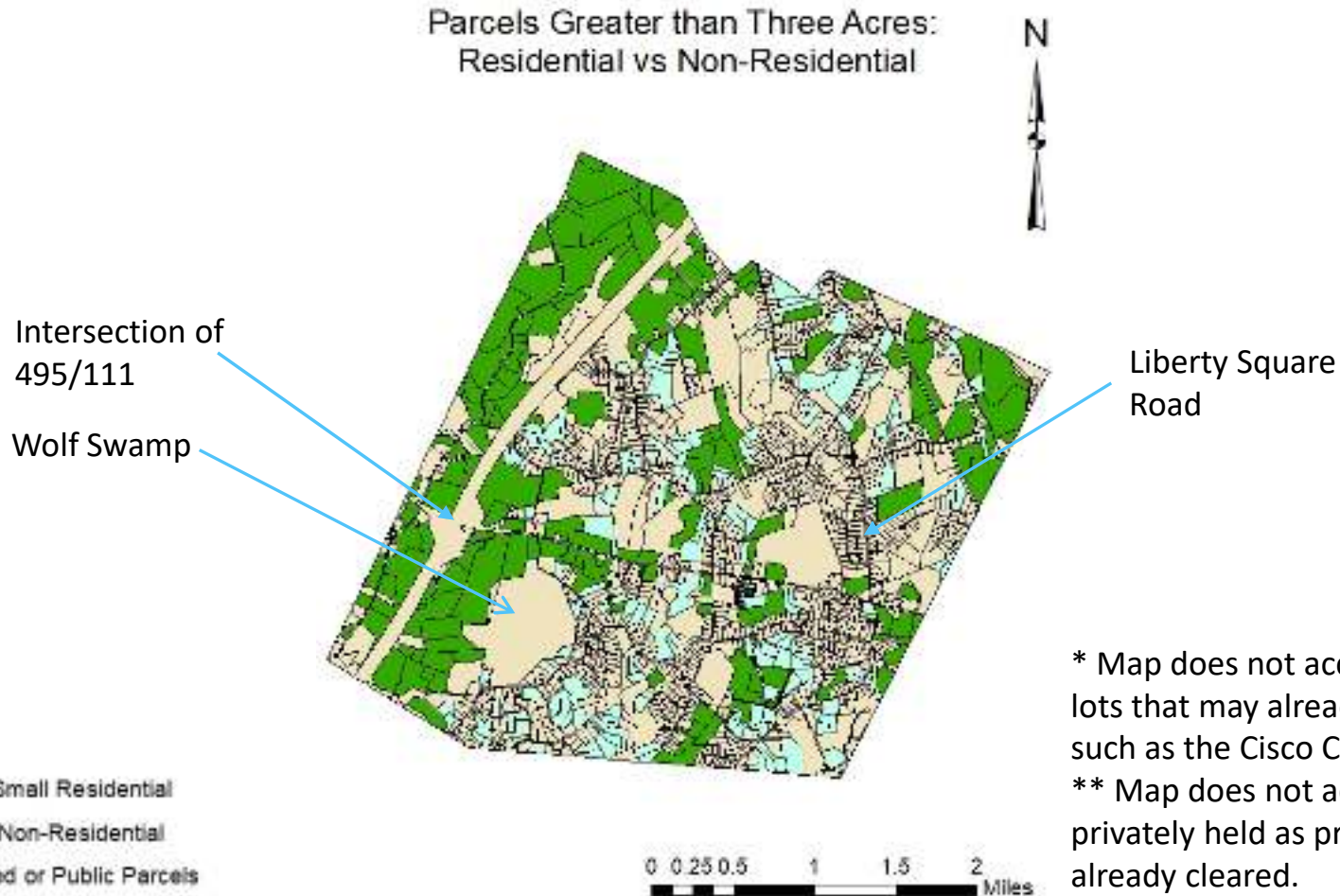
- Consistent with the 2021 Boxborough's Municipal Vulnerability Preparedness Study:
 - Underscores the hazards Boxborough will face because of climate change including adequate drinking water, road flooding, strong storms, and drought.
- Consistent with the 2030 Master Plan, the bylaw:
 - Preserves the Town's heritage, scenic, historic, agricultural and rural character by protecting forested lands.
- Consistent with the Open Space and Recreation Action Plan:
 - Goal 2: Incorporate climate resiliency into planning / zoning regulations to ensure that open space and priority habitats are protected as much as possible on developable lands – Create process to review and potentially incorporate model bylaws for climate resiliency and nature-based solutions to protect natural resources (e.g., **tree clearing bylaw**, stormwater bylaws, low impact development bylaw, etc.) **HIGH PRIORITY**
- Boxborough cares deeply for their natural spaces, this bylaw can be used as a method by which to protect and restore these spaces.
- Predictable and consistent permitting with defined rules for developers.

WHY DOES BOXBOROUGH NEED A TREE PRESERVATION BYLAW?

- Neighboring towns that have developed at a faster rate than Boxborough, have lost much of their protected natural space.
- Bylaw creates a process where developers are still allowed to develop parcels, but **careful planning and preservation of trees is required**. It also puts in place a tree replacement schedule and creates a tree protection fund that can be used towards replanting and maintaining trees in our community.
- Developers that Boxborough sees are not small operations:
 - Very large companies that can afford to incur a certain amount of expense and these companies are willing to, if it allows them to get into the market in such a prime location.
- Development proposals that Boxborough sees are not small in scale:
 - Large scale developments like the one currently proposed at 1414 Massachusetts Avenue pose 40 + acres of land disturbance.
 - Located in highly sensitive resource areas in town (Aquifer Protection District, Environmental Justice areas, environmentally sensitive habitats, historically relevant site)

PARCELS GREATER THAN THREE ACRES

Parcels Greater than Three Acres:
Residential vs Non-Residential



* Map does not account for 3+ acre lots that may already be cleared such as the Cisco Campus.

** Map does not account for lots privately held as protected land or already cleared.

DISTURBING MORE THAN THREE ACRES OF FORESTED LAND?

Planning Board Requirements:

- Tree Removal and Mitigation Plan review process
 - Document trees greater than 6" DBH (diameter at breast height)
 - Notification to abutters
 - Document Tree Protection & Mitigation Plan

Mitigation Options (any combination of):

- Replanting of non-native trees at a 1":1" rate (caliper inches)
 - 1 – 6" tree = 2 – 3" trees or 3 – 2" trees
- Replanting of native trees at a 1":1/2" rate (caliper inches)
 - 1 – 6" tree = 1 – 3" tree (promotes and incentivizes the use of native plantings)
- Contribution to the Town Tree Preservation Fund
 - 1 – 6" tree = \$600

WHAT DOES THIS MEAN FOR ONE ACRE OF CLEARING?

- Tree counts and sizes vary wildly from parcel to parcel.
 - Estimated 30 – (50) 70* trees per acre
 - Assumes all of these trees are applicable (6" DBH or greater) and all trees are 10" at DBH

Mitigation options for this scenario (any combination of):

- 300"-700" replacement *non-native* trees.
- 150"-350" replacement *native* trees.
- \$3,000 - \$7,000** paid into the Tree Preservation Fund

** Tree count estimation may include trees smaller than 6" DBH = not applicable*

*** Earnings for lumber sales offset burden of tree fund contributions to the town = profit of \$5,000 to \$10,000 to log an acre of trees.*

RESOURCES CONSULTED

- Sustainability Committee
- Agricultural Commission
- Finance Committee
- Community Preservation Committee
- Conservation Commission
- Conservation Trust
- Economic Development Committee
- Tree Warden
- Similar bylaws were consulted including those of our neighboring rural communities.

FEEDBACK RECIEVED

- **Boxborough Tree Warden**
 - Seeks annual funding for public tree assessments / survey by a Certified Arborist. **2023 Warrant article 24: DPW Tree Health Survey - \$3,000**
 - Seeks annual funding for a tree company to remove trees that are too big for DPW equipment. **2023 DPW Other: Large tree removals - \$2,500**
 - Seeks annual funding for tree replacements for public spaces such as South Cemetery. **2023 Warrant article 5: Town Operating Budget - \$2,300**
 - Seeks annual funding for emergency tree removals. **2023 DPW Other: Emergency tree removals - \$2,500**
- ☑ The Tree Preservation Fund can be used to **offset taxpayer dollars** on all of the items above.

FEEDBACK RECEIVED

- **Agricultural Commission** – adjusted bylaw based upon feedback received.
 - ☑ Bring clarity to the requirements for measuring trees.
 - ☑ Bring clarity to pruning of trees growing over private property.
 - ☑ Properties under the care, custody, management and control of the Agricultural Commission should be added to the list of exemptions.
 - ☑ Tree removals required for agricultural uses pursuant under MGL Chapter 40A Section 3 should be added to the list of exemptions.

FEEDBACK RECEIVED

- **Finance Committee** – adjusted bylaw based upon feedback received.
 - ☑ Size of the area of land disturbance is onerous on individual property owners, remove the ½ acre minor review process.
 - ☑ Size of the area of land disturbance is onerous on individual property owners, increase the application for tree protection & mitigation review process trigger from one (1) to three (3) acres.
 - ☑ Remove reference to undefined definition.
 - ☑ Broaden Conservation Commission exemption to ensure that there is no conflict with anything under their jurisdiction.
 - ☑ Under exemptions, add an additional exemption to accommodate agricultural uses.

COSTS / REVENUE / SAVINGS

- No cost to implement Bylaw.
- Revenue created by implementing Tree Protection Fund
 - ELIMINATES THE NEED TO SECURE CERTAIN TOWN FUNDING AT ATM!**
 - 2023 Warrant article 5: Town Operating Budget -- **\$2,300**
 - 2023 Warrant article 24: DPW Tree Health Survey - **\$3,000**
 - 2023 DPW Other: Emergency tree removals - **\$2,500**
 - 2023 DPW Other: Large tree removals - **\$2,500**
- Reduces potential liability to the town associated with lawsuits caused by trees damaging property or people by providing adequate funding for annual public tree assessments by a Certified Arborist.

VOTE YES

- Consistent with Boxborough's 2021 Boxborough's Municipal Vulnerability Preparedness Study, 2030 Master Plan and Open Space and Recreation Action Plan.
- Preserve the Town's heritage, scenic, historic, agricultural and rural character. Protects public health, safety, welfare and quality of life.
- Maximize sustainability and carbon sequestration.
- Preserve wildlife habitat, environmentally sensitive lands, clean air, clean water, minimize sound pollution, moderate temperature fluctuations, control soil erosion, and reduce flooding.
- Maintain places for recreation and cultural importance.
- Protection for abutters.
- Predictable and consistent permitting with defined rules for developers.



END

