



# *Plant Healthcare Consultants, Inc.*

American Society of Consulting Arborist • International Society of Arboriculture  
Massachusetts Arborist Association • Massachusetts Tree Wardens and Foresters Association  
TREE INVENTORIES • APPRAISALS • DIAGNOSIS • TREE RISK ASSESSMENTS



February 2, 2022

Richard Santoro  
625 Lowell Road  
Concord, MA 01742

Re: Proposed Building Project at 615 Lowell Road

Dear Richard:

Per your request I reviewed both sets of proposed plans for the development of 615 Lowell Road, Concord, MA. Additionally, I reviewed the Declaration of Easement and Covenants. I also performed a site visit to inspect the trees and the impact that construction would have on them.

It is my professional opinion that either proposed construction plan would have a significantly negative impact on the *Acer saccharum* (sugar maples) along the property boundary line. Proceeding with either plan will result in severe impact to the critical root zones of these trees, causing immediate decline and ultimately tree mortality.

When protecting a tree on a construction site a tree protection zone ("TPZ") should be established that protects the tree's critical root zone ("CRZ"). The CRZ is defined a circle around the tree that measure a minimum of 1' of radius for each 1" of trunk diameter (with mature trees it is common practice to use a ratio of 1.5' – 2' for each 1"). So using the minimum standard, a 36" diameter tree would have a circular zone around the tree with a radius of 36'. Once a CRZ is determined a TPZ is put in place. The TPZ is a semi-permanent fence (chain-link or similar) around the CRZ. Once erected (prior to construction) the fence is not to be moved throughout the construction project. No equipment, material or spoils are to be stored or put in the TPZ. This reduces soil compaction that inhibits root growth and water and nutrient uptake by the trees.

Additionally, no excavation nor grade changes should happen in the CRZ. Raising the grade will suffocate the absorbing roots and excavation will remove the root entirely.

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Based on both proposed construction plans there will be negative impact to the critical root zones of all the trees in question:

- Excavation for the driveway will remove significant roots in the CRZ
- Excavation for the garage will remove significant roots in the CRZ
- Excavation for the drywell will remove significant roots in the CRZ
- Excavation for the septic system will remove significant roots in the CRZ
- Construction equipment traveling on the site will enter the CRZ compacting the soil and destroying roots

Due the constraints of the layout of the property based on these proposed construction plans there is no way to provide adequate tree protection to the sugar maples.

Regards,



*Daniel E. Cathcart*

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