September 16, 2020

21 Windsor Road Large House Review

Town Of Wellesley

To whom it may concern,

I, Kray A. Small, Massachusetts Certified Arborist, License # 1797, have been retained by Kent Duckham, to develop a tree protection plan for a property located at 21 Windsor Road, Wellesley, MA. The property is zoned SRD 20 and has a total of 21 trees within the Tree Yard that have a DBH of 10 inches or more.

All trees within the tree yard, 10 inches in DBH, are located and numbered logically on engineer's print provided by EMB, Everett M. Brooks, Surveyors and Engineers Company, of 49 Lexington Street, West Newton, MA 02465

1. ***Pinus strobus*** (Eastern White Pine) this tree is in good condition/health. DBH was measured 4'6" from grade.

   DBH: 23"
   Health: Good
   Action: **(Planned Removal)**

2. ***Pinus strobus*** (Eastern White Pine) this tree is in good condition/health. DBH was measured 4'6" from grade.

   DBH: 32"
   Health: Good
   Action: **PROTECTED**

3. ***Pinus strobus*** (Eastern White Pine) this tree is in good condition/health. DBH was measured 4'6" from grade.

   DBH: 25"
   Health: Good
   Action: **PROTECTED**

4. ***Pinus strobus*** (Eastern White Pine) this tree is in good condition/health. DBH was measured 4'6" from grade.

   DBH: 19"
   Health: Good
   Action: **PROTECTED**

5. ***Pinus strobus*** (Eastern White Pine) this tree is in good condition/health. DBH was measured 4'6" from grade.

   DBH: 25"
   Health: Good
   Action: PROTECTED

6. ***Pinus strobus*** (Eastern White Pine) this tree is in good condition/health. DBH was measured 4'6" from grade.

   DBH: 24"
   Health: Good
   Action: PROTECTED

7. ***Pinus strobus*** (Eastern White Pine) this tree is in good condition/health. DBH was measured 4'6" from grade.

   DBH: 23"
   Health: Good
   Action: PROTECTED

8. ***Tsuga canadensis*** (Canadian Hemlock) this tree is in good condition/health. DBH was measured 4'6" from grade.

   DBH: 23"
   Health: Good
   Action: (Planned Removal)

9. ***Thuja occidentalis*** (Dark American Arborvitae) this tree is in good condition/health. DBH was measured 4'6" from grade.

   DBH: 15"
   Health: Good
   Action: (Planned Removal)

10. ***Pinus nigra*** (Austrian Pine) this tree is in poor condition/health. The tree has a column of decay throughout the central leader. DBH was measured 4'6" from grade.

    DBH: 19"
    Health: Poor
    Action: (Planned Removal)

11. ***Acer saccharum*** (Sugar Maple) this tree is in good condition/health. DBH was measured 4'6" from grade.

    DBH: 12"
    Health: Good
    Action: PROTECTED

12. ***Thuja occidentalis*** (Dark American Arborvitae) this tree is in good condition/health. DBH was measured 4'6" from grade.

    DBH: 9"
    Health: Good
    Action: PROTECTED

13. ***Quercus rubra*** (Red Oak) this tree is in good condition/health. DBH was measured 4'6" from grade.

    DBH: 25"
    Health: Good
    Action: PROTECTED

14. ***Chamaecyparis thyoides*** (Atlantic White Cedar) this tree is in good condition/health. DBH was measured 4'6" from grade.

    DBH: L1-11" L2-8"
    Health: Good
    Action: (Planned Removal)

15. ***Tsuga canadensis*** (Canadian Hemlock) this tree is in good condition/health. DBH was measured 4'6" from grade.

    DBH: 13"
    Health: Good
    Action: PROTECTED

16. ***Tsuga canadensis*** (Canadian Hemlock) this tree is in good condition/health. DBH was measured 4'6" from grade.

    DBH: L1-14" L2-11"
    Health: Good
    Action: PROTECTED

17. ***Tsuga canadensis*** (Canadian Hemlock) this tree is in good condition/health. DBH was measured 4'6" from grade.

    DBH: 13"
    Health: Good
    Action: PROTECTED

18. ***Acer saccharum*** (Sugar Maple) this tree is in good condition/health. DBH was measured 4'6" from grade.

    DBH: 39"
    Health: Good
    Action: PROTECTED

19. ***Picea abies*** (Norway Spruce) this tree is in good condition/health. DBH was measured 4'6" from grade.

    DBH: 36"
    Health: Good
    Action: **PROTECTED**

20. ***Acer saccharum*** (Sugar Maple) this tree is in poor condition/health. DBH was measured 4'6" from grade.

    DBH: 37"
    Health: Poor
    Action: **Hazard Removal**

21. ***Fagus sylvatica*** (European Copper Beech) this tree is in good condition/health. DBH was measured 4'6" from grade.

    DBH: 74"
    Health: Good
    Action: **PROTECTED**

Planned Removals to be Mitigated:

Trees #1, #8, #9, #10, and #14, are planned removals within the tree yard.

A total of DBH to be mitigated for is as follows:

Tree #1	23"
Tree #8	23"
Tree #9	15"
Tree #10	19"
Tree #14 L1-11" + L2-8" =	19"
Total DBH	**99 inches**

Mitigation can be done using the replacement method; 99 inches / 2 = 49.5 inches. So, a total of **49.5** inches of caliper could be replanted to fulfill the mitigation. Suggested trees to mitigate with for the removal of the protected trees are, but not limited to: ***Picea abies*** (Norway Spruce), ***Picea pungens*** (Colorado Spruce), ***Picea omorika*** (Serbian Spruce), ***Thuja plicata*** (Western Red Cedar), ***Pinus cembra*** (Swiss Stone Pine), ***Pinus paviflora*** (Japanese White Pine), ***Pinus strobus*** (Eastern White Pine), ***Tsuga canadensis*** (Canadian Hemlock) or ***Acer saccharum*** (Sugar Maple), ***Acer rubrum*** (Red Maple), ***Fagus spp.*** (any variety of Beech), ***Quercus spp.*** (Any variety of Oak), ***Tilia spp.*** (Any variety of Basswood), ***Nyssa sylvatica*** (Common Tupelo), or ***Liquidambar styraciflua*** (Sweet Gum).

NOTE: Locations and species of trees to be planted will be spotted on engineers print or landscape plan

Hazard Trees to be removed:

Tree #18 is considered hazardous trees and should be removed.

Tree #-18 ***Acer saccharum*** (Sugar Maple) has decay within the central leader. The top was dead and has been pruned off. Other lateral branches are dying back and decay is rampant throughout the tree. This disorder is somewhat indicative of an older sugar maple and is in a sad state of rapid decline. (Photos #1, #2, and #3)

If any questions arise, I may be reached by telephone at 508-328-4214 and by email ksmall4214@charter.net any other correspondence can be mailed to Kray Small P.O. Box 163, Woodville, MA 01784.

Respectively Submitted,

Kray A. Small, Massachusetts Certified Arborist #1797

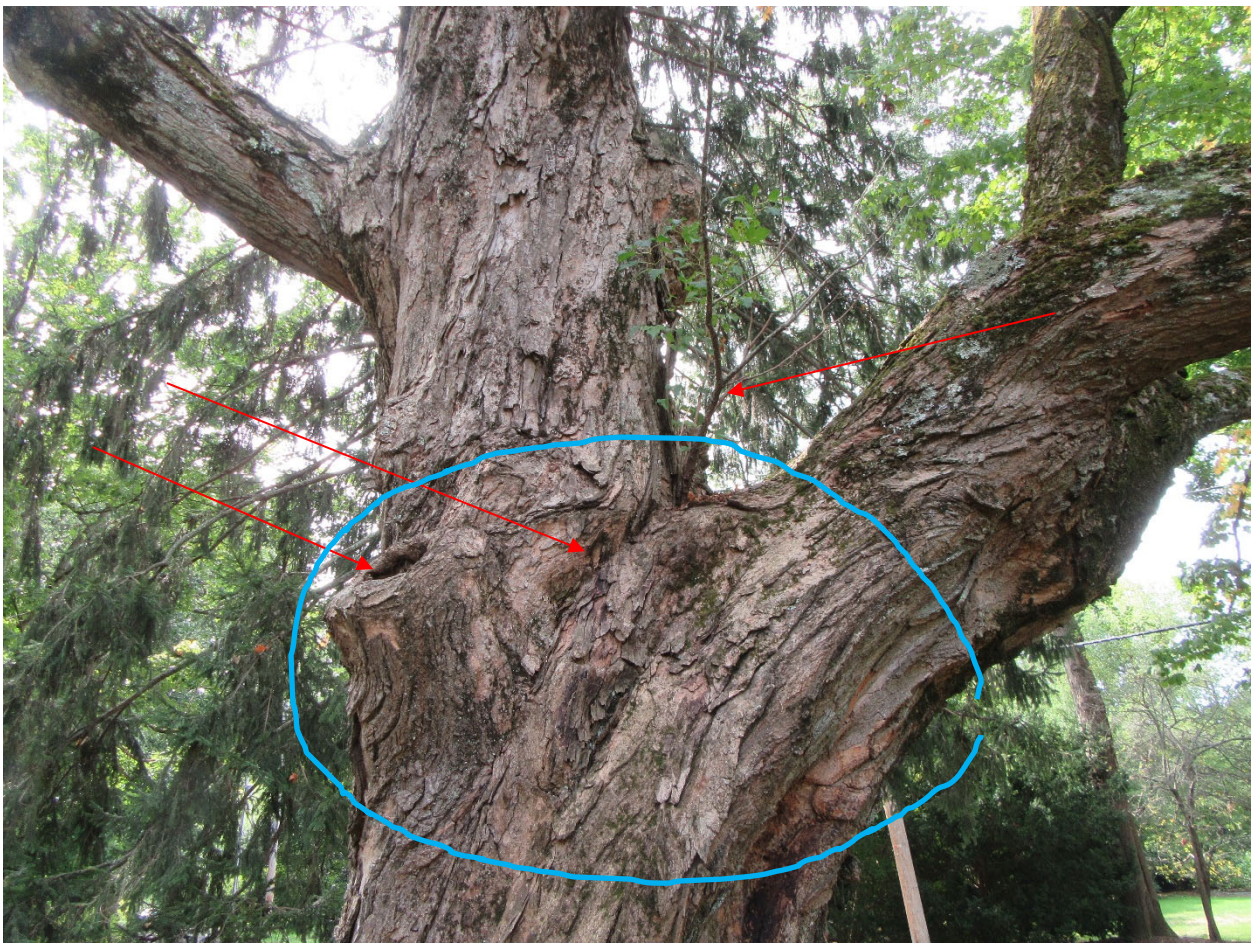
Photo #1

Tree #20- ***Acer saccharum*** (Sugar Maple) pointed out is the pruned off central leader (top). In red, dead and dying scaffold branches are highlited.

Photo #2

Tree #20- ***Acer saccharum*** (Sugar Maple) pointed out is the open fissure in the central leader. This is part of the spiraling fissure created by 2 co-dominant leaders. Sap wood is exposed.

Photo #3



Tree #20- ***Acer saccharum*** (Sugar Maple) pointed out is a bark inclusion and fissure created by the formation of co-dominant leaders. A foreign plant has taken root in the juncture of the leaders indicating that decay is prevalent where that plant is seeking nourishment. Note cavity to the left of the inclusion. It is assumed that this area circled has a large hollow area beneath the bark.

The tree is comprised of 2 co-dominant leaders. A co-dominant leader occurs when two stems grow in close proximity to one another. As the plant grows, annual rings are formed and new wood is added every year. The new wood starts to push each leader away from one another and a crack starts to form. Water gets in between and ice forms creating more force. The tree recovers yearly by adding callus wood around the crack (wound) and healing happens yearly. This formation is callus is called a bark inclusion. As the tree continues to grow, the tree can't bridge the gap of the wound and a fissure is formed. At this point decay fungi has entered and is colonizing the main stem. The attachment of the co-dominant leader is now extremely weak and it will be a matter of time when the tree fails and may cause injury to either persons or real estate.