Tree Risk Assessment Report

836 John Street

River Forest, Illinois

Prepared by:

Andrew Lueck
Registered Consulting Arborist #560
ISA Board Certified Master Arborist # IL-4641B

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PLANNED FOREST SOLUTIONS
URBAN TREE PLANNING AND CONSULTING

OVERVIEW

On the morning October 13, 2017 I visited 836 John Street in River Forest, Illinois to evaluate a Norway maple (*Acer platanoides*) along the north border of the back yard. To evaluate the tree, I performed an ANSI A300 Level 3 Advanced Risk Assessment. This assessment included a ground-level inspection of the tree's crown, base and trunk plus surrounding site conditions. Resistance-recording drilling was performed to analyze trunk decay. Such an assessment details tree characteristics and then compares the likelihood of tree failure to the likelihood of damage from failure to assess overall risk.

This letter summarizes the results of my evaluation.

LIMITATIONS

My inspection of the tree and site was limited to a ground-level visual observation. An aerial inspection was not performed. Therefore, my inspection was not intended to detect issues below ground, inside the tree or in the upper reaches of the canopy. Therefore, any risk present in the tree not apparent through my evaluation may increase the likelihood of tree failure over what is detailed in my assessment.

OBSERVATIONS

The Norway maple is located along the south fence line. It measures 39 inches in diameter at a height of 4.5 feet, which is the standard height for measuring tree size. It is in overall fair condition. It

The base of the tree is growing into the wood fence. There are signs of decay at the base from old stem removal on the other side of fence. The tree has a good root flare on its east and south sides, but lacks a flare elsewhere.

There is a girdling root diameter on the southwest corner of the base of the tree that measures about 4 inches in diameter. There are perennials at the base of the tree, with turf grass throughout canopy. The stem has grown-over seams on the east and west sides extending from a height of 0-10 feet. The stem has a slight bow to north at the base to a height of six feet.

There is a cavity in the western stem from the main split to a height of 12 feet. The cavity is 6 to 8 inches across along its entirety. There is visual evidence of decay in the cavity, with decay likely present further up the stem than is visually evident. The main, combined stem has a large, old seam from the ground to a height of 5 feet. This could be an indication of an old wound and possible internal decay.

Chicago, Illinois 60613 • 847.729.1963 • andrew@plannedforest.com

Fig. 1. Cavity and decay in western stem

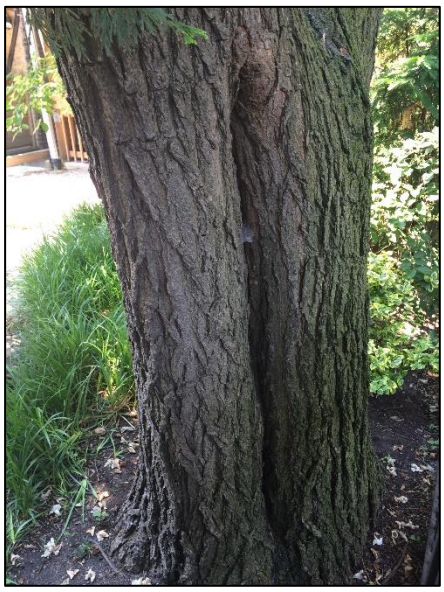

Fig 2. Seam along northeast side of tree.

The tree is approximately 45-50 feet in height. Its leaves appear green and healthy overall, with only a small amount of dead limbs present in the crown.

The tree is somewhat mature. This means that the energy cost to the tree to maintain itself is beginning to exceed the energy input the tree receives from photosynthesis. This will lead to the tree becoming less able to resist the spread of decay in the future.

Sound vs. decayed wood measurements

I performed resistance-recording drilling to test for the presence of decay in four locations around the circumference of the western stem at a height of approximately 6 feet and the main, combined stem at 3 feet. Such a test uses a small drill bit to penetrate the tree stem and determine the amount of sound versus decayed wood present in a tree. The amount of sound wood is compared to stem diameter to estimate the amount of strength the tree has lost as a result of the presence of decay.

The western stem had an estimated average sound wood depth of 2.5 inches radially, meaning that there is approximately 5 inches of sound wood through the diameter of the largest branch. It is generally accepted that tree decay is considered severe when 15 percent or less of the tree's diameter is made up of sound wood. Given the tree diameter of 20 inches, 4.5 inches of sound wood is well above this mark at 25 percent. The cavity reduces the stem's strength somewhat, but not to a critical level.

The combined stem had an estimated sound wood depth of 5 inches radially, meaning that there is approximately 10 inches of sound wood through the diameter of the largest branch. Given the tree diameter of30 inches, 4.5 inches of sound wood is well above the recommended 15 percent mark, at 33 percent.

TREE RISK

Table 1 shows an accepted manner within arboriculture for evaluating tree risk qualitatively. The likelihood of tree failure and impact are compared to the potential consequences of failure to determine overall tree risk.

Likelihood of Failure and Impact	Consequences			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Table 1. Risk rating matrix showing the level of risk as the combination of likelihood of a tree failing and impacting a specified target, and severity of the associated consequences.

If the maple were to fail, the main potential targets would include the house and back yard 910 WIlliam and the house and yard on the property to the south. This accounts mainly for the failure of portions of the tree, such as individual branches. Such a failure is more likely than whole tree failure. Potential damage would include property damage and injury to persons under the tree. Therefore, I rate the potential consequences of tree failure as SEVERE.

I rate the tree as UNLIKELY to fail and impact a target, given the tree's overall condition, combined with its presence near several targets as described above.

As can be seen in the table, a combination of UNLIKELY failure and impact and SEVERE consequence of failure equates to a LOW overall tree risk.

Construction impacts on tree risk

RECOMMENDATIONS

1. Prune the crown of the tree as follows:
    - Remove the stubs left by the most recent pruning back to their parent stem
    - Remove all dead limbs 1” and larger in diameter
    - Thin live branches 20% to improve tree health and structure
2. Mulch to a depth of 3-4 inches around the base of the tree to improve root health and prevent mower damage. Mulch should extend at least 4 feet out from the tree stem.
3. Maintain a program to sustain tree health. This may include pruning to remove dead limbs, plus soil and pest management.
4. Perform soil sampling to determine if soil characteristics, such as nutrient makeup are conducive for tree health or if remedies would be appropriate.
5. Water the tree regularly in times of drought.
6. Have the tree inspected by an arborist at least every 2 years to re-assess health and risk.

The pruning work should be performed as soon as possible, especially considering the presence of hanging dead limbs. All pruning should be performed in accordance with ANSI A300 Standards. The other recommendations are more in line with general health management in the long term. I recommend that you get an estimate from a tree care firm employing Certified Arborists to perform the work. A directory of such firms can be located through the International Society of Arboriculture at www.isa-arbor.com.

The tree should also be monitored for signs of increased decay and stress. Signs could include increased presence of deadwood, limb drop, browning of leaves or increased tree/branch lean. If any of these signs are noticed, contact an arborist to re-examine the tree.

While the tree does not appear to present a severe risk at this time, it will still likely require removal in the not too distant future. Catalpas are considered somewhat resistance to the spread of decay, meaning that the decay that is present may spread more slowly than it would in other species. However, decay cannot be removed from a tree once it is present, and its presence will only continue to grow. It is difficult to determine a timeframe for when the tree will present severe risk, as internal tree decay is difficult to measure on a whole-tree basis. The tree should be re-inspected every 3 years. It should also be inspected during and after construction activity, should any occur within or adjacent to the critical root zone.

Professional Background
I am an ISA Board Certified Master Arborist (#IL-4641B) and a Registered Consulting Arborist (#560). I hold a Bachelor's degree in Urban Forestry from the University of Wisconsin - Stevens Point and a Masters in Urban Planning and Policy degree from the University of Illinois at Chicago. I have worked in the field of arboriculture/urban forestry since 2003. My experience includes positions in the commercial, educational and governmental sectors.

If you have any questions or if I can be of further assistance please do not hesitate to contact me.

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