



# CERTIFICATE OF APPROPRIATENESS PLACARD

for Raleigh Historic Resources

## Project Description:

Remove dead/diseased/dangerous tree; plant replacement tree

417 Watauga St

Address

Oakwood

Historic District

Historic Property

COA-0147-2025

Certificate Number

10/13/2025

Date of Issue

4/13/2026

Expiration Date

*This card must be kept posted in a location within public view until all phases of the described project are complete. The work must conform with the code of the City of Raleigh and laws of the state of North Carolina. When your project is complete, you are required to ask for a final zoning inspection in a historic district area. Telephone the RHDC office at 832-7238 and commission staff will coordinate the inspection with the inspections Department. If you do not call for this final inspection, your Certificate of Appropriateness is null and void.*

Signature, \_\_\_\_\_

*Collette K*

Raleigh Historic Development Commission

*Pending the resolution of appeals, commencement of work is at your own risk.*



Type or print the following:

Applicant name: Keith Brouillard

Mailing address: 3604 Pewter PI

City: Raleigh

State: NC

Zip code: 27612

Date: 10/10/25

Daytime phone #: 919-906-2807

Email address: khb1526@yahoo.com

Applicant signature: *Keith Brouillard*dotloop verified  
10/10/25 8:49 AM EDT  
TOSU-RL0D-Z2NT-9TKE

Minor work (staff review) – one copy

Major work (COA committee review) – ten  
copies

Additions &gt; 25% of building sq. footage

New buildings

Demolition of building or structure

All other

Post approval re-review of conditions of  
approval**Office Use Only**

Transaction #: \_\_\_\_\_

File #: **COA-0147-2025**

Fee: \_\_\_\_\_

Amount paid: \_\_\_\_\_

Received date: \_\_\_\_\_

Received by: \_\_\_\_\_

Property street address: 417 Watauga St

Historic district: Oakwood

Historic property/Landmark name (if applicable):

Owner name: Keith Brouillard &amp; Jennifer Speri

Owner mailing address: 3604 Pewter PI Raleigh NC 27612

**For applications that require review by the COA Committee (major work), provide addressed and stamped envelopes for owners for all properties with 100 feet on all sides of the property, as well as the property owner.**

Property Owner Name &amp; Address

Property Owner Name &amp; Address

**I understand that all major work applications that require review by the Raleigh Historic Development Commission's COA Committee must be submitted by 4 p.m. on the date of the application deadline; otherwise, consideration will be delayed until the following committee meeting. An incomplete application will not be accepted.**

Will you be applying for rehabilitation tax credits for this project? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Office Use Only Type of work: <u>76</u>
Did you consult with staff prior to filing the application? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Design Guidelines: please cite the applicable sections of the design guidelines ( <a href="http://www.rhdc.org">www.rhdc.org</a> ).		
Section/Page	Topic	Brief description of work (attach additional sheets as needed).
1.3/ page 23	Tree Removal	Remove a large tree that will be within 5 ft of garage and overhangs neighbors lot.

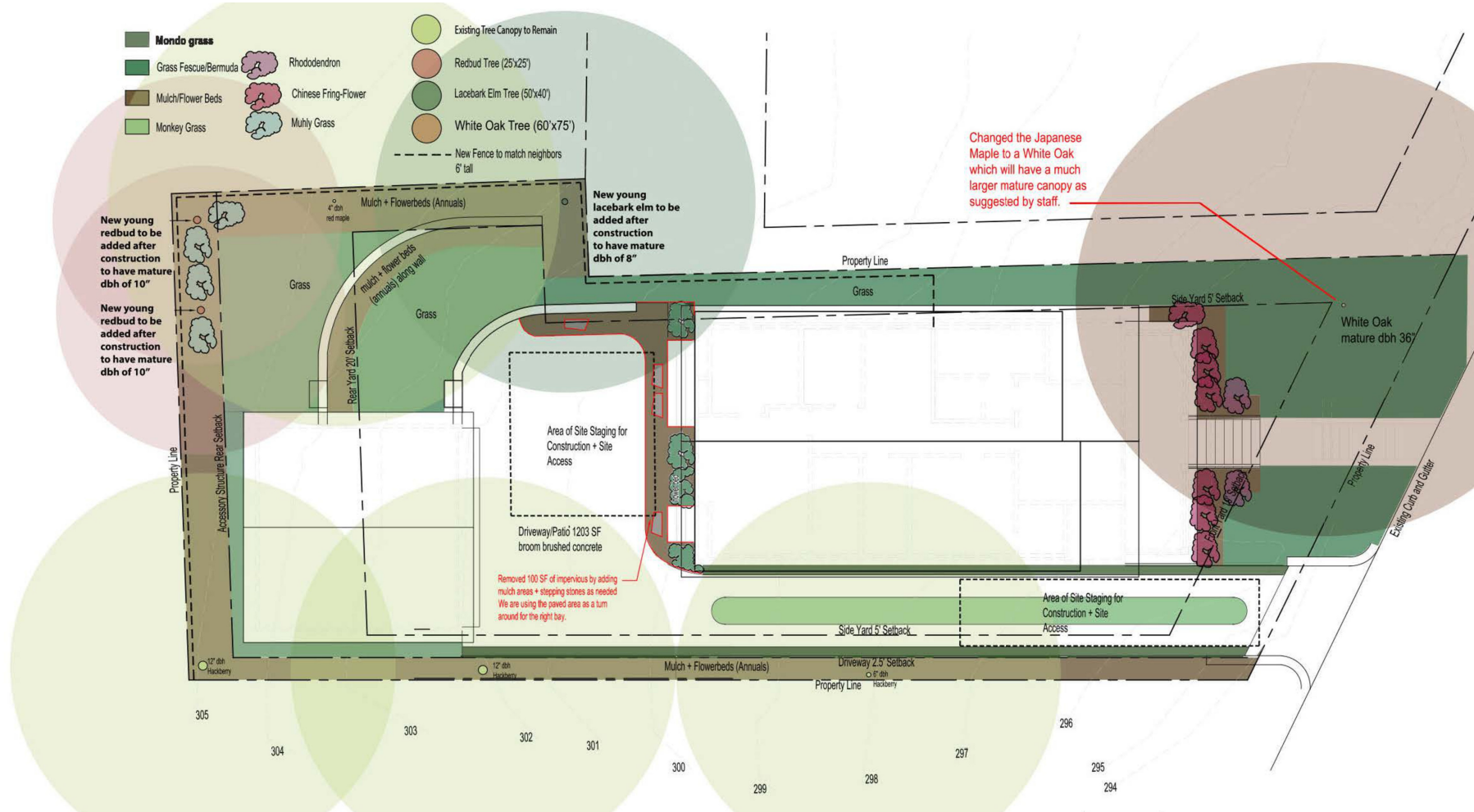
**Minor Work Approval (office use only)**

Upon being signed and dated below by the Planning Director or designee, this application becomes the Minor Work Certificate of Appropriateness. It is valid until 04/13/2026.

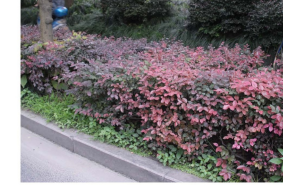
Please post the enclosed placard form of the certificate as indicated at the bottom of the card. Issuance of a Minor Work Certificate shall not relieve the applicant, contractor, tenant, or property owner from obtaining any other permit required by City Code or any law. Minor Works are subject to an appeals period of 30 days from the date of approval.

Signature (City of Raleigh) Collette K Date 10/13/2025





Chinese Fring-Flower



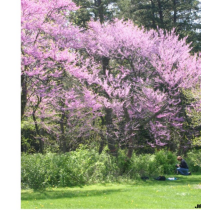
Red Maple



Lacebark Elm



RedBud



White Oak

Muhly Grass

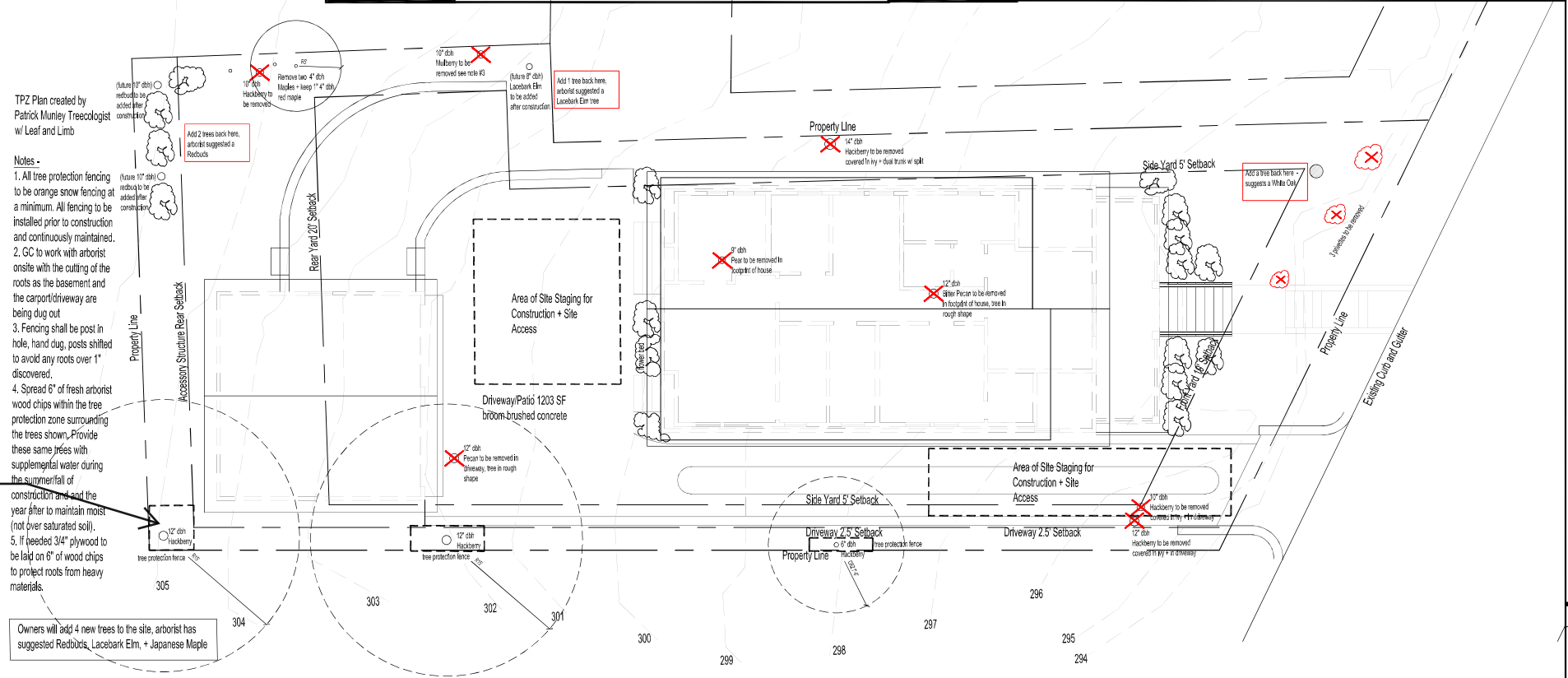


Rhododendron



A1.02	3	LANDSCAPE PLAN SCALE : 1/8" = 1'-0"	A1.02	2	SUPPORT INFO FOR LANDSCAPE PLAN SCALE : NTS
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Tree to be removed & replaced with similar mature size tree



A1.02	1	TREE PROTECTION PLAN SCALE : 1/8" = 1'-0"
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# A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas

## TREE HAZARD EVALUATION FORM

2nd Edition

Site/Address: 417 Wotanga St Raleigh, NC

Map/Location: \_\_\_\_\_

Owner: public \_\_\_\_\_ private ☒ unknown \_\_\_\_\_ other \_\_\_\_\_

Date: 9/30/25 Inspector: Mary Ann Metcalf, ISA #50-172A

Date of last inspection: 9/30/25 NC Reg. Ex. 1385

### HAZARD RATING:

3 + 3 + 3 = 9  
Failure Potential + Size of part + Target Rating = Hazard Rating

\_\_\_\_\_ Immediate action needed

\_\_\_\_\_ Needs further inspection

\_\_\_\_\_ Dead tree

### TREE CHARACTERISTICS

Tree #: 1 Species: Celtis occidentalis - Common Hackberry

DBH: 19" # of trunks: 1 Height: 60' Spread: 50'

Form: ☐ generally symmetric ☐ minor asymmetry ☒ major asymmetry ☐ stump sprout ☐ stag-headed

Crown class: ☐ dominant ☒ co-dominant ☐ intermediate ☐ suppressed

Live crown ratio: 60 % Age class: ☐ young ☐ semi-mature ☒ mature ☐ over-mature/senescent

Pruning history: ☐ crown cleaned ☐ excessively thinned ☐ topped ☐ crown raised ☐ pollarded ☐ crown reduced ☐ flush cuts ☐ cabled/braced  
☒ none ☒ multiple pruning events Approx. dates: Unknown

Special Value: ☐ specimen ☐ heritage/historic ☐ wildlife ☐ unusual ☐ street tree ☐ screen ☒ shade ☐ indigenous ☐ protected by gov. agency

### TREE HEALTH

Foliage color: ☐ normal ☒ chlorotic ☐ necrotic Epicormics? ☒ Y ☐ N

Foliage density: ☐ normal ☒ sparse Leaf size: ☐ normal ☐ small

Annual shoot growth: ☐ excellent ☒ average ☐ poor Twig Dieback? ☒ Y ☐ N

Woundwood development: ☐ excellent ☒ average ☒ poor ☐ none

Vigor class: ☐ excellent ☐ average ☒ fair ☐ poor

Major pests/diseases: \_\_\_\_\_

### Growth obstructions:

☐ stakes ☐ wire/ties ☐ signs ☐ cables

☐ curb/pavement ☐ guards

☐ other \_\_\_\_\_

### SITE CONDITIONS

NOTE: Site Conditions are based on proposed garage + house

Site Character: ☒ residence ☐ commercial ☐ industrial ☐ park ☐ open space ☐ natural ☐ woodland/forest

Landscape type: ☐ parkway ☐ raised bed ☐ container ☐ mound ☒ lawn ☐ shrub border ☐ wind break

Irrigation: ☒ none ☐ adequate ☐ inadequate ☐ excessive ☐ trunk wetted

Recent site disturbance? ☒ Y ☐ N ☒ construction ☐ soil disturbance ☐ grade change ☐ line clearing ☐ site clearing

% dripline paved: 0% 10-25% 25-50% 50-75% 75-100% Pavement lifted? Y N

% dripline w/ fill soil: 0% 10-25% 25-50% 50-75% 75-100%

% dripline grade lowered: 0% 10-25% 25-50% 50-75% 75-100%

Soil problems: ☐ drainage ☐ shallow ☐ compacted ☐ droughty ☐ saline ☐ alkaline ☐ acidic ☐ small volume ☐ disease center ☐ history of fail  
☐ clay ☐ expansive ☐ slope \_\_\_\_\_° aspect: \_\_\_\_\_

Obstructions: ☐ lights ☐ signage ☐ line-of-sight ☐ view ☐ overhead lines ☐ underground utilities ☐ traffic ☐ adjacent veg. ☐ \_\_\_\_\_

Exposure to wind: ☐ single tree ☐ below canopy ☒ above canopy ☐ recently exposed ☐ windward, canopy edge ☐ area prone to windthrow

Prevailing wind direction: N in winter Occurrence of snow/ice storms ☐ never ☒ seldom ☐ regularly

### TARGET

Use Under Tree: ☐ building ☐ parking ☐ traffic ☒ pedestrian ☒ recreation ☐ landscape ☐ hardscape ☒ small features ☐ utility lines

Can target be moved? Y ☒ N Can use be restricted? Y ☒ N

Occupancy: ☐ occasional use ☐ intermittent use ☒ frequent use ☐ constant use



# TREE DEFECTS

## ROOT DEFECTS:

Suspect root rot: Y ☒ N Mushroom/conk/bracket present: Y ☒ N ID: \_\_\_\_\_

Exposed roots: ☐ severe ☐ moderate ☒ low Undermined: ☐ severe ☒ moderate ☐ low

Root pruned: \_\_\_\_\_ distance from trunk Root area affected: \_\_\_\_\_ % Buttress wounded: Y ☒ N When: Proposed construction of new house + garage

Restricted root area: ☐ severe ☒ moderate ☐ low Potential for root failure: ☐ severe ☐ moderate ☐ low

LEAN: 25-30 deg. from vertical ☒ natural ☐ unnatural ☐ self-corrected Soil heaving: Y N

Decay in plane of lean: Y ☒ N Roots broken ☒ Y N Soil cracking: Y ☒ N

Compounding factors: \_\_\_\_\_ Lean severity: ☐ severe ☐ moderate ☐ low

**CROWN DEFECTS:** Indicate presence of individual defects and rate their severity (s = severe, m = moderate, l = low)

DEFECT	ROOT CROWN	TRUNK	SCAFFOLDS	BRANCHES
Poor taper				
Bow, sweep				
Codominants/forks				
Multiple attachments				
Included bark				
Excessive end weight			30° lean to South	
Cracks/splits				
Hangers				
Girdling				
Wounds/seam				
Decay				
Cavity				
Conks/mushrooms/bracket				
Bleeding/sap flow				
Loose/cracked bark				
Nesting hole/bee hive				
Deadwood/stubs				
Borers/termites/ants				
Cankers/galls/burls				
Previous failure	<input checked="" type="checkbox"/> →		the end of 1 Major scaffold	

## HAZARD RATING

Tree part most likely to fail: Scaffold branches Failure potential: 1 - low; 2 - medium; ☒ 3 - high; 4 - severe

Inspection period: \_\_\_\_\_ annual \_\_\_\_\_ biannual \_\_\_\_\_ other one-time Size of part: 1 - <6" (15 cm); 2 - 6-18" (15-45 cm); ☒ 3 - 18-30" (45-75 cm); 4 - >30" (75 cm)

Failure Potential + Size of Part + Target Rating = Hazard Rating Target rating: 1 - occasional use; 2 intermittent use; ☒ 3 - frequent use; 4 - constant use

3 + 3 + 3 = 9

## HAZARD ABATEMENT

Prune: ☐ remove defective part ☐ reduce end weight ☐ crown clean ☐ thin ☐ raise canopy ☐ crown reduce ☐ restructure ☐ shape

Cable/Brace: \_\_\_\_\_ Inspect further: ☐ root crown ☐ decay ☐ aerial ☐ monitor

Remove tree: ☒ Y N Replace? Y ☒ N Move target: Y ☒ N Other: \_\_\_\_\_

Effect on adjacent trees: ☒ none ☐ evaluate

Notification: ☒ owner ☐ manager ☐ governing agency Date: 10/8/2025

## COMMENTS





## Lineberger's Tree Service, Inc.

Brent & Beverly Lineberger

5404 Penny Road

Raleigh, NC 27606

(919)834-0055

[info@LinebergerTree.com](mailto:info@LinebergerTree.com)

[www.LinebergerTree.com](http://www.LinebergerTree.com)

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Keith Brouillard  
3604 Pewter Place  
Raleigh, NC 27612

October 9, 2025

RE: 417 Watauga St.

Keith.

Thank you for contacting Lineberger Tree Service and allowing me to visit your property to perform a visual inspection of the Red Maple tree in the front yard and trees in the back yard on Tuesday September 30th. As requested, I focused on ground assessment of the trees. No climbing or aerial inspection was performed. Some of the tree characteristics and site changes I looked for include: leaf color, stem structure, 19-inch dbh canopy color, leaf and canopy density, presence of lean or decay, root failure, root disturbance, bark damage, grade changes, borer and other insects, the presence of decay fungi, and changes in canopy cover.

Recommendation:

- Remove 19-inch dbh Hackberry, rear left corner of property & grind stump.

Please see attached report and Tree Hazard Evaluation. Please contact our office through the website when you are ready for any estimate to remove the Hackberry tree. It was a pleasure working with you. Please feel free to contact me if you need additional information.

Sincerely,

Mary Ann Metcalf, ISA Certified Arborist #SO-0172

Lineberger's Tree Service, Inc

919-834-0055 office

919-612-3063 cell/text

Email: [MaryannMetcalf@LinebergerTree.com](mailto:MaryannMetcalf@LinebergerTree.com)



# Tree Evaluation Report

**Date Tree Evaluated:** 9/30/2025

**Inspector:** Mary Ann Metcalf, Certified Arborist #SO-0172A; NC Registered Forester #1385

**Property Owner:** Keith Bouillard

**Site Address:** 417 Watauga St., Raleigh, NC

**Tree Evaluated:** *Celtis occidentalis*, Common Hackberry **Location on property:** Rear left corner of property, 3 ft. north of the property marker the edge of the root flare is touching the property line

## Tree Characteristics:

**Diameter:** 19-inch dbh

**Trunks:** 1

**Height:** 60 ft.

**Spread:** 50 ft.

**Form:** Major Asymmetry (the end of 1 major scaffold branch is gone; the other scaffold branch has 2 smaller branches)

**Crown Class:** Co-dominant (there are 2 major scaffold branches that make up the crown.)

**Value:** Shade

The 19-inch Hackberry live crown is about 50%. There are 2 major scaffold branches left on the tree. The larger major scaffold branch end is gone causing secondary growth along the largest major scaffold branch. Secondary growth is not as beneficial to the tree's health as the original true branch. The other major scaffold branch further divides into 3 branches, 1 is gone and 2 true branches are present.

The foliage is chlorotic (yellowing), sparse, the twig growth is average, the callus wood development when branches are removed is poor and the tree vigor is fair (the tree's ability to form callus wood when branches fall off or when removed).

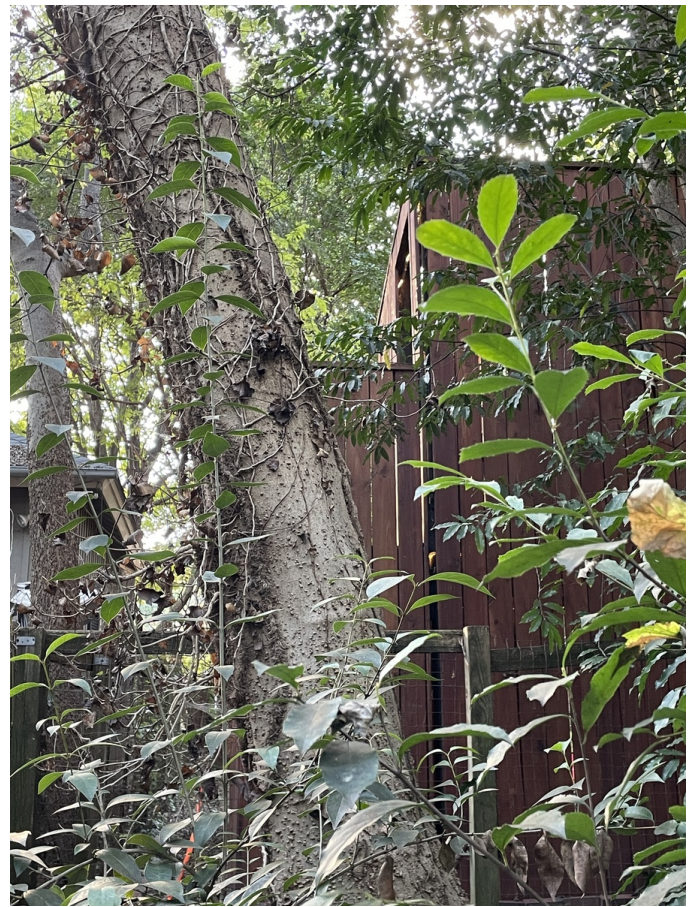
The base of the tree trunk has a natural 20 degree lean to the southwest. Further up the stem the top of the larger scaffold branch leans a further 10 degrees to the southwest. The prevailing wind direction in the Raleigh area is from the South in the Summer and from the North in the Winter. Due to the natural lean, the crown of the tree is over the backyards of two of the neighboring properties. One neighbor has a constructed outdoor play area for their children and the other neighbor has outdoor furniture arranged partially under the tree. There is no decay in the buttress roots or lower trunk or upper stem that I detected from a ground inspection. The buttress roots are growing around bricks. There is an old wire fence along the property line growing into the buttress roots and lower trunk.

The site was previously a residence, the buildings have been removed. The 19-inch Hackberry tree is being evaluated because the site is proposed to be developed with a garage. The garage top left corner is proposed to be located approximately 5 ft. east of the tree and 3 ft. north of the tree. The area for grading, excavation, and ground preparation for the garage will remove 25% of the critical root zone (23.75 ft. for 19-inch dbh tree) of the tree. (The critical root zone used by the City of Raleigh for development purposes is 1.25 ft./inch diameter). There are 12 visible buttress roots/root flairs, 4 of those will most likely be affected by the garage. These 4 roots are on the backside of the lean.

## Recommendation:

Due to the 20 degree natural trunk lean to the SW toward the neighboring property, the roots affected opposite the lean, the unhealthy large scaffold branch, chlorotic foliage and the poor vigor of the tree, and the 25% root disturbance my recommendation is to remove the 19-inch dbh Hackberry tree.







# North Carolina Extension Gardener Plant Toolbox

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## Nyssa sylvatica

**Common Name(s):** Blackgum; Black Gum; Black Tupelo; Common Tupelo Tree; Cotton Gum; Nyssa; Pepperidge; Sour Gum; Tupelo

**Previously known as:** *Nyssa canadensis*; *Nyssa caroliniana*; *Nyssa sylvatica* var. *aquatica*

### Phonetic Spelling

NIH-suh sil-VAT-i-ka

### Description

Black gum or black tupelo is a medium-sized, native deciduous tree in the tupelo family (Nyssaceae). Its native range includes southern Ontario to the Central and Eastern United States, and Mexico. In the mountains of North Carolina, Tennessee, Virginia, and Georgia. Growing throughout North Carolina in dry upland forests, occasionally in bottomlands, savannas, swamp margins, and upland depressions that are occasionally flooded. It can also be found in the hills and mountains on dry slopes with oaks and hickories. The black gum is grown as an ornamental for its beautiful, scarlet red, fall color and for its shiny, dark green leaves in the summer. The specific epithet, *sylvatica*, means "of the woods."

The tree prefers average, medium to wet soils in full sun. It prefers moist, acidic soils, but is adaptive and tolerates poorly-drained soils and standing water, some drought, and some dry soils, at least in the wild. It tolerates many soil types and moisture conditions, but is slow-growing, reaching about 12 to 15 feet in about ten years, growing faster with a good watering and fertilizer schedule.

The black gum reaches a mature size of 40 to 70 feet tall but typically reaches 20 to 30 feet in cultivation. Trunk diameter is typically 1 to 2 feet but can reach 4 to 5 feet in taller specimens. It has a flowering habit that is dioecious, meaning a male and female tree are required to produce fruit. However, some plants have mostly male flowers while others have mostly female flowers, with most plants having a few perfect flowers. This would account for some plants being loaded with egg-shaped blue-black berries, while others may only have a few berries. Female trees need a male pollinator to set fruit. The nectar from the flowers is sought after by bees and tupelo honey is highly prized.

This tree is an excellent choice to support wildlife in the landscape. However, it should be sited in a permanent location because its long taproot makes it difficult to transplant later. It is tolerant of drought, heat, dry, and wet soils, and is moderately salt tolerant, but it is intolerant to alkaline soils. It withstands wind, ice, and salt spray in coastal locations. Black gum is a good street tree, specimen, and shade tree. The spectacular fall foliage color will add interest to your landscape.

### Quick ID Hints:

- deeply furrowed bark
- leaf shape elliptic to obovate, dark green upper surface, pale green undersides
- brilliant fall foliage colors of yellow, orange, purple, and red
- entire margins to Irregular coarse teeth near the tips of some leaves
- branches held more or less 90 degrees to the main stem
- bluish-black drupes from September to October
- chambered pith
- vascular bundles in the leaf scar

**Insects, Diseases, or Other Plant Problems:** Leaf miners and scale are occasional insect pests. It has some susceptibility to leaf spots, cankers, and rust. It has been recently found that a number of the black gum trees have been dying. There was evidence of leaf spots and cankers, but the cause has not been determined.

[Key to Nyssa](#)

VIDEO created by Grant L. Thompson for "[Trees, Shrubs, and Woody Vines for Landscaping](#)" a plant identification course offered by the [Department of Horticulture at Iowa State University](#).

Mountain Ridge Top Garden - East Lawn and Lower Drive Border

Mountain Ridge Top Garden - North Lawn and Upper Drive Border

Mountain Ridge Top Garden - North Woods

Mountain Ridge Top Garden - West Meadow and Woods

Paths & Walkways



Nyssa sylvatica 'Sparkler' Form  
Jim Robbins  
[CC BY-NC-ND 4.0](#)  
[Download Image](#)



Nyssa sylvatica  
Jim Robbins  
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[Download Image](#)



Nyssa sylvatica Bark  
Jim Robbins  
[CC BY-NC-ND 4.0](#)  
[Download Image](#)



**Cultivars / Varieties:**

Afterburner® ('David Odom'), 'Autumn Cascades', Fire Starter® ('JFS-Red'), 'Green Gable', 'Miss Scarlet', 'Red Rage', 'Red Splyndor', 'Sheri's Cloud', 'Snow Flurries', 'Sparkler', Swamp Tupelo, var. biflora, 'Wildfire', 'Zydeco Twist'



**Attributes:****Genus:**

Nyssa

**Species:**

sylvatica

**Family:**

Nyssaceae

**Uses (Ethnobotany):**

Wood is tough, cross-grained, hard to work, and warps easily. It is often used for crates, cross ties, rough floors, and pulpwood.

**Life Cycle:**

Perennial

Woody

**Recommended Propagation****Strategy:**

Layering

Seed

**Country Or Region Of Origin:**

Southern Ontario, Central and Eastern United States, and Mexico

**Distribution:**

Native: United States--AL, AR, CT, FL, GA, IL, KS, KY, LA, ME, MA, MI, MS, MO, NH, NJ, NY, NC, OH, OK, PA, RI, SC, TN, TX, VT, VA, and WI; Canada--Ontario; Mexico--Mexico Central, Mexico Gulf, Mexico Northeast, and Mexico Southeast.

**Fire Risk Rating:**

low flammability

**Wildlife Value:**

Its young sprouts are eaten by white-tailed deer. The fruits (berries) are enjoyed by thrushes and other songbirds, wild turkeys, black bear, foxes, raccoons and opossums from August through October. It is one of the most important food sources for fall song bird migration. The natural hollows that form in the tree are a refuge for reptiles, tree frogs, bats and other wildlife. The spring flowers are a nectar source for bees.

**Play Value:**

Attracts Pollinators

Colorful

Wildlife Food Source

**Particularly Resistant To (Insects/ Diseases/Other Problems):**

Resistant to fire. This tree is somewhat resistant to deer

damage.

**Edibility:**

Fruit can be eaten raw or cooked. Produces a thin sharply acid pulp that is pleasant to roll in the mouth as a masticatory, it is also used in preserves. The honey bees produce from the flowers of this tree is highly prized.

**Dimensions:**

Height: 40 ft. 0 in. - 70 ft. 0 in.

Width: 20 ft. 8 in. - 35 ft. 6 in.

**Whole Plant Traits:****Plant Type:**

Native Plant

Tree

**Woody Plant Leaf Characteristics:**

Deciduous

**Habit/Form:**

Columnar

Irregular

Open

Pyramidal

Rounded

Spreading

**Growth Rate:**

Medium

**Maintenance:**

Low

**Texture:**

Medium

**Cultural Conditions:****Light:**

Full sun (6 or more hours of direct sunlight a day)

**Soil Texture:**

Clay

Loam (Silt)

Sand

**Soil pH:**

Acid (&lt;6.0)

Neutral (6.0-8.0)

**Soil Drainage:**

Good Drainage

Moist

Occasional Flooding

Occasionally Dry

Occasionally Wet

**Available Space To Plant:**

12-24 feet

24-60 feet

**NC Region:**

Coastal

Mountains

Piedmont

**USDA Plant Hardiness Zone:**

4a, 4b, 5a, 5b, 6a, 6b, 7a, 7b, 8a, 8b, 9a, 9b

**Fruit:****Fruit Color:**

Black

Blue

**Fruit Value To Gardener:**

Edible

**Display/Harvest Time:**

Fall

Summer

**Fruit Type:**

Drupe

**Fruit Length:**

&lt; 1 inch

**Fruit Width:**

&lt; 1 inch

**Fruit Description:**

Female trees only. From late summer to fall, the tree produces green drupes that ripen to bluish-black, round to oval, 3/8 to 1/2-inch long, and clustered on stalks up to 1 1/2 inches long. Thin, bitter-smelling flesh surrounds the small, ribbed seeds. The fruits are edible but sour. Birds and small mammals enjoy the drupes.

**Flowers:****Flower Color:**

Green

White

**Flower Inflorescence:**

Insignificant

Umbel

**Flower Bloom Time:**

Spring

Summer

**Flower Size:**

&lt; 1 inch

**Flower Description:**

The tree is dioecious and requires male and female plants to produce fruits. The flowers bloom in the spring from May to June; they are not showy. They are small, greenish-yellow, and occur in small clusters. An individual flower is about 1/8 of an inch in diameter.

**Leaves:****Woody Plant Leaf Characteristics:**

Deciduous

**Leaf Color:**

Green

**Leaf Feel:**

Glossy

Leathery

Waxy

**Leaf Value To Gardener:**

Showy

**Deciduous Leaf Fall Color:**

Gold/Yellow

Orange

Purple/Lavender

Red/Burgundy

**Leaf Type:**

Simple

**Leaf Arrangement:**

Alternate

**Leaf Shape:**

Elliptical

Obovate

**Leaf Margin:**

Dentate

Entire

**Hairs Present:**

Yes

**Leaf Length:**

3-6 inches

**Leaf Width:**

1-3 inches

**Leaf Description:**

Leaves are dark green on the upper surface, paler green on the undersides, 3 to 6 inches long and 1/2 to 3 inches wide, alternate, elliptic to obovate, blunt points, and are pubescent along the veins. Leaves turn yellow, orange, red, or purple in the fall. On sprouts or young trees, the leaves may have a few coarse teeth. The petiole is 0.5 to 1-inch long and reddish

**Bark:****Bark Color:**

Black

Dark Brown

Light Gray

**Surface/Attachment:**

Furrowed

Ridges

**Bark Plate Shape:**

Rectangle

Square

**Bark Description:**

The bark is gray, brown to black, and deeply furrowed to create rectangular or square ridges (cobbled). The bark on younger trees is furrowed between flat ridges and matures into quadrangular blocks that are dense, hard, and nearly black.

**Stem:****Stem Color:**

Brown/Copper

Gray/Silver

**Stem Is Aromatic:**

No

**Pith (Split Longitudinally):**

Chambered

**Stem Description:**

The twig color is gray to brown. The slender limbs grow at right angles to the trunk.



**Landscape:****Landscape Location:**

Coastal  
Lawn  
Naturalized Area  
Riparian  
Woodland

**Landscape Theme:**

Drought Tolerant Garden  
Native Garden  
Nighttime Garden  
Pollinator Garden  
Rain Garden  
Water Garden

**Design Feature:**

Shade Tree  
Specimen  
Street Tree

**Attracts:**

Bees  
Frogs  
Pollinators  
Reptiles  
Small Mammals  
Songbirds  
Specialized Bees

**Resistance To Challenges:**

Black Walnut  
Deer  
Drought  
Dry Soil  
Fire  
Heat  
Pollution  
Salt  
Wet Soil  
Wind



