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Tree Evaluation Report

Prepared for
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City-County Building, Suite 104
210 Martin Luther King, Jr. Blvd.
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Prepared by

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Madison, WI 53708

October 14th, 2020

Summary:

On September 9th, 2020, Mike Sturm of the City of Madison Parks Division approved Tree Health Management LLC to conduct a tree inventory and assessment for the Madison Senior Center Courtyard located at 330 W. Mifflin St in Madison, WI. Using the methods in accordance with Industry standards and outlined in this report, a visual ground assessment of the trees was performed. The trees were tagged with an aluminum identifier, measured and rated for condition. Observations are listed below, as well as photos and a site map. Many of the trees on site are struggling due to limited soil volume, girdling roots and poor structure. General care recommendations for the site are also included in this report.

Introduction:

All trees in the Madison Senior Center Courtyard located at 330 W. Mifflin St in Madison, WI Were evaluated, and are listed below. Condition ratings of 90 to 100% is considered excellent, 75 to 90% is considered good, 50 to75% is fair, 30 to 50% is poor, 10 to30% is very poor, and less than 10% is considered dead.

The following table, derived by The Council of Tree and Landscape Appraisers (10th addition) further explains the ratings given:

Condition	Tree Structure Consider root condition/formation, trunk condition, and branch assembly and arrangement.	Tree Health Consider crown indicators — including vigor, density, leaf size, quality, and stem shoot extensions.	Tree Form Consider the general shape and overall form.
Excellent 90-100%	Root plate undisturbed and clear of any obstructions. Trunk flare has normal development. No visible trunk defects or cavities. Branch spacing/structure and attachments are free of any defects.	Perfect specimen with excellent form and vigor, along with a well-balanced crown. Trunk is sound and solid. No apparent pest problems. Normal to exceeding shoot length on new growth. Normal leaf size and color. Exceptional life expectancy for the species.	Ideal tree for that species, including shape and canopy symmetry, health, and density. Outstanding function on the site or location.
Good 75-90%	Root plate appears normal, with only minor damage.	Imperfect canopy density in 10% or less of the tree. Lacks	Nearly ideal tree for that species, including shape and canopy

	Possible signs of root dysfunction around trunk flare. Minor trunk defects from previous injury, with good closure and less than 25% of bark section missing. Good branch habit; minor dieback with some signs of previous pruning. Codominant stem formation may be present, requiring minor corrections.	natural symmetry. Less than half the normal growth rate and minor deficiency in leaf development. Few pest issues or damage, and controllable if present. Normal branch and stem development with healthy growth. Typical life expectancy for the species.	symmetry, health, and density. Functions well on the site or location.
Fair 50-75%	Root plate reveals previous damage or disturbance. Dysfunctional roots may be visible around the main stem. Evidence of trunk damage or cavities, with decay or defects present and less than 30% of bark sections missing on trunk. Co-dominant stems are present. Branching habit and attachments indicate poor pruning or damage, which requires moderate corrections.	Crown decline and dieback up to 30% of the canopy. Poor overall symmetry. Leaf size smaller and color somewhat chlorotic. Shoot extensions indicate some stunting and stressed growing conditions. Obvious signs of pest problems contribute to a lesser condition. Some decay areas found in the main stem and branches. Below-average life expectancy for the species.	Acceptable tree for that species. Tree shape and symmetry are adequate, with some substantial asymmetry in shape and canopy form. May have considerable concerns for its use and function on the site or location.
Poor 30-50%	Root plate disturbance and defects indicate major	Lacking a full crown, with more than 50% decline and dieback	Poor tree for that species. Highly irregular canopy

	damage, with girdling roots around the trunk flare. Trunk reveals more than 50% of bark section missing. Branch structure has poor attachments, with several structurally important branches dead or broken. Canopy reveals signs of damage or previous topping or lion-tailing, with major corrective action required.	that especially affects larger branches. Stunting obvious, with little evidence of growth on smaller stems. Leaf size and color reveals overall stress in the plant. Insect or disease infestation may be severe. Extensive decay or hollow characteristics. Low life expectancy for the species.	shape and undesirable form make it unattractive and dysfunctional on the site or location.
Very Poor 10-30%	Severe damage within the root plate and root collar exhibits major defects that could lead to tree death or failure. A majority of the bark or trunk is affected, either decayed or missing. Branching is extremely poor or severely topped, with severe dieback in canopy. Little or no opportunity for mitigation of any tree parts.	More than 70% of the canopy is in severe decline or dead. Canopy density is extremely low, with chlorotic and necrotic tissue dominating the canopy. Severe decay in the trunk and major branches. Root plate damage with a majority of roots damaged, diseased or missing. Very low life expectancy for the species.	Disagreeable tree for that species, with highly diminished function and aesthetic appeal on the site or location.
Dead under 10%			

Assignment:

We agreed the assignment was to:

- Inventory and assess all trees in the Madison Senior Center Courtyard located at 330 W. Mifflin St in Madison, WI

Limitations of the Assignment:

My visual inspection of the listed trees was limited to a ground- based observation of the exposed roots, stem and crown. I was not asked to perform a risk assessment on the trees.

Site Observations:

Tag ID# #835

Tree Species: *Tilia americana* (basswood)

Tree Size: 14.0" dbh

Site Observations:

Roots & Root Collar

- limited soil volume

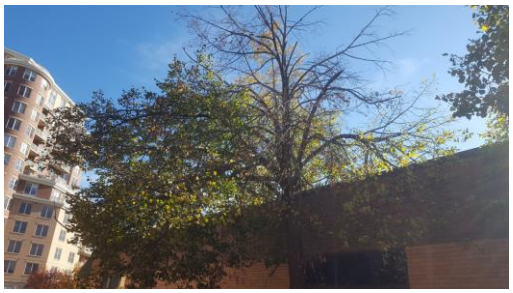
Trunk

- lean away from building
- decay

Crown & Branches

- upper 50% of crown is dead

Condition: 30%



Tree Tag ID# #836

Tree Species: *Tilia americana* (basswood)

Tree Size: 12.5" dbh

Site Observations:

Roots & Root Collar

- limited soil volume
- root collar buried

Trunk

- lean away from building
- co-dominant stems with included bark

Crown & Branches

- main stem is broken (~8" diameter)

- deadwood (up to ~3" diameter)

Condition: 30%

Tree Tag ID# **#837**
Tree Species: *Acer rubrum* (red maple)
Tree Size: 9.5" dbh
Site Observations: Roots & Root Collar

- limited soil volume

Trunk

- branches removed with decay cavity behind
- co-dominant stems

Crown & Branches

- asymmetrical crown is dead
- early fall color change

Condition: 10

Tree Tag ID# **#838**
Tree Species: *Acer rubrum* (red maple)
Tree Size: 7.5" dbh
Site Observations: Roots & Root Collar

- very limited soil volume
- root collar buried

Trunk

- large wound (~30% of circumference, from 2 foot upward)
- co-dominant stems

Crown & Branches

- deadwood (~50% of crown, up to ~5" diameter

- early fall color change

Condition: 30%

Tree Tag ID# **#839**
Tree Species: *Acer rubrum* (red maple)
Tree Size: 5.5" dbh
Site Observations: <u>Roots & Root Collar</u>

- very limited soil volume
- root collar buried

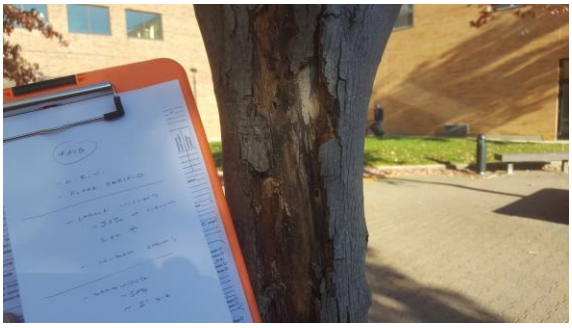
<u>Trunk</u>

- wound to trunk (~20% of circumference)
- central leader removed (~4" diameter)

<u>Crown & Branches</u>

- asymmetrical crown
- deadwood (~10% of crown, up to ~2" diameter)
- early fall color change

Condition: 45%



Tree Tag ID# **#840**
Tree Species: *Acer rubrum* (red maple)
Tree Size: 7.5" dbh
Site Observations: Roots & Root Collar

- very limited soil volume
- root collar buried

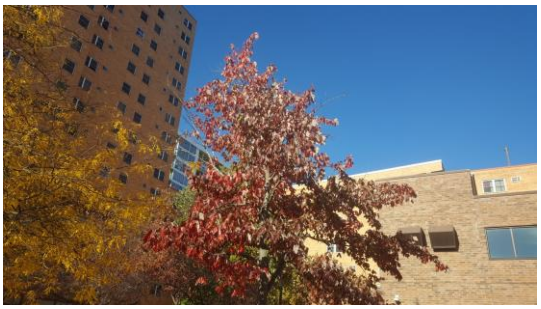
Trunk

- branches removed; have sealed over
- central leader dead

Crown & Branches

- asymmetrical crown
- deadwood (~10% of canopy, up to ~2" diameter)
- early fall color change

Condition: 35%



Tree Tag ID# **#841**
Tree Species: *Gleditsia triacanthos* (honeylocust)
Tree Size: 16.0" dbh
Site Observations: Roots & Root Collar

- slightly limited soil volume
- weed barrier over root zone

Trunk

- co-dominant stem from low on trunk with branches into upper canopy

Crown & Branches

- asymmetrical crown
- twiggy deadwood

Condition: 65%

Tree Tag ID# **#842**
Tree Species: *Malus* spp. (crabapple)
Tree Size: 7.5" dbh
Site Observations: dead
Condition: 0%

Tree Tag ID# **#843**
Tree Species: *Malus* spp. (crabapple)
Tree Size: 6.5" dbh
Site Observations: <u>Roots & Root Collar</u>

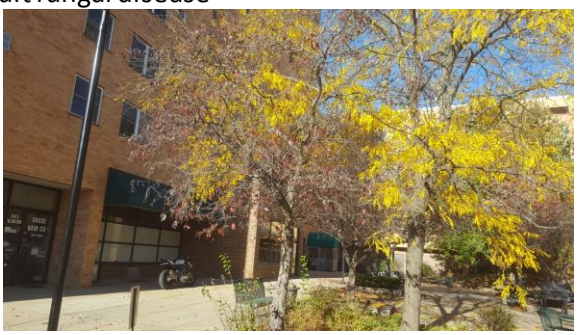
- very limited soil volume
- sprouts

<u>Trunk</u>

- decay cavity (~3" diameter, ~12" height)

<u>Crown & Branches</u>

- asymmetrical crown
- deadwood (up ~3" diameter, ~20% of canopy)
- early defoliation
- foliar and fruit fungal disease



Condition: 30%

Tree Tag ID# **#844**
Tree Species: *Gleditsia triacanthos* (honeylocust)
Tree Size: 13.5" dbh
Site Observations: <u>Roots & Root Collar</u>

- slightly limited soil volume
- root collar buried

<u>Trunk</u>

- co-dominant stems from low on trunk into upper canopy
- wound at ~6 foot (~4" diameter) with decay cavity

Crown & Branches

- symmetrical crown
- twiggy deadwood

Condition: 75%

Tree Tag ID# **#845**

Tree Species: *Malus* spp. (crabapple)
Tree Size: 8.5" dbh
Site Observations:

Roots & Root Collar

- very limited soil volume

Crown & Branches

- asymmetrical crown
- early defoliation
- foliar and fruit fungal disease

Condition: 65%

Tree Tag ID# **#846**
Tree Species: *Malus* spp. (crabapple)
Tree Size: 9.5" dbh
Site Observations:

Roots & Root Collar

- very limited soil volume
- sprouts

Trunk

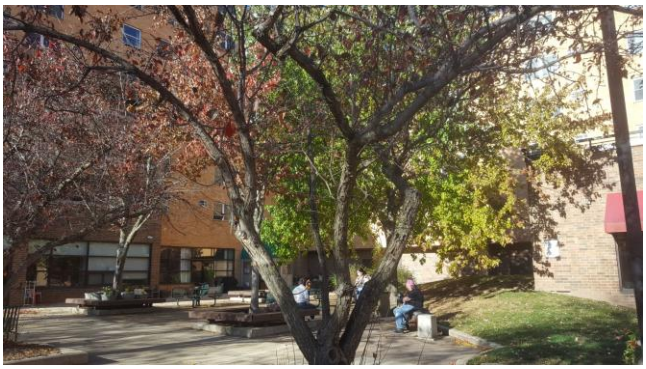
- ~2" diameter lead is dead
- decay at branch unions (~2 foot from base)

- decay/wounds in two of three live leads

Crown & Branches

- early defoliation
- foliar and fruit fungal disease

Condition: 35%



Tree Tag ID# **#847**
Tree Species: *Malus* spp. (crabapple)
Tree Size: 11.5" dbh
Site Observations:

Roots & Root Collar

- very limited soil volume
- root collar buried

Trunk

- co-dominant stems from ~1 foot above base
- decay in main stems

Crown & Branches

- deadwood (up to ~3" diameter in upper canopy)
- early defoliation
- foliar and fruit fungal disease

Condition: 30%

Tree Tag ID# **#848**
Tree Species: *Malus* spp. (crabapple)
Tree Size: 10.0" dbh

Site Observations: Roots & Root Collar

- very limited soil volume
- root collar buried

Trunk

- decay in smaller of two stems
- co-dominant stems

Crown & Branches

- tip dieback
- early defoliation
- foliar and fruit fungal disease

Condition: 30%

Tree Tag ID# **#849**

Tree Species: *Acer rubrum* (red maple)

Tree Size: 7.0" dbh

Site Observations: Roots & Root Collar

- very limited soil volume
- root collar buried
- girdling roots

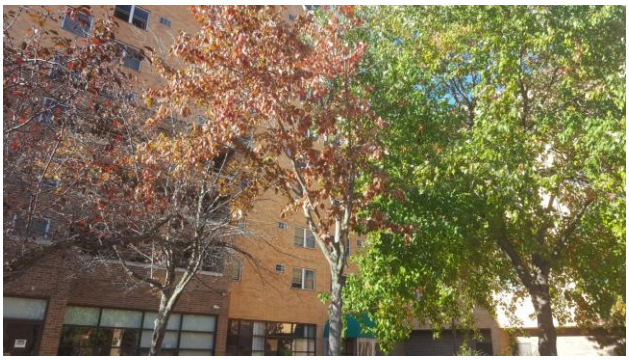
Trunk

- wound with decay cavity at branch union (~6 foot height)
- co-dominant stem is dead (~6" diameter)

Crown & Branches

- deadwood (up to ~3" diameter)
- asymmetrical crown
- tip dieback
- early fall color

Condition: 30%



Tree Tag ID# **#850**
Tree Species: *Acer rubrum* (red maple)
Tree Size: 10.5" dbh
Site Observations: <u>Roots & Root Collar</u>

- very limited soil volume

<u>Trunk</u>

- wounds/peeling bark up to first branch union (~4 foot height)
- wounds with decay cavities at first branch union

<u>Crown & Branches</u>

- deadwood (~50% of canopy, up to ~6" diameter)
- central leader is dead
- early fall color

Condition: 20%

Tree Tag ID# **#851**
Tree Species: *Acer rubrum* (red maple)
Tree Size: 15.0" dbh
Site Observations: Roots & Root Collar

- some circling roots

Trunk

- wounds to trunk have sealed over
- co-dominant stem

Crown & Branches

- clean, green leaves
- some wounds in upper canopy have not sealed (result of poor cuts)
- deadwood (up to ~2" diameter)

Condition: 70%



Tree Tag ID# **#852**
Tree Species: *Acer rubrum* (red maple)
Tree Size: 4.0" dbh
Site Observations: Roots & Root Collar

- very limited soil volume
- root collar buried

Trunk

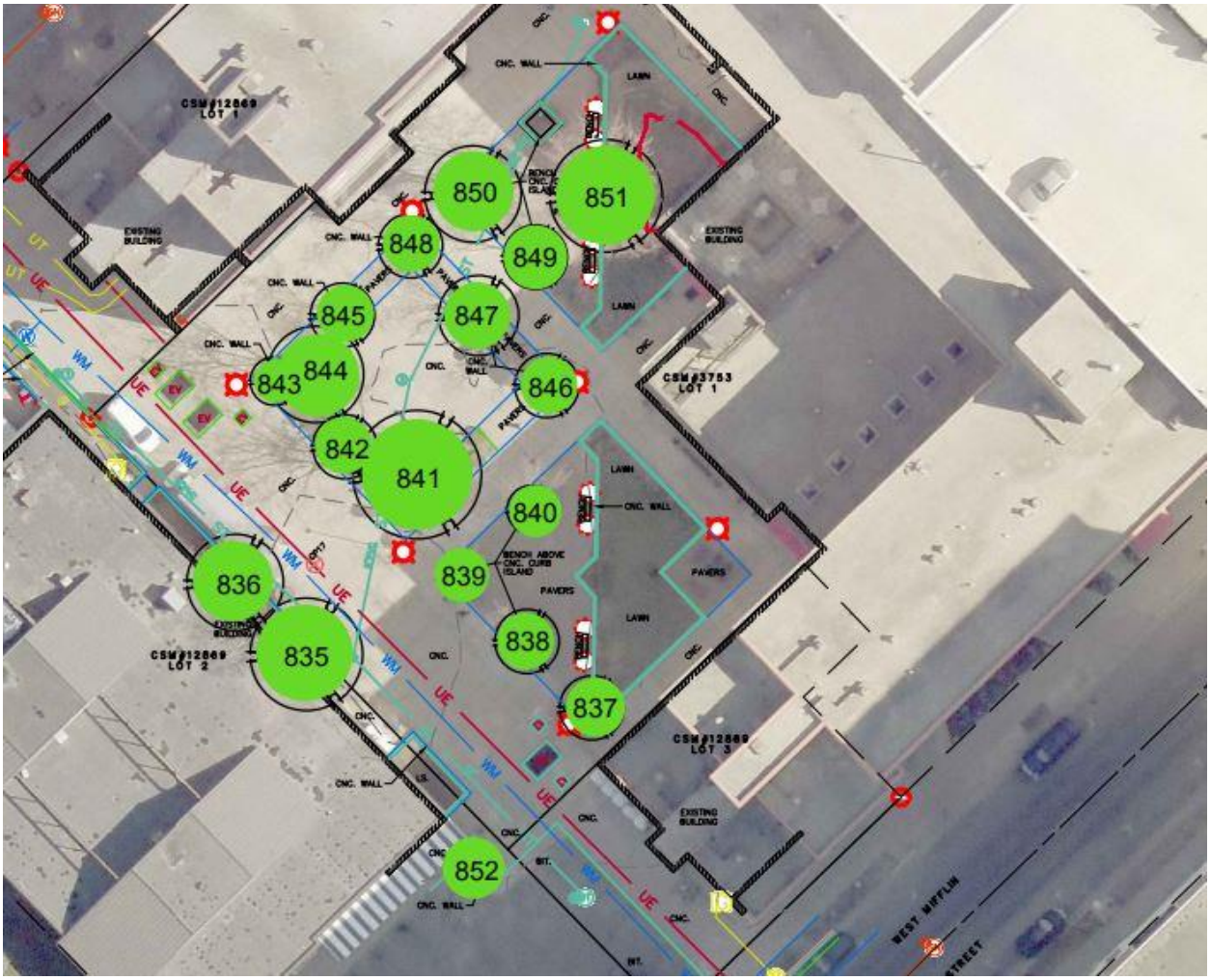
- large wound (10% to 40% of circumference)
- decay

Crown & Branches

- unbalanced crown
- deadwood (~30% of canopy)
- early fall color

Condition: 20%

Site Map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CSM #12869 LOT 1
CSM #3753 LOT 1
CSM #12869 LOT 2
CSM #12869 LOT 3
CNC. WALL
LAWN
EXISTING BUILDING
PAVERS
BENCH ABOVE CNC. CURB ISLAND
WEST MIFFLIN STREET

Future Maintenance Recommendations

1. Hire a Certified Arborist to monitor tree health and structural stability of all trees yearly. Signs of limb dieback, premature defoliation, discoloration should be noted as indicators of further stress. Signs of disease, insects or fruiting bodies should be tested and treated/mitigated immediately by a qualified professional.
2. Deadwood 2" in diameter and larger should be pruned from the trees near the home and drive. Live foliage/canopy should be preserved as much as possible. It is recommended that tools are disinfected after any cuts made that are larger than 2" in diameter. A 10% Bleach solution can be used to disinfect tools.
3. Compacted areas would benefit from using **air excavation** to de-compact the soil at the base of the trees, and to introduce a soil amendment containing quality compost and bio char components.
4. Watering should occur for involved trees on weeks with less than 1" measured rainfall, thru mid-November. Each tree should be given two gallons of water per diameter inch. Use of a soaker hose to deliver the water over a 4-6 hour period is more effective than watering with a hose in a short time period, and will prove to keep the site less muddy.

Glossary

Buttress roots: Roots at the trunk base that help support the tree and equalize mechanical stress.
Cavity: An open and exposed area of wood, where the bark is missing and internal wood has been decayed and dissolved.
Certified Arborist: A professional arborist with a minimum three years of full-time experience working in the professional tree care industry who has obtained a passing score on an extensive exam covering all facets of arboriculture. The International Society of Arboriculture (ISA) oversees the examination and certification of Certified Arborists and also requires them to continue their education to maintain their certification.
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Codominant: Within the crown of a tree, branches of nearly equal size above a fork.
Decay: Progressive deterioration of organic tissues, usually caused by fungal or bacterial organisms, resulting in loss of cell structure, strength and function. In wood it indicates the loss of structural strength.
Dripline: The dripline is the area directly located under the outer circumference of the tree branches. This is where the tiny rootlets are located that take up water for the tree.
Included bark: Are of bark on adjacent parts of a tree, typically on the inner faces of a narrow fork, which become grown over to occupy part of the internal joint.
Leader: A dominant shoot whether at the uppermost tip of a whole tree or at the tip of a branch.
Pore Space: The part of the soil not consisting of solid mineral particles or soil organic matter, occupied either with water or air or a mixture of both.
Root Zone: The area and volume of soil around the tree in which roots are normally found. May extend to three or more times the branch spread of the tree, or several times the height of the tree.
Soil compaction: The compression of soil, causing a reduction of pore space and an increase in the density of the soil. Tree roots cannot grow in compacted soil.
Vigor: Overall health; the capacity to grow and resist physiological stress.
Visual Tree Assessment: Method for evaluation of structural defects and stability in trees.
Definitions obtained from The American Society of Consulting Arborist's and the International Society of Arboriculture.

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2. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.
3. The consultant shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.

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6. This report expressed herein represent the opinion of the consultant, and the consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.

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9. Loss or alteration of any part of this report invalidates the entire report.

Please let me know if I can be of any further assistance.
Sincerely,

Briana Frank

Tree Health Management Owner

ISA Certified Arborist # WI0661A