THOUGHTFUL THURSDAYS

a monthly webinar series brought to you by the

GEORGIA MASTER GARDENER EXTENSION VOLUNTEER

State Program Office

Celebrating Arbor Day: Tree Planting and Initial Maintenance

Dr. Jason Gordon

February 13, 2020

Thoughtful Thursdays continue in 2020

Second Thursday of each month, February - November

2-2:30 pm

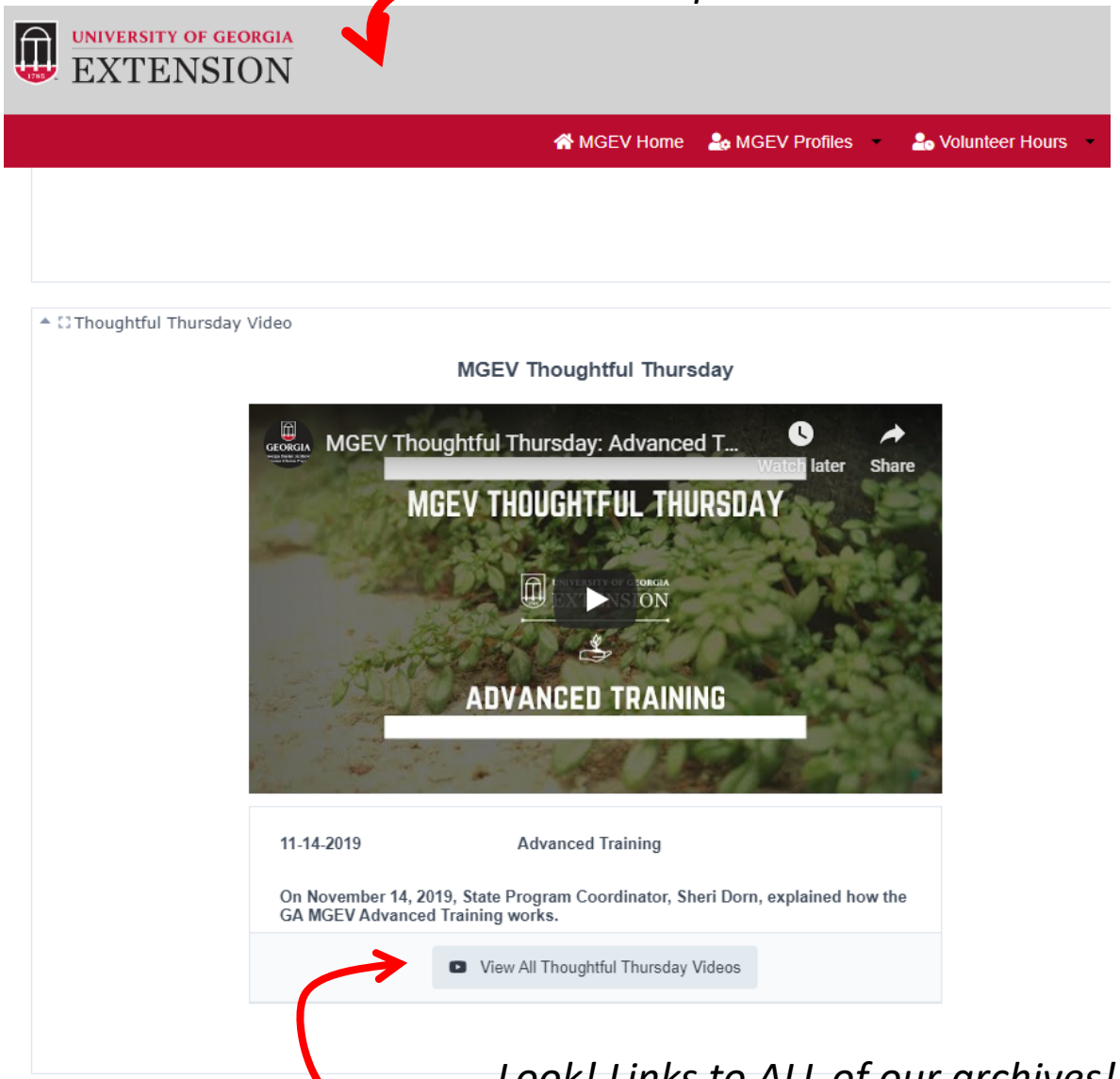
Free

Archives posted in MGLOG

Don’t miss Thoughtful Thursdays!!

- Presentations are recorded
- Access the recording links from MGLOG

Sneak peak at MGLOG 2.0!



Look! Links to ALL of our archives!

Right Tree For The Right Place

The What, Why, Where and How of Planting a Tree

- What plant traits are desirable and undesirable?
- Why is the tree being planted?
- Where will the tree be planted and what site conditions and space is available?
- How will the tree be maintained?
- How does the tree fit into the landscape?

www.gamastergardener.org
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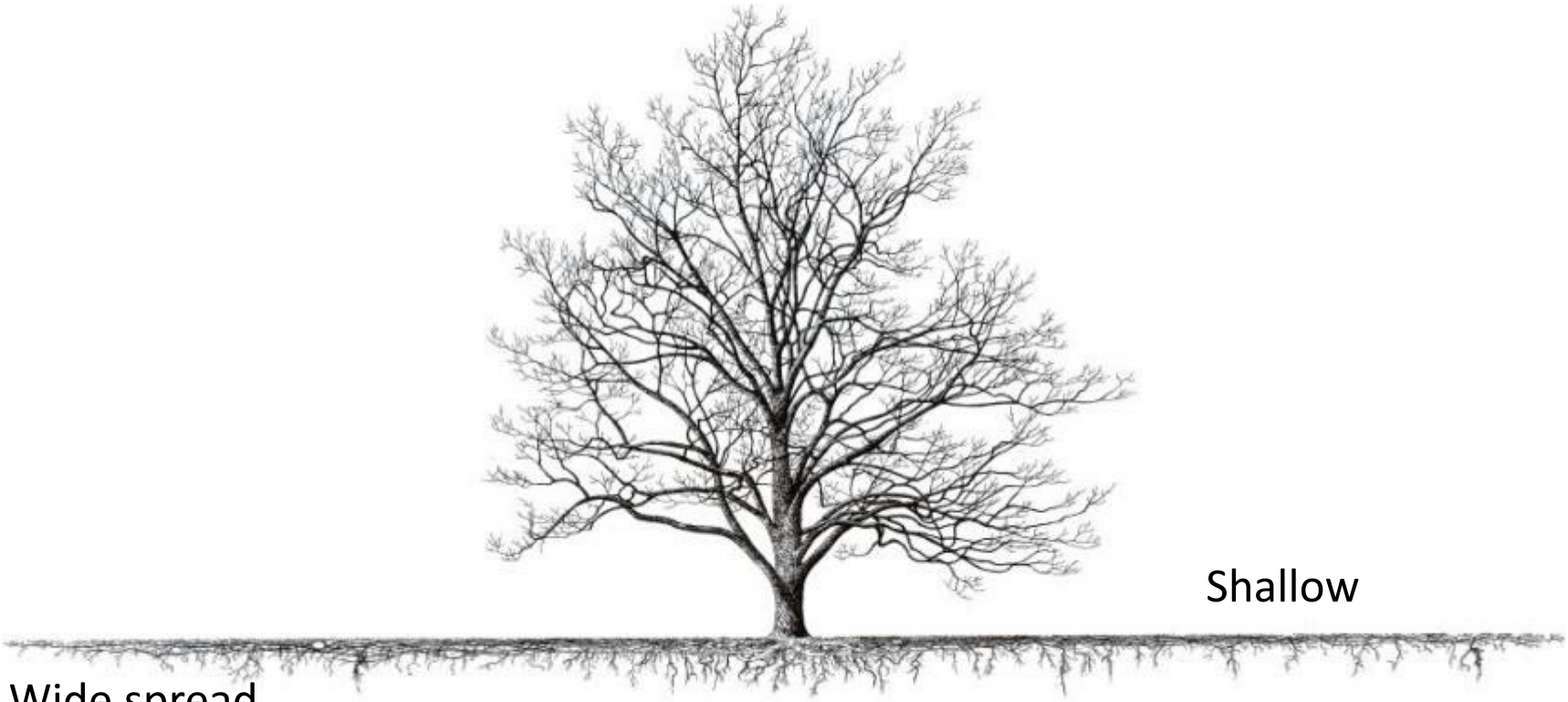
Master Gardener Extension Volunteer Program

Planting Considerations

- Function
- Climate
  - Temperatures
  - Exposure sun and wind
  - Availability of water
- Soil conditions
  - Texture, drainage, PH, heat
- Space constraints
  - 1.25 ft / 1 in stem dia
  - Critical root zone

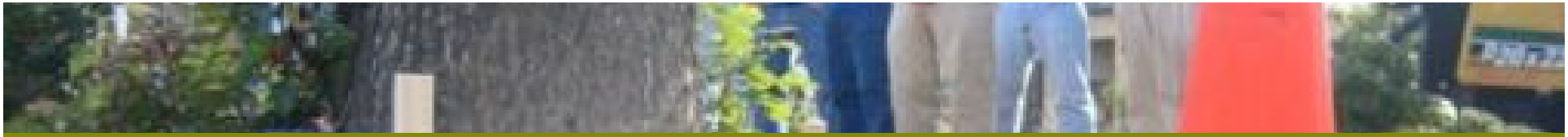
What Roots Really Look Like…



Morton Arboretum

Root plate supports the tree

Structural Root Plate Table				
DBH (inches)	8”	16”	32”	48”
Structural Root Plate Distance (radius)	5.5’	8’	10.5’	12’

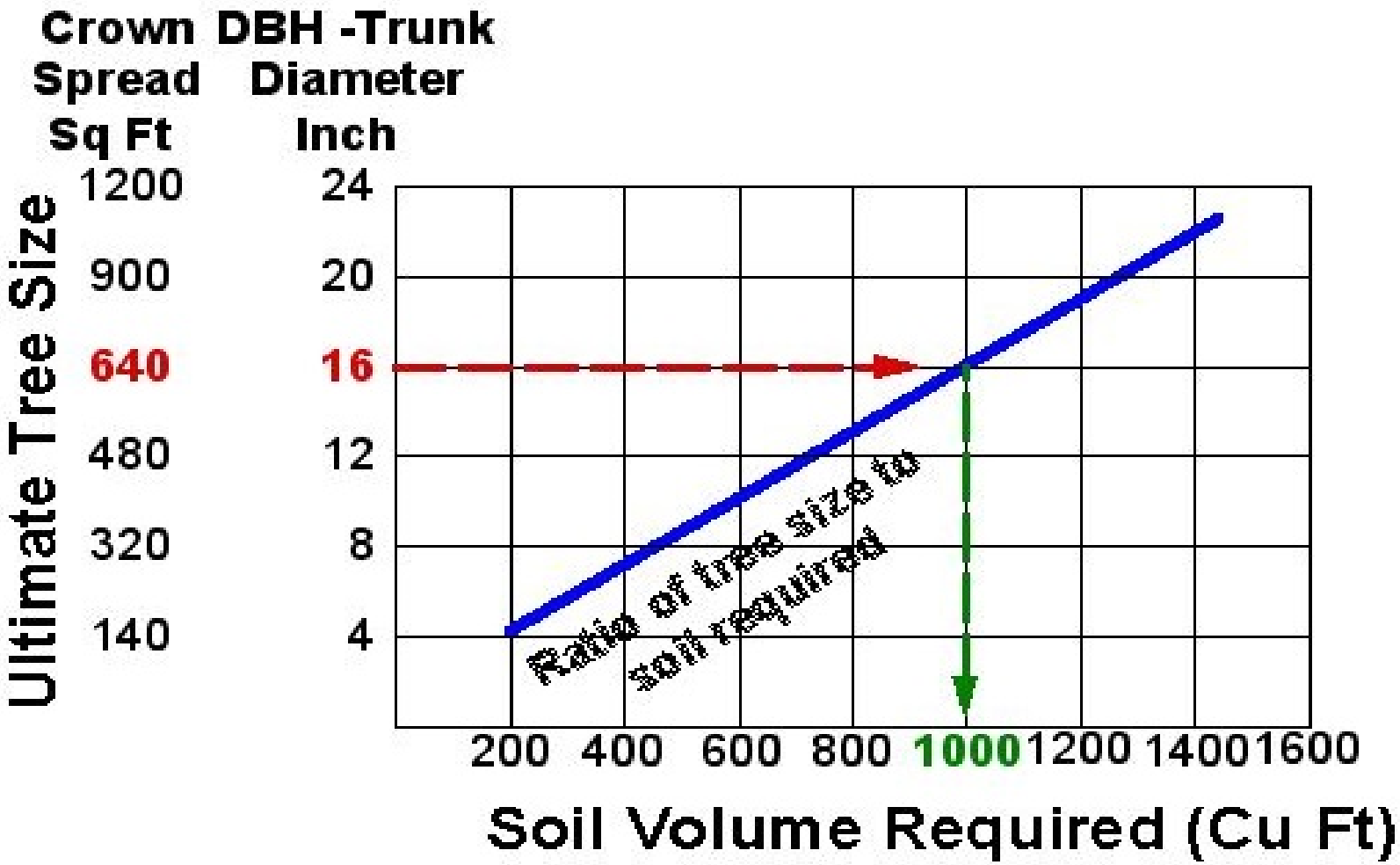


CUTTING INTO THE ROOT PLATE CAN LEAD TO CATASTROPHIC FAILURE

Heaving

A CONTRIBUTING PROBLEM IS LIKELY CONFINED SPACE

Tree soil volume requirements



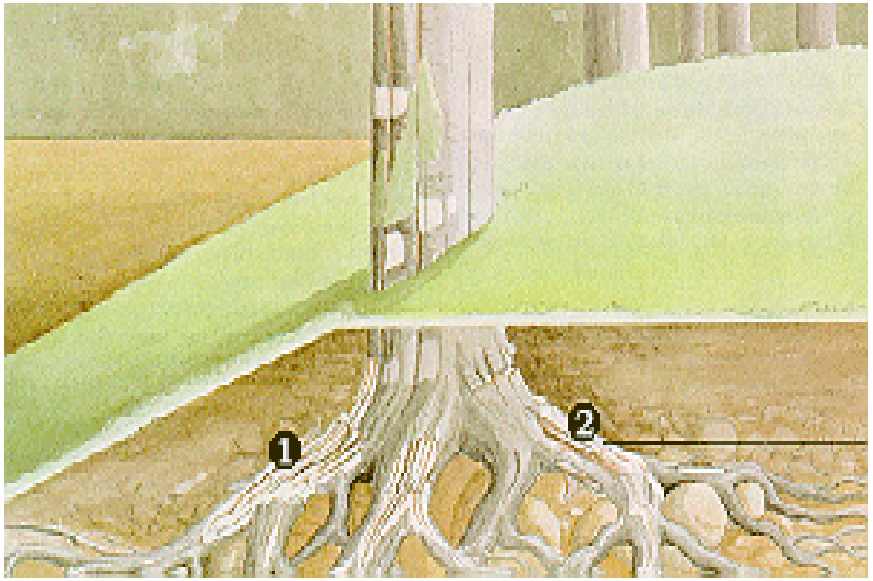
Example: A 16 inch diameter tree requires 1000 cu ft of soil

Thomas Smiley

Planting Stock

Buried roots

Root collar and structural roots visible = GOOD

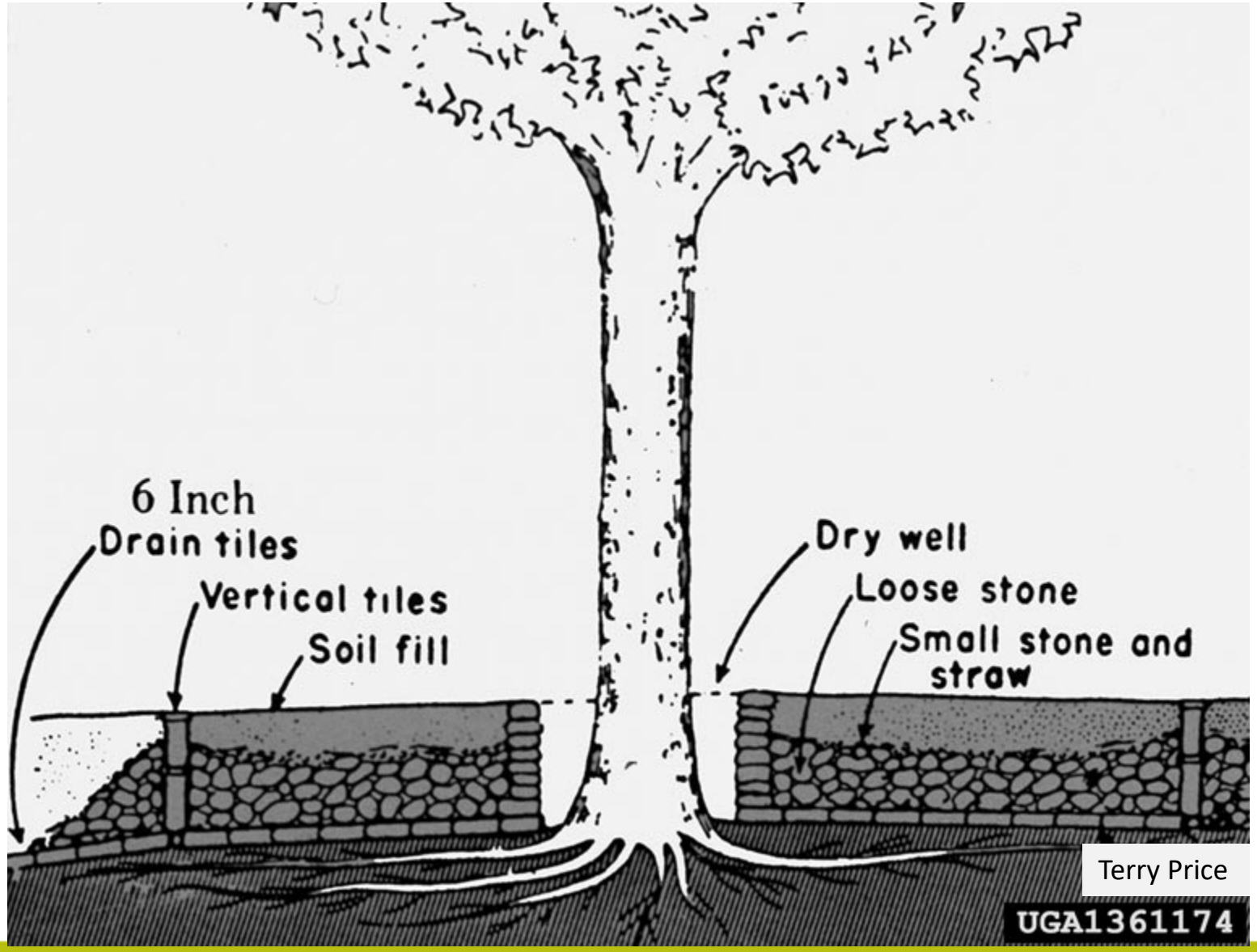


If it looks like a telephone pole = BAD

Trees need water and air. The deeper roots are buried, the less they get.

Buried root system can lead to decay…

GRADE CHANGE IS NOT A GOOD IDEA

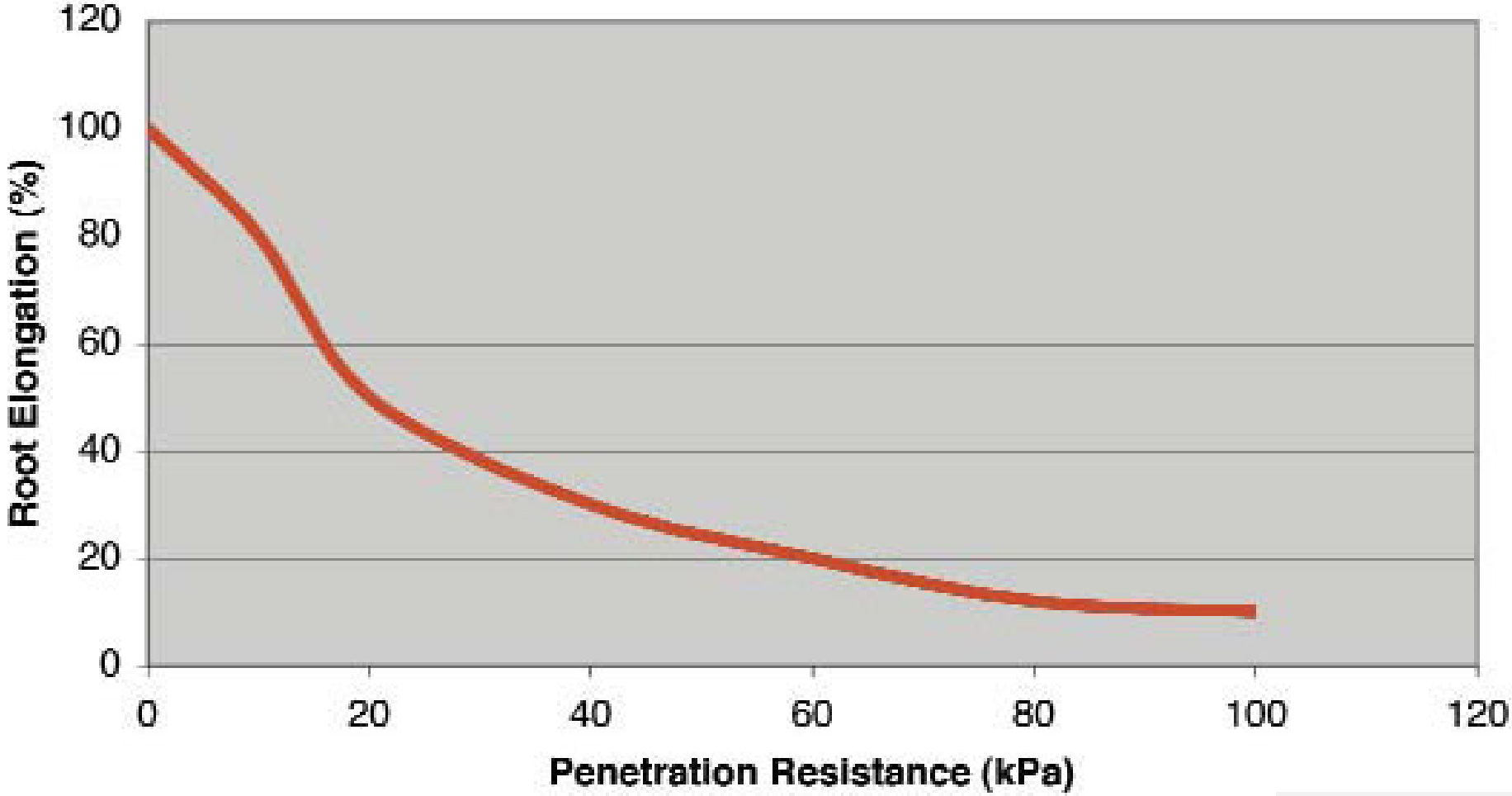

6 Inch
Drain tiles
Vertical tiles
Soil fill
Dry well
Loose stone
Small stone and straw
UGA1361174

Terry Price

Soil compaction

- **Damages feeder roots**
- **Reduces soil aeration**
- **Reduces water infiltration**

Soils can stop all root growth if compacted to only 12 percent pore space

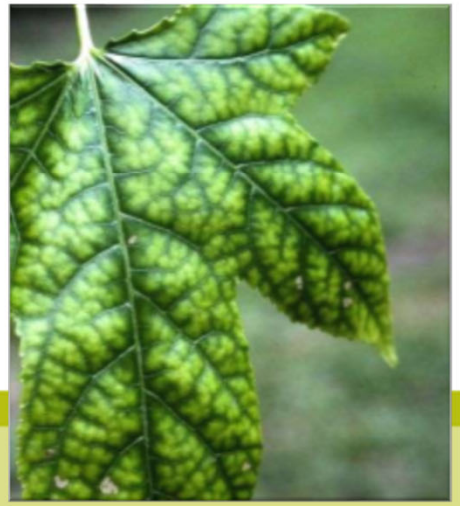


Neely & Watson

Soil compaction is often evident as symptoms like chlorosis, patchy turf, and crown dieback…

Compacted soils can lead to:

- Short stubby roots
- Shallow rooting
- Less physical space for roots
- Roots more subject to drought & Temp. change
- Unhealthy trees with extensive dead branches



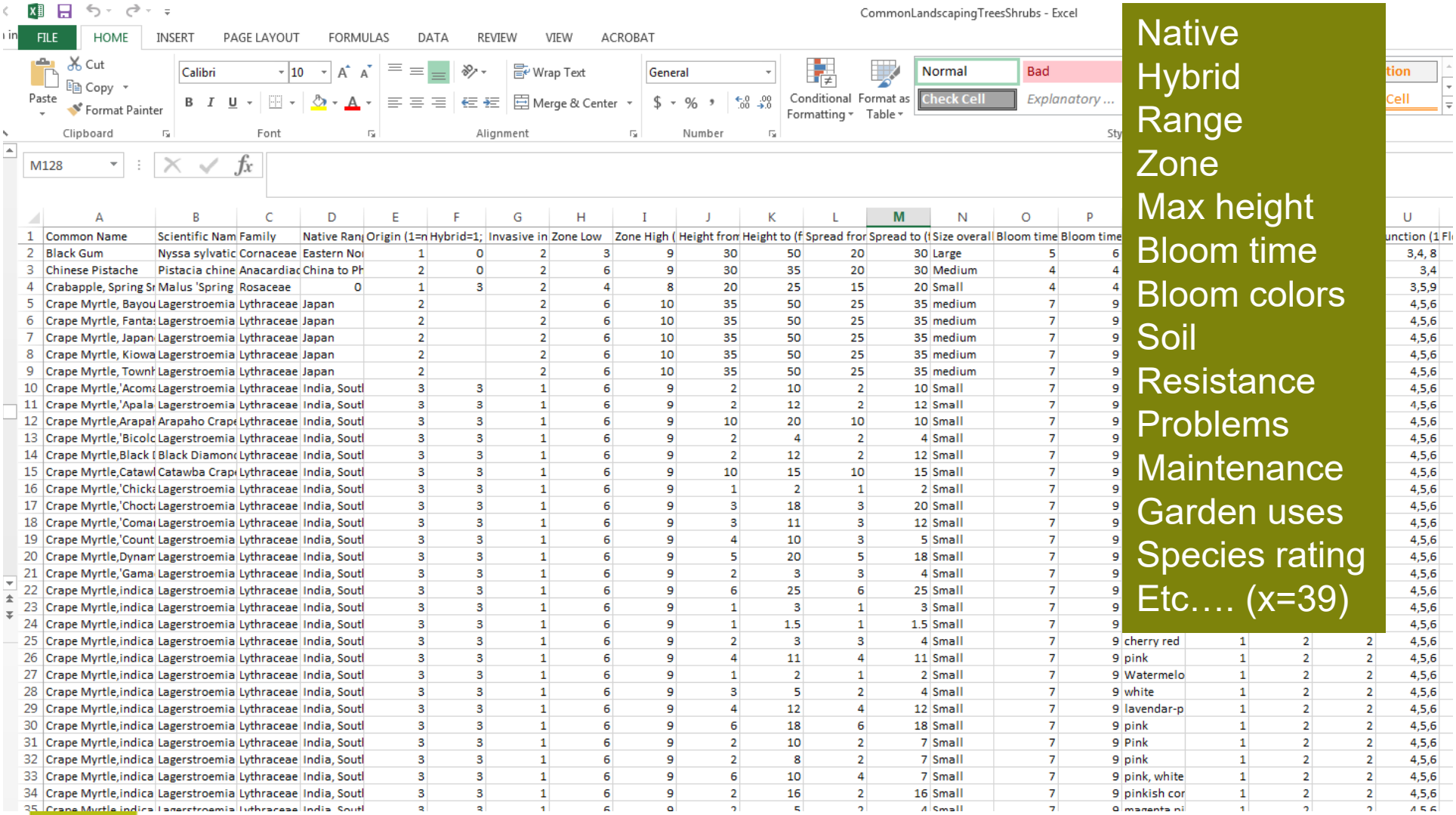
Tree Species Selection

- Native/Non-native
- Growth rate
- Size and shape
- Aesthetics (leaves, flowers, bark)
- Maintenance
- Susceptibility to insects and disease
- Function

Function

- Shade
- Flowers
- Fruit
- Fall color
- Winter texture
- Wildlife benefits
- Visual/noise screen
- Erosion control
- Energy conservation

Call Me For More Info



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	U
1	Common Name	Scientific Nam	Family	Native Ran	Origin (1=n	Hybrid=1;	Invasive in	Zone Low	Zone High (	Height from	Height to (f	Spread fror	Spread to (f	Size overall	Bloom time	Bloom time	unction (1 Fl
2	Black Gum	Nyssa sylvatic	Cornaceae	Eastern No	1	0	2	3	9	30	50	20	30	Large	5	6	3,4, 8
3	Chinese Pistache	Pistacia chine	Anacardiac	China to Ph	2	0	2	6	9	30	35	20	30	Medium	4	4	3,4
4	Crabapple, Spring Sn	Malus 'Spring	Rosaceae	0	1	3	2	4	8	20	25	15	20	Small	4	4	3,5,9
5	Crape Myrtle, Bayou	Lagerstroemia	Lythraceae	Japan	2		2	6	10	35	50	25	35	medium	7	9	4,5,6
6	Crape Myrtle, Fantas	Lagerstroemia	Lythraceae	Japan	2		2	6	10	35	50	25	35	medium	7	9	4,5,6
7	Crape Myrtle, Japan	Lagerstroemia	Lythraceae	Japan	2		2	6	10	35	50	25	35	medium	7	9	4,5,6
8	Crape Myrtle, Kiowa	Lagerstroemia	Lythraceae	Japan	2		2	6	10	35	50	25	35	medium	7	9	4,5,6
9	Crape Myrtle, Townh	Lagerstroemia	Lythraceae	Japan	2		2	6	10	35	50	25	35	medium	7	9	4,5,6
10	Crape Myrtle,'Acoma	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	2	10	2	10	Small	7	9	4,5,6
11	Crape Myrtle,'Apala	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	2	12	2	12	Small	7	9	4,5,6
12	Crape Myrtle,Arapah	Arapaho Crape	Lythraceae	India, Soutl	3	3	1	6	9	10	20	10	10	Small	7	9	4,5,6
13	Crape Myrtle,'Bicolc	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	2	4	2	4	Small	7	9	4,5,6
14	Crape Myrtle,Black (	Black Diamond	Lythraceae	India, Soutl	3	3	1	6	9	2	12	2	12	Small	7	9	4,5,6
15	Crape Myrtle,Catawl	Catawba Crape	Lythraceae	India, Soutl	3	3	1	6	9	10	15	10	15	Small	7	9	4,5,6
16	Crape Myrtle,'Chicka	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	1	2	1	2	Small	7	9	4,5,6
17	Crape Myrtle,'Choct	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	3	18	3	20	Small	7	9	4,5,6
18	Crape Myrtle,'Comal	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	3	11	3	12	Small	7	9	4,5,6
19	Crape Myrtle,'Count	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	4	10	3	5	Small	7	9	4,5,6
20	Crape Myrtle,Dynam	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	5	20	5	18	Small	7	9	4,5,6
21	Crape Myrtle,'Gama	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	2	3	3	4	Small	7	9	4,5,6
22	Crape Myrtle,indica	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	6	25	6	25	Small	7	9	4,5,6
23	Crape Myrtle,indica	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	1	3	1	3	Small	7	9	4,5,6
24	Crape Myrtle,indica	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	1	1.5	1	1.5	Small	7	9	4,5,6
25	Crape Myrtle,indica	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	2	3	3	4	Small	7	9	cherry red 1 2 2 4,5,6
26	Crape Myrtle,indica	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	4	11	4	11	Small	7	9	pink 1 2 2 4,5,6
27	Crape Myrtle,indica	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	1	2	1	2	Small	7	9	Watermelo 1 2 2 4,5,6
28	Crape Myrtle,indica	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	3	5	2	4	Small	7	9	white 1 2 2 4,5,6
29	Crape Myrtle,indica	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	4	12	4	12	Small	7	9	lavendar-p 1 2 2 4,5,6
30	Crape Myrtle,indica	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	6	18	6	18	Small	7	9	pink 1 2 2 4,5,6
31	Crape Myrtle,indica	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	2	10	2	7	Small	7	9	Pink 1 2 2 4,5,6
32	Crape Myrtle,indica	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	2	8	2	7	Small	7	9	pink 1 2 2 4,5,6
33	Crape Myrtle,indica	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	6	10	4	7	Small	7	9	pink, white 1 2 2 4,5,6
34	Crape Myrtle,indica	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	2	16	2	16	Small	7	9	pinkish cor 1 2 2 4,5,6
35	Crape Myrtle,indica	Lagerstroemia	Lythraceae	India, Soutl	3	3	1	6	9	2	5	2	4	Small	7	9	magenta pi 1 2 2 4,5,6

Native
Hybrid
Range
Zone
Max height
Bloom time
Bloom colors
Soil
Resistance
Problems
Maintenance
Garden uses
Species rating
Etc…. (x=39)

UNIVERSITY OF GEORGIA
Warnell School of Forestry & Natural Resources

Publication WSFNR-19-49

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CANVIS PHOTOREALISTIC VISUALIZATION

Jason S. Gordon, *UGA Warnell School of Forestry and Natural Resources*

This publication provides instructions for using the photorealistic visualization software CanVis developed by the National Oceanic and Atmospheric Agency and the National Agroforestry Center. This free software allows users to "see" how their yards, gardens, and other landscapes would appear using photographic simulation. CanVis is similar to Photoshop but with less of a learning curve. Users can "test" the way a landscape design looks before picking up a shovel! Exercises in this article help beginners become familiar with the software.

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Photorealistic Visualization

Photovisualization: CanVis

Photovisualization: CanVis

Photovisualization: CanVis

Pruning (before)

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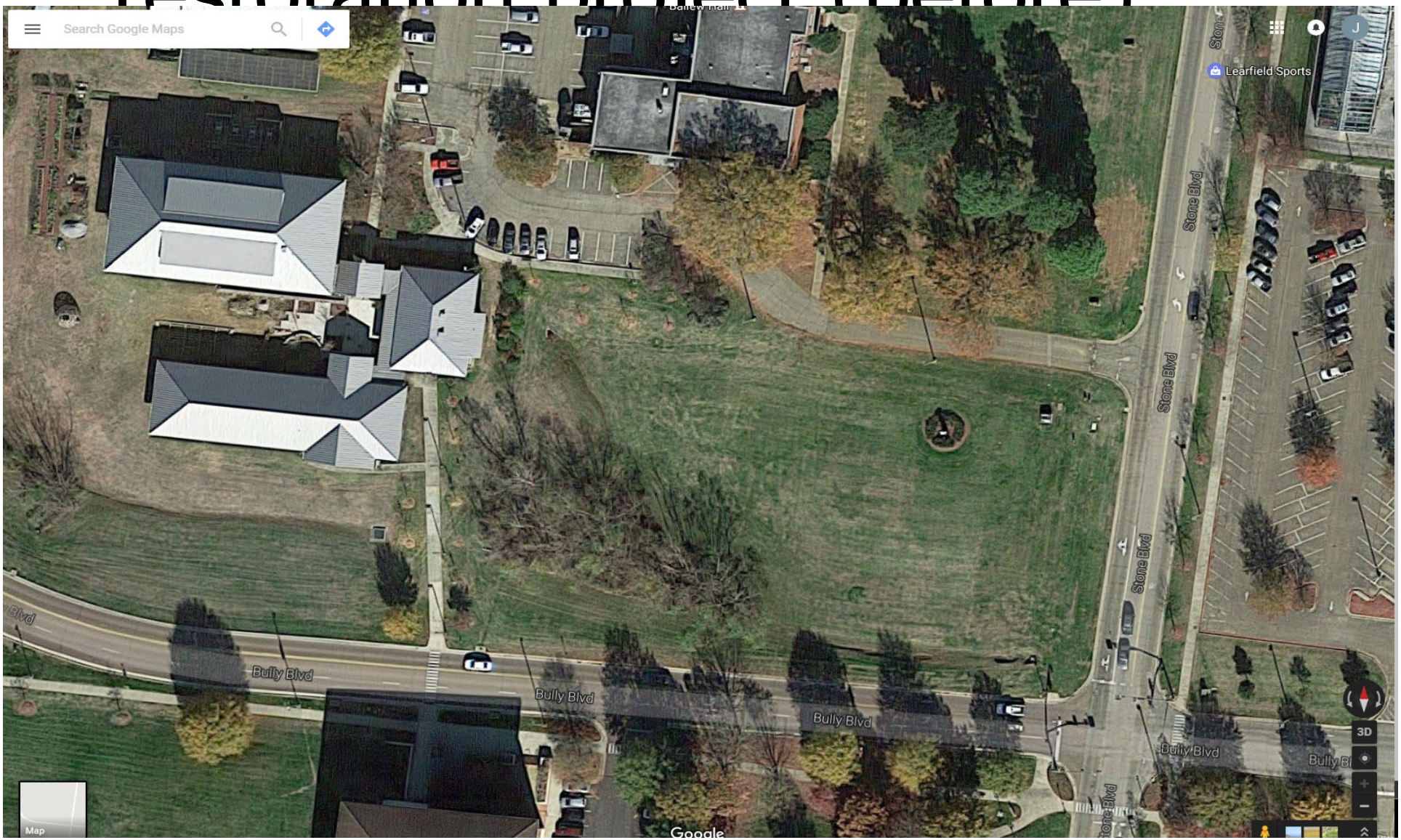
Photovisualization: CanVis

Pruning (simulation)

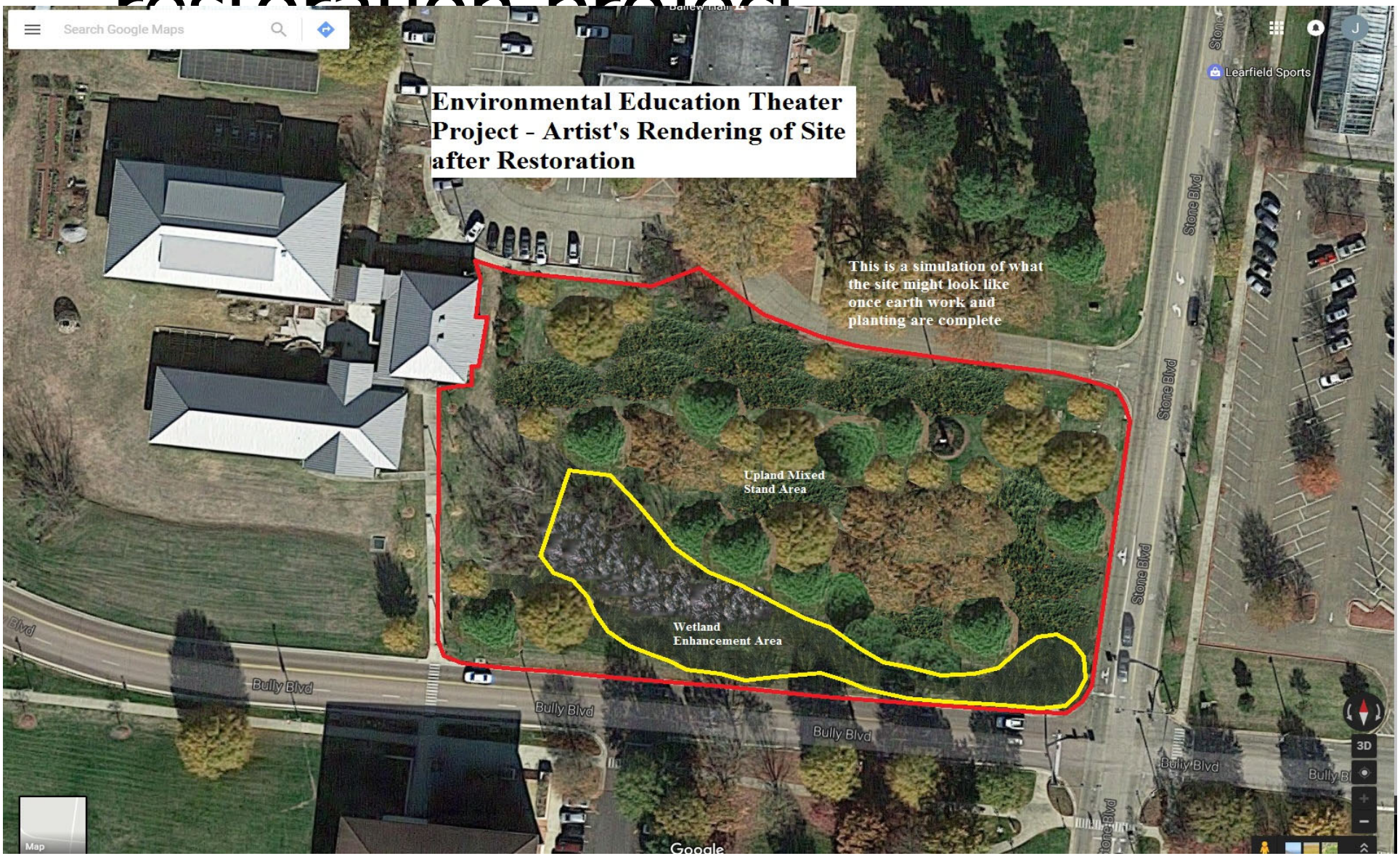
Photovisualization: CanVis

Proposed landscape restoration project (before)



Photovisualization: CanVis

Proposed landscape restoration project



Options:

- Clay
- Moderately wet soil
- Hardy
- Personal preference

Options Based on Aesthetics

<u>Black gum</u>

Height: 50+ ft

Sun: Full to part

Maint.: Low

Aesthetic: Fall leaf

Tolerates: Clay

Use: Shade

Options Based on Aesthetics

<u>American hornbeam</u>

Height: 35 ft

Sun: Shade

Maint.: Low

Aesthetic: Winter texture (bark)

Tolerates: Clay

Use: Shade

Options Based on Aesthetics

<u>Rogers buckeye</u>

Height: 20 ft

Sun: Shade

Maint.: Low

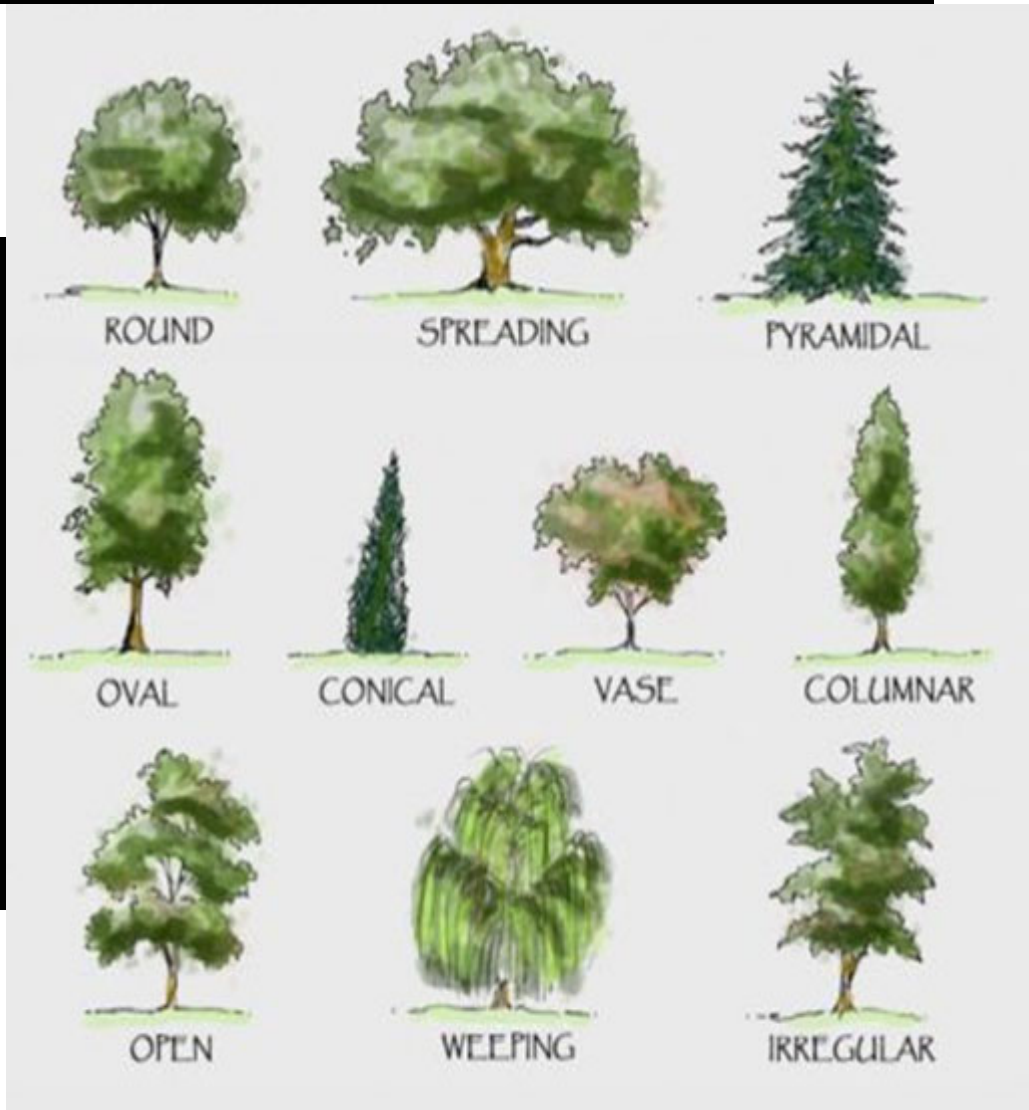
Aesthetic: Flower

Problems: None

Use: Borders

Size and Shape

- Form follows function
- Shape should be compatible with site characteristics and function
- Always consider mature tree size and crown shape



Options Based on Size and Shape

<u>Pond cypress</u>

Height: 70 ft

Sun: Full sun

Maint.: Low

Shape: Conical with stem

Problems: None

Use: Shade, winter texture

Options Based on Size and Shape

<u>Green Giant (Thuja spp.)</u>

Height: 40 ft

Sun: Full sun

Maint.: Medium

Shape: Conical no stem

Problems: Rust, water

Use: Evergreen screen

Susceptibility to Insects and Disease

- Type and severity of pest vary
- Select plants that are resistant to:
  - Reduce chemical treatments
  - Increase lifespan
  - Reduce maintenance costs

Options Based on Susceptibility to Pests

<u>Hybrid poplar</u>

Height: 50 ft

Sun: Full sun-part shade

Maint.: Low

Problems: Breakage, short lifespan

Tolerance: Clay, wet soil

Benefits: fast growth, screen

Options Based on Susceptibility to Pests

<u>Cucumber magnolia</u>

Height: 40 ft

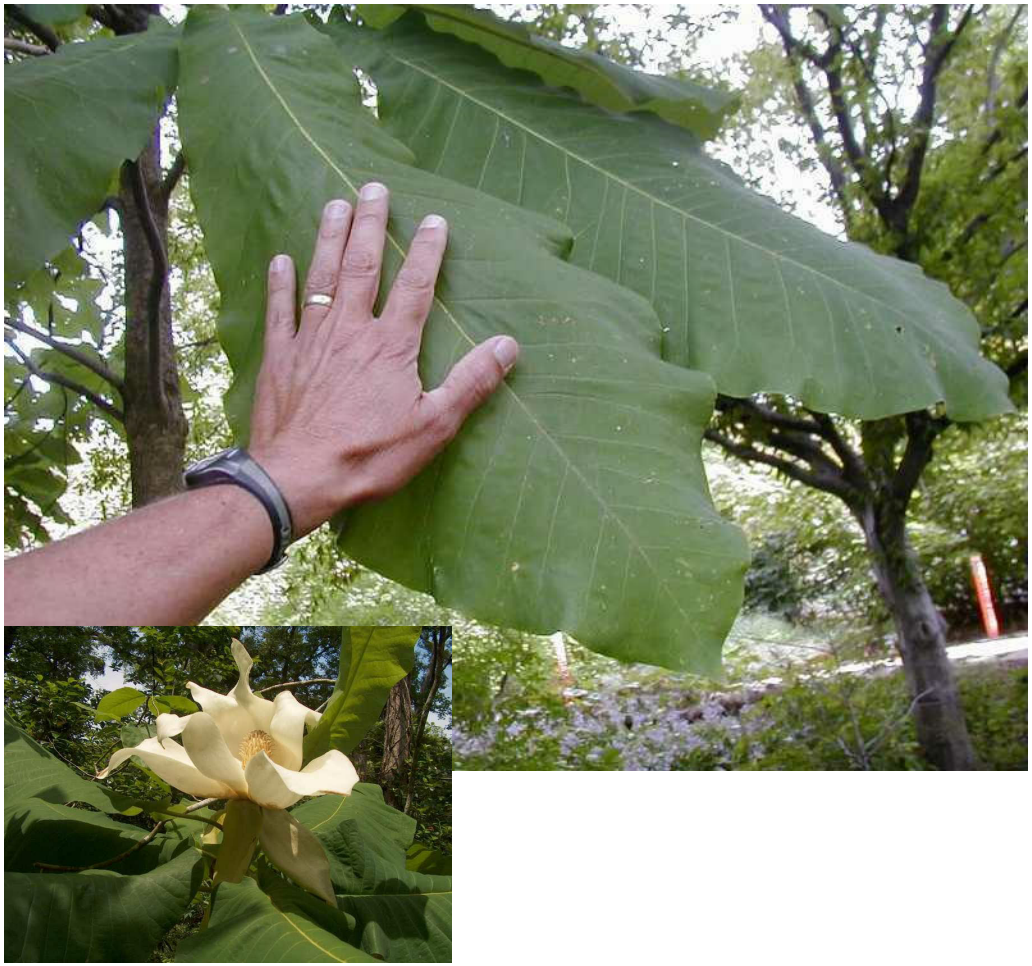
Sun: Full sun-part shade

Maint.: Low

Problems: None

Tolerance: Pollution

Benefits: Showy flowers



Good non-Native Trees

Ginkgo ‘Shangri-La’

Japanese zelkova

Chinese pistache

Good non-Native Trees

Chinese elm

Crape myrtle ‘Townhouse’

Katsura tree

Trees to Avoid

- Leyland cypress
- Bradford pear
- Chinese tallow
- Golden rain
- Water oak
- Too much of a single species

Favorite Tree Web Sites (in no particular order)

1. Missouri Botanical Gardens: http://www.missouribotanicalgarden.org/
2. Virginia Tech Street Trees Selector Tool : http://dendro.cnre.vt.edu/dendrology/treeselector.cfm
3. USDA Plants Profile: https://plants.usda.gov/java/
4. Bioimages (Vanderbilt): www.cas.vanderbilt.edu/bioimages/frame.htm
4. USFS Plant Pathology: www.fs.fed.us/r6/nr/fid/wo-fidls/
5. Arbor Day Foundation tree guide: www.arborday.org/treeguide

Thank you, Dr. Gordon!!

Reminders

2020 Regional Leadership Conferences Begin

March 20, 2020
Albany
Developing Strategic Online Content
including a Tour of Chehaw Demonstration Gardens
9:30 AM-3:30 PM
Registration available February 3 – March 18, 2020
https://tinyurl.com/RLC-March

Next THOUGHTFUL THURSDAYs

FOR MGEVs AT 2 PM

March 12, 2020

April 9, 2020

May 14, 2020

Thank you for your time today!