Tree Mitigation Assessments

Scope:

UFST arborists evaluate trees in the areas of the community that have been identified for their assessments. This may include parks, trails, street trees, and other public areas. In Henderson (KY) this included: Central Park, portions of Atkinson Park, and the smaller boat ramp parks.

Project Goal:

The primary goal is to help communities prepare for storms by identifying mitigation that would reduce future storm damage to trees.

Field Markings:

Trees were not marked in the field. Urban forest management activities relocate trees by using the map, species and diameter. GPS accuracy is usually between 1-3 meters, but can be significantly greater near dense buildings.

Risk Management:

Risk ratings follow the *Photographic Guide to the Evaluation of Hazard Trees in Urban Areas, 2nd Edition*, Nelda Matheny and James R. Clark.

The risk rating includes all tree characteristics not just those related to the most recent storm event.

Trees are rated for existence of a target (someone that could be injured, or something that could be damaged), size of part that is expected to fail, and the probability that the part will fail.

All three components are rated on a scale of 0-4 and summed to create the risk rating. Risk ratings can range from 3 to 12 with 12 indicating the greatest risk to public safety.

Following the risk rating, the arborist makes a recommendation based solely on that rating and irrespective of mitigation.

Tree Condition:

Condition ratings are based on the rating procedure in the *Guide for Plant Appraisal, 9th Edition* from the Council of Tree and Landscape Appraisers.

Component ratings are assigned on a scale of 0 to 4 for:

- Root – Structure
- Trunk – Structure
- Scaffold Limb – Structure
- Root – Health
- Trunk – Health
- Scaffold Limb – Health

- Branch – Health
- Canopy – Health

Component ratings are summed and converted to a scale of 100 (x 3.125) to create the tree condition score on a scale of 0-100 with 100 being the best condition, and 0 a dead tree.

Tree zone condition ratings are created for:

- Zone 1: Roots & trunk (maximum of 16)
- Zone 2: Trunk & scaffold (maximum of 16)
- Zone 3: Crown (branches and canopy; maximum of 8)

Mitigation Recommendations:

The UFST arborists assign the primary mitigation action. These can include:

- Inspection (Annual)
- Inspection (Post-storm)
- Pruning – Structural
- Pruning – Sanitation (i.e. Deadwood)
- Pruning – Restoration (from bad practices or storms)
- Removal

Mitigation Implementation:

Implementing a mitigation strategy should be based on community priorities that include public safety, budget limitations, and long-term urban forest management goals. Trees assessed can be organized into various levels of action based on these community factors.

1st Level mitigation

It is recommended that communities address the most serious public safety issues first. In the draft report *Henderson Trees (1st Priority 25Mar09)*, tress with a risk rating of 9 and higher are listed for either removal or pruning. **It is assumed** that these trees are most vulnerable to storm events and damage in addition to their identified public safety issues.

2nd Level Mitigation

This list includes trees with risk rating below 9, Zone 1 and Zone 2 ratings of at least 12, and in the diameter range of 4"-28". These trees have good lower tree structure & health and are trees that can make up the future tree canopy.

3rd Level Mitigation

The bulk of the trees inventoried fall into this list (the center of the bell-shaped curve). They include: risk <9, moderate Zone 1 and Zone 2 condition, and younger trees (i.e. diameter classes from 8"-24"). When

working on these trees communities could further prioritize by species. For example, oaks and maples (larger maturing trees) may be a priority.