Brett Schneiderman

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November 7, 2012

Dear Susan Maggiotto,

I was in town over the weekend to survey some of the damage from the recent storm Sandy. I put together some notes and images to help residents and the village trustees to better understand some of the conditions that they are seeing. These are included with this letter.

The fallen and damaged trees that we have observed from Sandy are consistent with the fallen and damaged trees that we have experienced from recent storms with heavy winds, rain, snow and ice. The causes of the destruction are once again not surprising. These include: impact on trees from prior damage because of changes to the landscape (construction, changes in hydrology), trees were overgrown or too big for the root zone, trees faced increased exposure to the elements due to an absence of neighboring trees, trees had existing risk conditions that were either undetected or accepted as tolerable, tree damage as an act of nature/God.

Going forward, individual homeowners can enlist the services of an arborist to help determine the health and safety of the trees at their home. Observations and inspections can be made to determine risk and to inform decisions for a sensible course of action.

The street tree inventory that we have begun will help to inform the management program. Proper management includes identifying trees with risk conditions, removal of unsafe conditions, cyclic tree pruning, and tree planting. These concerns were addressed in our application for the DEC Urban Forestry Grant. I recently spoke with Fran Frobel about the completion of the inventory. Because of the large amount of man hours needed to complete the inventory with accuracy and GPS location tags, we are waiting to hear from Albany regarding funding.

I share the general concern for safety and for having a clear plan for managing our urban forest into the future. The recent events are unfortunate and severe. Having good information to make clear decisions will help us to reduce our vulnerability in the future.

Please let me know how I can help further.

Sincerely,

Brett Schneiderman

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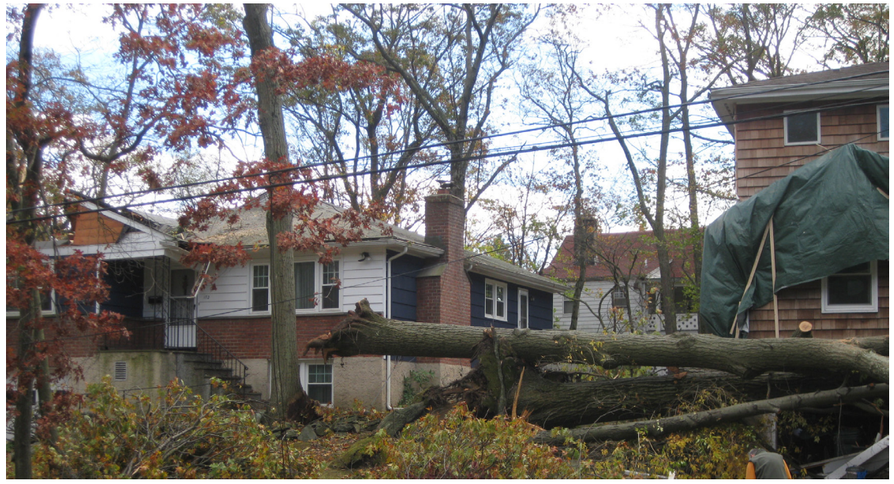

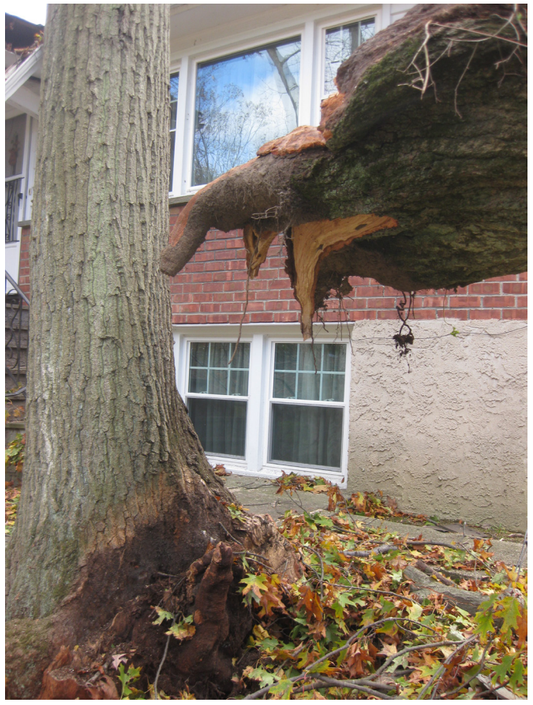

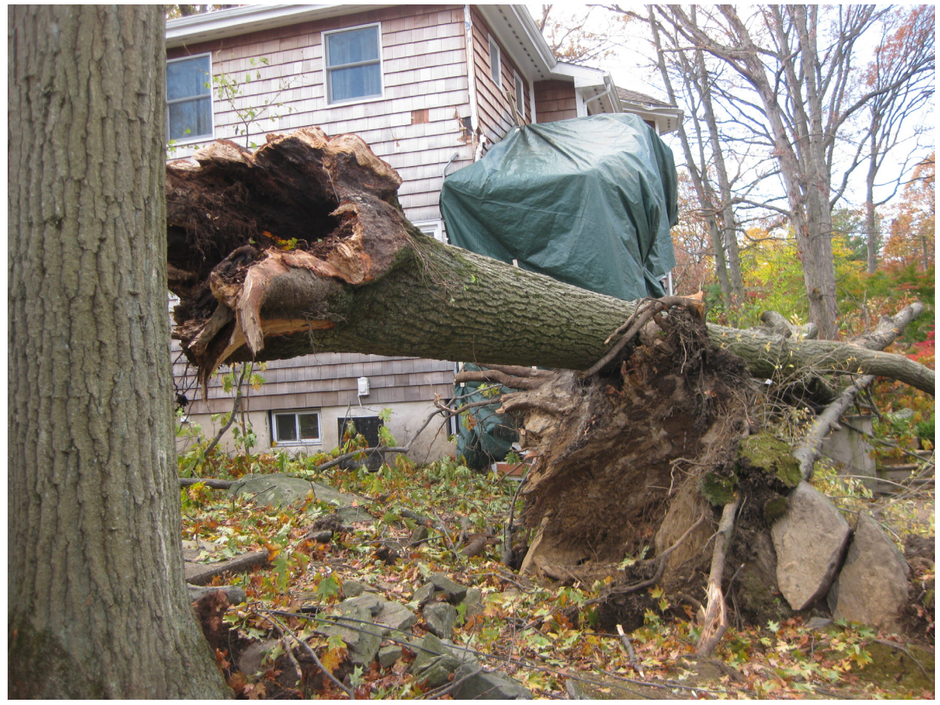

Codominant Stem Condition

In this picture, a tree with two distinct stems emerge from the same root.
Separation has occured at the weakest point at the base of the tree.
The photos show decay at the base of the separtated stem.

This is an example of a codominant stem condition, shown in two examples in the images at left.

Inspection of codominant stems can help to determine their risk.
If a union between two stems is more of a “V” shape than a “U” shape, the union is more likely to fail. Inspections look for evidence of water penetrating the union, swelling, other woody plants growing in the union, and cracks.
Cabling between stems does not guarantee that security of the union.

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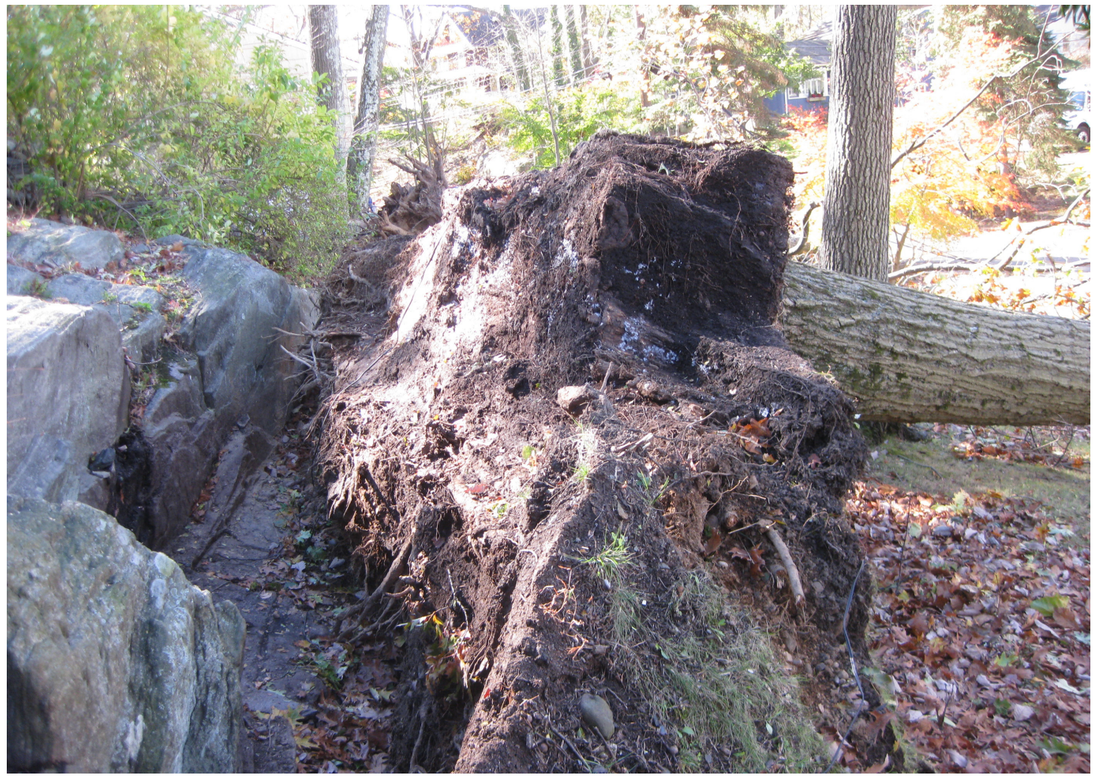
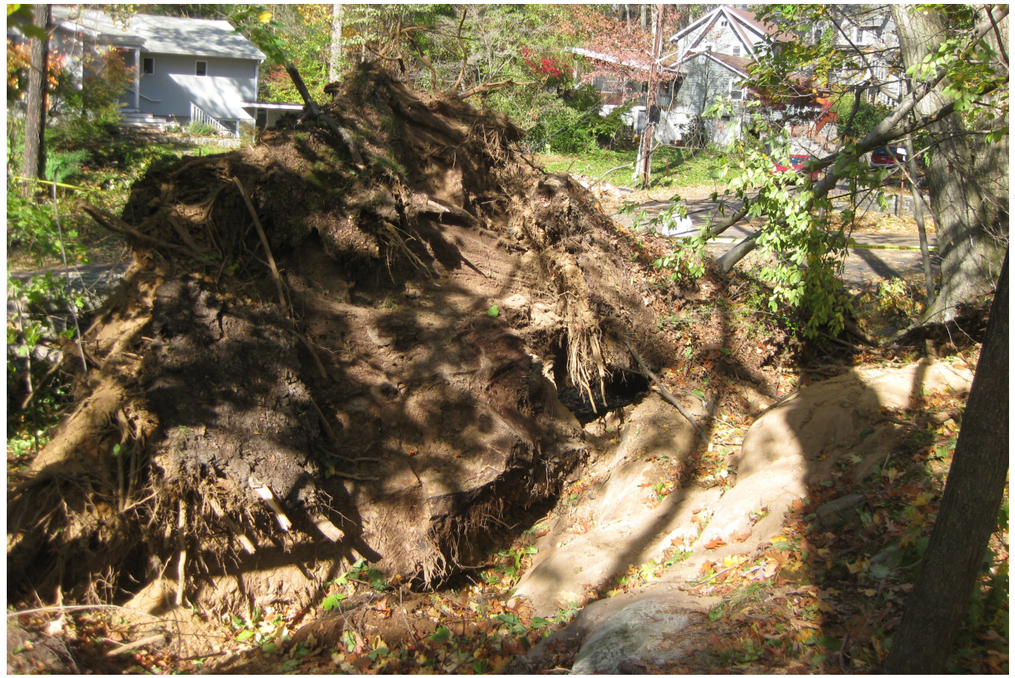
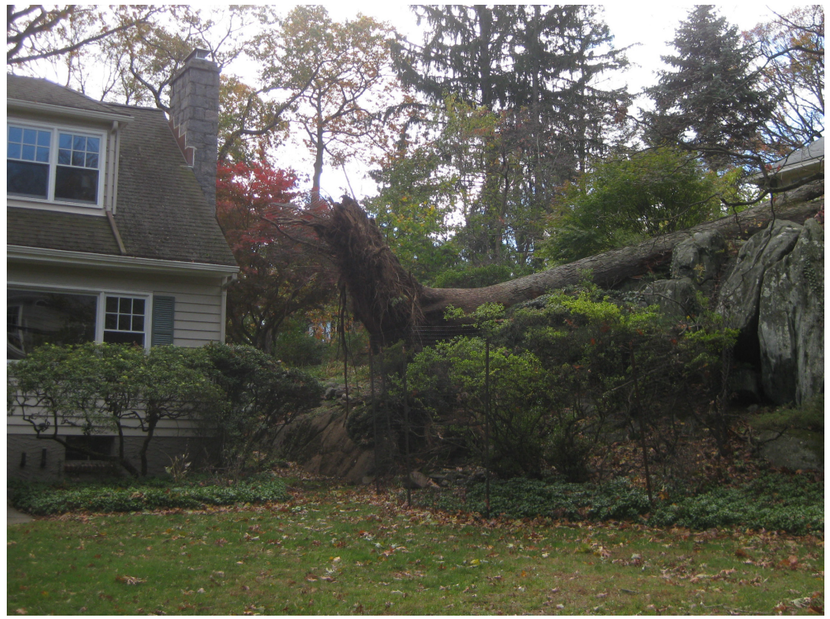




Trees Growing on Ledge or Rock



Many trees in Hastings-on-Hudson are growing on ledge or rock inches beneath the soil. These three images reveal the small amount of roots and the limited rooting area that were available to support the combined mass of trunks and canopies.

Understanding the sub-surface conditions can help to determine risk. Inspections can be performed manually, with an air-spade tool, and ground penetrating radar.

Trees adjacent to recent (and seemingly not-so-recent) construction most often have incurred damage to the root zone and often are the first casualty of weather conditions.

The trees pictured here were small trees when the houses were built. By now they are simply to big for the the limited root zone.

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Tall Thin Trees

The spruce tree in these picture snapped 2/3 up the trunk above the street due to exposure to the force of wind.

The branches engaged the wind, acting much like a sail.
The trunk separated at a point where the wood (see diameter of trunk at left) could not compensate for the degrees of agitation.

Individual tall trees are more vulnerable because they lack the wind-break of a forest canopy.

Pruning maintenance in certain cases can help to reduce this risk.

Tall trees can be inspected along the stem for cracks and decay to determine potential risk.

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Trees in Woods

The trees pictured here are mature trees in wooded areas that have been damaged by the force of wind.

The force of storm winds caused these trees to tear and break along the weakest wood along the stem. Some decay is visible at the base of the tree in the image below. Internal decay is not always detectable from a surface inspection. Core sampling is a technique for looking for internal decay.

Trees that have been uprooted adjacent to trails and public spaces should be addressed as first priority.

Forest management techniques and practices can encourage a healthy and safer forest with diversity in canopy maturity and species.

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