The City of Senoia **Tree Species List** is intended to support the development code, site planning and design activities for tree conservation and establishment, and tree maintenance planning and decision-making. In the list trees are arranged alphabetically by the tree's common name with the "genus" listed first. For example, red maple is listed as "Maple, Red" (maple is the genus name). The Latin name is also listed for more definitive species identification. In some cases, the commonly planted variety or cultivar of the species has also been included apart from the species.

#### Key to Symbols and Tree Species Characteristic Descriptions

TREE CHARACTERISTIC	DESCRIPTION and ENTRY CHOICES
Species Common Name	Entered with genus common name first, then species, then
	cultivar if applicable. For some species an alternate common
	name is included in parentheses.
Latin Name	Genus, species, and variety or cultivar; always italicized or
	underlined.
CANOPY AREA FOR DEVEL	
Square Feet of Canopy	The total area projection of the crown onto the ground in square
	feet as typically achieved in urban situations with less than
	optimal growing conditions.
Canopy Size Category	VS = Very Small - 150 square feet with a 15 foot crown diameter
	<i>The minimum open soil surface area is 25 sq. ft.</i> S = Small – 400 square feet with a 25 foot crown diameter
	The minimum open soil surface area is 100 sq. ft.
	M = Medium – 900 square feet with a 35 foot crown diameter
	The minimum open soil surface area is 225 sq. ft.
	L = Large - 1,600 square feet with a 45 foot crown diameter
	The minimum open soil surface area is 400 sq. ft.
RECOMMENDED USES	
Level of Use	The level of use that the tree should receive.
Level of ose	NewC = Plant New Trees and Conserve Existing Trees
	Cnsv = Conserve Existing Trees (not recommended for new installs)
	Limit = For Limited Planting or Conservation Only
	NoPint = Do Not Plant
Large Landscape Areas	Recommendations on the site situation where the tree may be
Road Frontages – Street	planted and/or conserved; locations where the tree would adapt
Road Frontages – Yard	well.
Parking Lots	
Plazas and Downtown	X = tree to avoid; not suitable
Settings	Blank = may or may not be suitable
Riparian Zones and	✓ = Good choice
Drainage Areas	✓✓ = Excellent choice
Utility Corridors	
Tree is Commonly Utilized	X = tree to avoid; not suitable
	Limit = Utilized very much (potential for overuse – Limit Use)
	Blank = may or may not be suitable
	Good choice (tends to be successful and not over utilized)
1	$\checkmark$ = Excellent choice (provides multiple benefits and is fairly rare)

TREE CHARACTERISTIC	DESCRIPTION and ENTRY CHOICES
PHYSICAL CHARACTERIST	TICS
Height Class in Urban	Height class (ground to tip of leader or tallest branch) of a
Conditions	mature tree commonly achieved in urban situations with less
	than optimal growing conditions.
	S = Small: 15-25 feet
	M = Medium: 25-40 feet
	L = Large: 40 feet and taller
Crown Class in Urban	The width of the crown (at its widest point) commonly achieved
Conditions	in urban situations with less than optimal growing conditions.
	VS = Very Small (150 square feet with a 15 foot crown diameter)
	S = Small (400 square feet with a 25 foot crown diameter)
	M = Medium (900 square feet with a 35 foot crown diameter)
	L = Large (1,600 square feet with a 45 foot crown diameter)
Mature Crown Form	General shape of the tree crown (leaves and branches) when
	fully leafed out.
	Irregular Multi-Stemmed
	Oval (Columnar) Pyramidal
	Rounded
	Spreading
	Upright (Vase)
Typical Range of Mature	Typical range of height of tree in feet from ground to bud at tip of
Tree Height	leader or tallest branch under various conditions.
Typical Range of Mature	Typical range of spread of branches in feet at the widest
Crown Width	diameter across the crown under various conditions.
Leaf Type	Persistence and type of leaf on the tree. Deciduous trees lose
, , , , , , , , , , , , , , , , , , ,	their leaves in the fall.
	DB = Deciduous Broadleaf
	DC = Deciduous Conifer
	EB = Evergreen Broadleaf
	EC = Evergreen Conifer
Leaf Texture	Relative size and appearance of leaves.
	F = Fine
	M = Medium
	C = Coarse
Fall Leaf Color	The typical color of the tree's fall foliage.
	EV = evergreen
	BR = bronze or brown
	MA = maroon
	MU = multi-colored: maroon, red, orange, yellow
	OR = orange
	RE = red
	YE = yellow
	I = insignificant color change

TREE CHARACTERISTIC	DESCRIPTION and ENTRY CHOICES
PHYSICAL CHARACTERIST	TCS (continued)
Flower Color	For trees with showy flowers, indicates the typical flower color.
	B = blue
	L = purple
	M = multiple colors: white, pink, purple, red, or others
	P = pink
	R = red
	W = white
	Y = yellow
Flowering Time	I = insignificant flowers: small with an unremarkable color For trees with showy flowers, the general season of blooming for
Flowering Time	the species.
Wildlife Value	Indicates with an " $\checkmark$ " if the tree produces flowers (nectar) or
	fruits that are consumed by insects, birds, or mammals.
Excessive Litter	Indicates with an "X" if the tree produces large or hazardous
	leaves, fruit, or other litter.
	CTERISTICS AND TOLERANCES
Native Tree to Athens-	Indicates whether or not the tree is found naturally growing in
Clarke Co.	the Senoia area.
	$Y = Y_{es}$
	N = No
Growth Rate	Typical rate of growth under urban conditions.
	S = Slow: 1/2  to  1-1/2  feet/year
	M = Moderate: 1-1/2 to 2-1/2 feet/year
	F = Fast: 2-1/2 to 3+ feet/year
Average Life Span	The average life span (useful service life) of the species when
	growing under average urban conditions. A tree is at the end of
	its useful service life when its risk of failure becomes
	unacceptable and cannot be improved or when the tree is no
	longer an asset due to its appearance or condition.
	S = Short: less than 25 years useful service life.
	M = Moderate: 25 to 40 years useful service life.
Not Effort on Air Quality	L = Large: 50 years or greater useful service life.
Net Effect on Air Quality	The net monetary effects in cents attributable to the species on air quality; listed as a benefit (positive) or cost (negative).
	Includes the species net effect on ozone, sulfur dioxide, nitrogen
	dioxide, particulate matter (PM10), and carbon monoxide.
Soil Moisture	The typical soil moisture conditions for the species in its native
	habitat.
	H = Hydric: wet and may be occasionally flooded for short periods
	M = Mesic: moist but moderately well- to well-drained
	X = Xeric: dry and very well-drained

TREE CHARACTERISTIC	DESCRIPTION and ENTRY CHOICES
ENVIRONMENTAL CHARAC	TERISTICS AND TOLERANCES (continued)
Drought Tolerance	Tolerance of the species to infrequent rain, low soil moisture, full
	sun, and high temperatures.
	Low = not tolerant to drought conditions
	Moderate = tolerant to mild drought conditions; moderately tolerant to
	severe drought conditions
	High = very tolerant to mild to severe and prolonged drought
	conditions
Preferred Soil pH	Relative soil acidity or alkalinity preferred by the species. In
	many cases, a range of pH preference is given if it was available. In other cases, a general level is given. A pH of 7.0 is neutral, a
	pH of less than 7.0 is acidic, and a pH of greater than 7.0 is
	alkaline.
	ac = acidic $(5.0 \text{ to } 6.0)$
	sl ac = slightly acidic (6.0 to 7.0)
	nu = neutral $(7.0)$
	sl al = sl alkaline $(7.0 \text{ to } 8.0)$
	al = alkaline $(8.0 \text{ to } 8.5)$
	n/a = no information available
Light Requirement	The amount of sunlight the species prefers or will tolerate.
	Trees that are typically found in the understory or are
	characteristic of late forest successional stages prefer shade or
	at least partial shade, while trees that typically form the
	overstory or are characteristic of early successional stages
	prefer full sun.
	FS = Full Sun
	PS = Partial Shade
	SH = Shade
Construction	The broad tolerance of the species in its home range to
Tolerance/Limitations	construction damage, and the limitations that constrain a
Tolerance	species tolerance to damage.
Tolerance	M = Moderate
	G = Good
Limitations	I = physical injury, wood compartmentalization and decay
Einitations	r – prysical injury, wood comparationalization and decay
Susceptible to	P = pest complications, including chronic and acute attacks
'	S = soil conditions, including aeration and water availability
	$\overline{C}$ = limited climatic tolerances, including native range, hardiness, and
	micro-climate change
	X = all of the limitations described above
Urban Tolerant Tree	Based upon other characteristics and tolerances to urban
	conditions; an " $\checkmark$ " indicates the species is suitable for planting
	under "tough" urban conditions.

								100		ENVIRONMENTALCHARACTERISTICS AND TOLERANCES						
		DEVELOPMENT	REC	COMMENDED US	353	PHYS	ICAL CHARACTERISTI	163		<u> </u>				<u> </u>	<del></del>	
SPECIES COMMON NAME	LATIN NAME	Square Feet of Canopy Canopy Size Category	Level of Use Large Landscape Areas Road Frontages - Street Road Frontages - Yard	ng Lots s and Downt	Buffers Riparian Zones and Drainage Areas Utility Corridors Tree Commononly Utilized	lass in	Crown Class in Urban Conditions Mature Cown Form	Typical Range of Mature Tree Height Typical Range of Mature Crown Width	Leaf Type Leaf Texture Fall Leaf Color Flower Color	Flowering Time	Wildlife Value Excessive Litter	Native Tree to Athens-Clarke Co. Growth Rate Average Life Span	Net Effect on Air Quality Soil Moisture	Drought Tolerance Preferred Soil pH	Light Requirement Construction Tolerance/Limitations Urban Tolerant Tree	
Alder, Hazel (Tag)	Alnus serrulata	150 VS	NewC 🗸		1 11 1 1	S	VS Multi-Stemmed 1	0-20 10-20	DB M YE I			Y F S	n/a V	/ M acidic	FS G/ 🗸	
Ash, Green	Fraxinus pennsylvanica	1,600 L	NoPInt sust	ceptible to emera	ald ash borer	L	L Rounded 6	60-100 40-50	DB M MU I	1	1	YFM	0.090 V	/ H slac-sla	alk FS G/	
Ash, White	Fraxinus americana	1,600 L		ceptible to emera		L		60-80 30-60	DB M MA I	,	×	Y M M	0.100 N			
Baldcypress	Taxodium distichum	900 M	NewC ✓	V	<i>\ \ \ \ \ \ \ \</i>	L		60-100 20-50	DC F BR I		✓ /	N M L		1 H ac-slalk		
Basswood, American (Linden)	Tilia americana	1,600 L	Cnsv 🗸		V	M		60-100 35-50	DB C YE Y S	arrinoi	✓ ✓	Y F M		I L ac-alk	PS P/A	
Beech, American	Fagus grandifolia	1,600 L	NewC VV	1 1	X	L		30-100 50-70	DB M YE I	2	V	Y S L	0.160 N		FS P/A	
Birch, River	Betula nigra	900 M	NewC V V		√√ √√ X			60-90 40-60	DB F/M YE I			Y F M	0.117 N		PS G/	
Birch, River 'Heritage'	Betula nigra 'Heritage'	900 M	NewC V V		√√ √√ X			60-90 40-60	DB F/M YE I		1	Y F M	n/a N		PS n/a	
Blackgum (Tupelo)	Nyssa sylvatica	900 M	NewC 🗸 🗸	✓	× × ×			60-100 20-35	DB M RE I		×	Y S M		1 M slac-sla		
Boxelder	Acer negundo	900 M	Cnsv 🗸		✓ X			60-75 40-50	DB M YE I			Y F S		/ M adapt	FS G/	
Buckeye, Bottlebrush	Aesculus parviflora	150 VS	NewC				VS Multi-Stemmed 1		DB M YE W S		<ul> <li>✓</li> </ul>	N M S	n/a N			
Buckeye, Painted	Aesculus sylvatica	150 VS	NewC 🖌		<ul> <li>✓</li> <li>✓</li> </ul>			5-25 5-15	DB M YE P/Y S	Jing		Y M S	n/a N			
Buckeye, Red	Aesculus pavia	150 VS	NewC	2	√			0-15 10-15	DB M YE R S	sinig	<ul> <li>✓</li> </ul>	N M S	n/a N		PS M/I	
Buckthorn, Carolina	Rhamnus caroliniana	900 M	NewC 🖌 🖌 🗸	· .	<b>VV V</b>			80-40 10-30	DB M OR I		✓ ✓	YMS	n/a N		FS M/IS	
Buckthorn, Common	Rhamnus cathartica	900 M	Limit		√			20-25 20-25	DB M YE I		✓ ✓	N M S	n/a N		FS n/a 🗸	
Buttonbush, Common	Cephalanthus occidentalis	150 VS	NewC 🗸	1	✓ ✓	S		0-15 10-15		ate Summer	V	Y M S	n/a V		FS G/I	
Catalpa, Southern	Catalpa bignonioides	900 M	Cnsv 🗸 🗸	<b>v</b>	✓	М		30-40 30-40	DB C YE W S	oring	✓ X	Y F S		1 M slac-sla		
Cedar, Deodar	Cedrus deodara	900 M	Limit 🗸			L		0-100 40-100	EC F EV I			NML	-0.031 E			
Cedar, Japanese	Cryptomeria japonica	900 M	Limit 🗸 🗸		✓ ✓	L		0-60 15-20	EC F EV I			N S M	0.084 N		FS n/a 🗸	
Chastetree (Vitex)	Vitex agnus-castus	150 VS	NewC 🗸 🗸		×	S ·	VS Multi-Stemmed 1	5-20 10-20	DB M I B/L/W S		<ul> <li>✓</li> </ul>	NMS		H ac-alk	FS n/a 🗸	
Cherry, Black	Prunus serotina	900 M	Cnsv 🗸 🗸		✓	L	M Oval 5	50-90 15-50		arly Spring	<b>√</b>	YFM	0.083 N	IM slac	FS M/I	
Cherrylaurel, Carolina	Prunus caroliniana	900 M	Cnsv X 🗸			М	M Oval 2	20-40 15-25	EB M EV W S	Jing	<ul> <li>✓</li> </ul>	N M M	112004-024	1 H ac-sl alk	k FS G/ 🗸	
Cherry, Japanese Flowering	Prunus serrulata	400 S	Limit 🗸			S		20-30 20-30	DB M OR P S			N F S		1 L ac-alk	FS n/a	
Cherry, Yoshino	Prunes x yedoensis	400 S	Limt 🖌		$\checkmark\checkmark$			20-45 20-40	DB M YE P/W S	oring		N F S	n/a N	I L ac	FS n/a	
Chestnut, American	Castanea dentata	1,600 L		usceptible to che	stnut blight		<u> </u>		-			Y				
Chestnut, Chinese	Castanea mollissima	1,600 L	NewC 🗸 🗸					0-60 40-60	DB M BR W S	ummer	<ul> <li>✓</li> </ul>	N S L	n/a D	M ac-sl alk	k FS n/a 🗹	
Chinaberry	Melia azedarach	900 M	NoPInt	invasive			M				/	N		s and gradies		
Chinquapin, Allegheny	Castanea pumila	400 S		usceptible to che		S .	1	0-25 10-25	DB M BR I		✓ ✓ X	Y S S		H n/a	FS P/P	
Cottonwood, Eastern	Populus deltoides	1,600 L	Cnsv 🗸		X V	L		60-100 20-75	DB C YE I		✓ X ✓	Y F M		1 M slac-sla		
Crabapple, Japanese Flowering	Malus floribunda	400 S	Limit 🗸 🗸		$\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt$			5-25 15-25	DB M YE P S	Jing	✓ ✓ X	N M S	n/a N		alk FS n/a	
Crabapple, Southern	Malus angustifolia	400 S	Cnsv 🗸 🗸			100		20-25 10-20	DB M YE P S		V X	Y M S	n/a N		alk FS M/ICP	
Crapemyrtle, Common	Lagerstroemia indica	150 VS	Cnsv	V Pasta	✓ Limt		VS Multi-Stemmed 1		DB F RE M S	ummer		N F M		H ac-slak		
Cypress, Leyland	Cupressocyparis leylandii	400 S	Limit	pest suscep	√ √√	1000		0-60 20-30	EC F EV I			N F M	0.053 N	1 M ac-alk	FS g	
Devil's Walking Stick	Aralia spinosa	150 VS	Cnsv X X		V V V		VS				<b>√</b>	Y				
Devilwood	Osmanthus americanus	400 S	Cnsv 🗸 🗸					5-25 10-15	DB M YE W S	Jing		Y M M			PS M/I	
Dogwood, Flowering	Cornus florida	400 S	NewC VV VV					5-30 15-30	DB M RE W S		✓ ✓	Y M M		1 L ac-nu	PS M/IP	
Dogwood, Flowering Pink	Cornus florida var. rubra	400 S	NewC 🗸 🗸	V X X	<b>√√</b>	S	S Spreading 1	5-30 15-30	DB M RE P S	oring	✓	YMM	n/a N	1 L n/a	PS n/a	

		FOR DEVELOPMENT			DHVCICA	CHARACTERISTICS					ENVIRONME		ACTERISTICS	
		DEVELOPMENT	RECOMMENDED USES			L CHARACTERISTICS						INCES		
SPECIES COMMON NAME	LATIN NAME	Square Feet of Canopy Canopy Size Category	Large Landscape Areas Road Frontages - Street Road Frontages - Yard Parking Lots Plazas and Downtown Settings Buffers	Riparian Zones and Drainage Areas Utility Corridors Tree Commononly Utilized	Height Class in Urban Conditions Crown Class in Urban Conditions	Mature Cown Form Typical Range of Mature Tree Height	Typical Range of Mature Crown Width	Leaf Type Leaf Texture Fall Leaf Color	Flower Color Flowering Time	Wildlife Value Excessive Litter	Native Tree to Athens-Clarke Co. Growth Rate Average Life Span	Net Effect on Air Quality	Soil Moisture Drought Tolerance Preferred Soil pH	Light Requirement Construction Tolerance/Limitations Urban Tolerant Tree
Dogwood, Kousa	Cornus kousa	400 S	vC 🖌 🖌	✓	S S	Rounded 10-20	10-20	DB M RE	W Spring	×	N S S	n/a	M L ac	PS n/a
Dogwood, Swamp	Cornus stricta	400 S	sv 🗸	✓ ✓	S S	Rounded 10-25	10-25	DB M RE	W Spring	1	Y S S	n/a		PS G/I
Elm, American	Ulmus americana	1,600 L	sv 🗸	× ×	LL			DB M YE	1	×	Y M M	0.143		alk FS M/P
Elm, American 'Princeton'	Ulmus americana 'Princeton'	1,600 L	vC VV V VV	✓ X √√	LL			DB M YE	I Spring	<b>V</b>	Y M M		M H slac-sl	
Elm, Chinese (Lace Bark)*	Ulmus parvifolia *	900 M	nit XXX 🖌 🖌 🗡	X	M M	Upright 40-60	30-50	DB F/M YE	1		N F M	0.058	M H slac-sl	alk FS n/a 🗸
Elm, Siberian	Ulmus pumila	900 M	Pint pest susceptible; weed	tree	L M				<u>.</u>	1	N			
Elm, Slippery	Ulmus rubra	1,600 L	$sv \checkmark \checkmark \checkmark$ $vC \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark$	× ×		Upright 70-80	30-50	DB M YE		× .	Y F M		M M slac-sl	
Elm, Winged	Ulmus alata	1,600 L		X √		Upright 70-80	30-50	DB F YE			Y M M		M H slac-sl	
Flametree, Chinese (Bougainvillea)	Koelreuteria bipinnata	400 S	vC V		M S	Rounded 20-40	20-40	DB M YE		1	N M M	n/a		alk FS n/a 🗸
Fringetree (Grancy Gray Beard)	Chionanthus virginicus	150 VS		×	S VS	Oval 10-30		DB M/C YE		×	Y M S	n/a		PS M/IS
Fringetree, Chinese	Chionanthus retusus	150 VS	vc v v	¥	S VS	Rounded 15-25	10-15	DB M/C YE	W Spring	×	N S S		M M acidic	PS n/a
Ginkgo (Female)	Ginkgo biloba	1,600 L	nit 🗸 X 🖌 X X X	X	ML	Pyramidal 50-75		DB C YE		X	N S L		M H slac	FS g 🗸
Ginkgo (Male)	Ginkgo biloba	1,600 L	vc √ √√ √√ √ √√ X	¥	ML	Pyramidal 50-75	30-60	DB C YE			N S L		M H slac	FS g 🗸
Goldenraintree	Koelreuteria paniculata	400 S	vc v v v v	<u></u>	M S	Rounded 20-40	20-40	DB M YE	Y Summer	1	N M M	-0.087		alk FS n/a
Hackberry, Common	Celtis occidentalis	1,600 L	sv 🗸 🗸	×		Spreading 60-90	25-60	DB F/M YE	1	×	Y M M	0.060		alk FS n/a 🗸
Hackberry, Georgia	Celtis tenuifolia	1,600 L		×				DB F/M YE		×	Y S M	n/a		alk FS M/IS
Hawthorne, Washington	Crataegus phaenopyrum	400 S		V	S S	Rounded 10-30	5-25	DB F MU	W Late Spring	×	N S S	0.017	1982 - COUL 1983 FILMS ACT	
Hemlock, Eastern	Tsuga canadensis	1,600 L		X			30-50	EC F EV		×	N S L		M M slac-sl	
Hickory, Bitternut	Carya cordiformis	1,600 L				Oval 50-100		DB M YE	1	V V X	YFL	0.069		FS P/S
Hickory, Mockernut	Carya tomentosa	1,600 L	sv V X V X X			Oval 50-100		DB M/C YE		✓ X	Y S L		D H slac	FS MP/S
Hickory, Pignut	Carya glabra	1,600 L	sv ✓ X ✓ X X			Oval 50-100	100000 - 100000	DB M YE	1	*	Y S L	0.058		FS M/S
Hickory, Sand	Carya pallida	1,600 L				Oval 40-90	20-40	DB M YE		<ul> <li>✓</li> </ul>	Y S M		D H slac	FS M/
Hickory, Shagbark	Carya ovata	1,600 L	sv ✓ X ✓ X X sv ✓ X ✓ X X			Oval 70-100		DB M YE		<ul> <li>✓</li> </ul>	Y S L		M M slac	FS P/S
Hickory, Southern Shagbark	Carya ovata var. australis	1,600 L		v		Oval 60-80		DB M YE		▼	Y S L		M M slac	FS n/a
Holly, American	llex opaca	400 S		X 🗸	M S	Pyramidal 20-70	15-25	EB M EV	1	×	Y S L		M H acidic	PS G/ 🖌
Holly, Deciduous (Possumhaw)	llex decidua	150 VS		V V	S VS	Rounded 10-20	10-20	DB F I	1	✓ ✓	Y M S		W H ac-alk	PS G/
Holly, Fosters	Ilex x attenuata 'Fosteri'	150 VS		✓	S VS	Pyramidal 15-25	10-15	EB F/M EV	1	*	N S S		M H slac	FS n/a 🗸
Holly, Ornamental Variety	Ilex species	150 VS	m in in iteration is a second s	X	S VS	Rounded 10-20	10-15	EB M EV	1		N S S		M H ac	FS n/a
Holly, Savannah	Ilex x attenuata `Savannah'	150 VS		×	M VS	Pyramidal 30-45	10-15	EB M EV	1	×	N M S	n/a		k FS n/a FS G/ ✓
Holly, Yaupon	Ilex vomitoria	150 VS		×	S VS	Irregular 10-25	5-10	EB F EV			Y S S		D H ac-alk	
Honeylocust	Gleditsia triacanthos	900 M	sv 🗸 🗸 X X	1 1		Irregular 60-80	30-50	DB F YE	1	1	Y F S	0.009		alk FS G/ 🗸
Hophornbeam, American	Ostrya virginiana	900 M			M M	Oval 15-40	10-30	DB F/M YE	W Summer	×	Y S M		M H ac-alk	SH M/S
Hornbeam, Am. (Ironwood, Blue Beech)	Carpinus caroliniana	900 M		· · · · ·	M M	Oval 20-35	15-30	DB F/M YE	1	*	Y S M		M M slac-sl	
Hornbeam, European	Carpinus betulus	900 M		V	M M	Oval 40-60		DB F/M YE		× .	N S M		M H ac-alk	PS n/a 🗸
Hornbeam, Japanese	Carpinus japonica	400 S	in the second	1	M S	Oval 20-30		DB M RE			N S M		M M adapt	PS n/a
Katsuratree	Cercidiphyllym japonicum	900 M	nit 🖌 🖌	×	M M	Spreading 40-60	35-60	DB M YE			N F L	n/a	M L ac-slal	k FS pm

SPECIES	Vet Effect on Air Quality
SPECIES         COMMON         Setup	t Effect on Air Quality il Moisture ought Tolerance eferred Soil pH ght Requirement mstruction Tolerance/Limitations
Locust, Black       Robinia pseudoaccia       900 M       Cnsv ·       X X ·       Image: Consv ·       X X ·       X X ·       Image: Consv ·       X X ·       Image: Consv ·       X X ·       X ·       X ·       X ·       X ·       X ·       X ·       X ·       X ·       X ·       X ·	
Magnolia acuminata       1,600 L       Cnsv ·       V       X       ·       L       L       Upright       60-80       20-60       DB ° C       VE       W Spring       V       F       M         Magnolia, Japanese (Saucer)       Magnolia x soulangiana       900 M       Limit       ·       X       ·       M       M       Upright       60-80       20-60       DB ° C       VE       W Spring       V       F       M         Magnolia, Japanese (Saucer)       Magnolia grandiflora       1,600 L       Limit       ·       X       ·       ·       M       M       Upright       20-30       DB ° C       VE       P Late Winter       V       N       M       M       L <l< th="">       Upright       80-30       DB ° C       VE       VE      VE      VE      V</l<>	-0.123 M H slac-slalk FS G/P
Magnolia x soulangiana       900 M       Limit       X       V       X       V       M       Upright       20-30       10-30       DB       C       Y       P       Late Winter       V       X       V       X       V       X       V       M       Mupright       20-30       10-30       DB       C       YE       P       Late Winter       V       X      <	n/a M L acidic PS M/I
Magnolia, Southern       Magnolia grandiflora       1,60       L       NewC       V       X	0.009 M L acidic FS n/a
Magnolia, Southern 'Little Gem'       Magnolia grandiflora 'Little Gem'       150       VS       NewC       ✓	0.002 M M acidic FS M/I
Magnolia, StarMagnolia stellata150VSLimit $\checkmark$ Image <th< th=""><th>n/a M L acidic FS n/a</th></th<>	n/a M L acidic FS n/a
Magnolia sweetbay       Magnolia virginiana       900 M       NewC        Image       Image       M       M       Oval       30-60       20-40       EB       C       EV       W       Summer       Image       Image       M	n/a M L acidic FS n/a n/a M M acidic PS n/a
Maple, Amur       Acer ginnala       400 \$S       NewC       Image: Chalk       Image: Chalk </th <th>n/a W L acidic PS N/a</th>	n/a W L acidic PS N/a
Maple, Chalk       Acer leucoderme       900 M       NewC        I	0.008 M M adapt FS n/a
Maple, Hedge       Acer campestre       900 M       NewC       ✓       ✓       ✓       ✓       M       Rounded 25-35 25-35       DB       M       YE       I       I       I       N       S       S	n/a M H ac-sl alk FS P/A
	0.017 M H ac-alk FS n/a
Maple, Japanese Acer paintatum 400 S Linit A A S S Oval 15-25 10-25 DB M RE T S S	0.008 M L slac-slalk PS n/a
Maple, Norway Acer platanoides 900 M NoPint pest susceptible M M	
	0.084 M L slac FS G/
	0.084 M H ac FS P/A
Maple, Southern Sugar (Florida Sugar)         Acer barbatum         900 M         NewC          Image: A          I	n/a M H ac FS M/IS
	0.100 M M slac-slalk PS pm
	0.100 M M slac-slalk PS n/a
	0.100 M M slac-slalk PS n/a
Maple, Trident         Acer buergeranum         900 M         NewC X √√ √√ √√ √√         x         M S         Rounded 20-45 20-30         DB M         MU         I         N         F         M	n/a M M ac-alk FS n/a
Mimosa       Albizia julibrissin       900 M       NoPlnt       invasive, pest susceptible; weed tree       M       M       Image: Mail Control of the subscriptible invasive invas	
	0.099 M H slac-slalk FS G/
	-0.253 D H slac FS G/
Oak, Cherrybark       Quercus falcata var. pagodifolia       1,600       NewC       ✓       ✓       ✓       I       Rounded       60-100       30-50       DB       M       RE       I       ✓       Y       M       L	n/a M M ac FS G/
	-0.342 D H acidic FS GM/S
Oak, Diamond Leaf (Laurel)       Quercus laurifolia       1,600       NewC       I       I       Rounded       60-80       50-60       DB       M       V       N       M       L	n/a M M ac-slalk FS G/
	-0.275 M M slac-slalk FS n/a
Oak, Georgia       Quercus georgiana       1,600       Limit       ✓       Imit       ✓       Imit <th>n/a D H ac-alk FS n/a</th>	n/a D H ac-alk FS n/a
	-0.314 D H adapt FS n/a
Oak, Laurel 'Darlington'       Quercus hemisphaerica 'Darlington'       1,600       NewC       Image: Advised in the image: Advised	n/a D H adapt FS n/a
Oak, Live         Quercus virginiana         1,600 L         Cnsv         out of climate zone range         L         L         Cnsv         N <th></th>	
Oak, Northern Red       Quercus rubra       1,600       NewC        I       I       Rounded       60-100       30-60       DB       M       RE       I       I       F       L       -	-0.503 M M ac-slac FS GM/SC
Oak, Nuttall       Quercus nuttalli       1,600       NewC       I       I       Rounded 60-80       35-50       DB       M       R       I       I       M       L	n/a M M ac FS n/a
Oak, Oglethorpe       Quercus oglethorpensis       1,600       L       Cnsv       ✓       I       M       L       Rounded 40-70       30-50       DB       M       E       I       ✓       Y       S       M	n/a W M n/a FS n/a
	-0.159 W M ac-slalk FS G/
	east services and the service services the services
Oak, Post       Quercus stellata       1,600       Limit       Imit	-0.483 M M acidic FS mg
Oak, Sawtooth Quercus acutissima 1,600 L Limit X X 🗸 🗸 0 ✔ M L Oval 50-60 30-60 DB M YE I V X N F M -	-0.483 M M acidic FS mg -0.327 D H ac-sI alk FS G/

		FOR DEVELOPMENT	RECOMMENDED USES	PHYSIC	AL CHARACTERISTICS		ENVIRONMENTALCHARACTERISTICS AND TOLERANCES
SPECIES COMMON NAME	LATIN NAME	Square Feet of Canopy Canopy Size Category	Level of Use Large Landscape Areas Road Frontages - Street Road Frontages - Yard Parking Lots Plazas and Downtown Settings Buffers Riparian Zones and Drainage Areas Utility Corridors Tree Commononly Utilized	Height Class in Urban Conditions Crown Class in Urban Conditions	Mature Cown Form Typical Range of Mature Tree Height Typical Range of Mature Crown Width	Leaf Type Leaf Texture Fall Leaf Color Flower Color Flowering Time Wildlife Value Excessive Litter	Native Tree to Athens-Clarke Co. Growth Rate Average Life Span Net Effect on Air Quality Soil Moisture Soil Moisture Drought Tolerance Drought Tolerance Light Requirement Light Requirement Construction Tolerance/Limitations Urban Tolerant Tree
Oak, Scarlet	Quercus coccinea	1,600 L	NewC	LL	Rounded 50-80 30-50	DB M RE I	Y M L -0.592 D H slac FS G/
Oak, Shumard	Quercus shumardii	1,600 L	NewC $\checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark$	LL	Rounded 60-100 30-70	DB M RE I 🖌	Y F L -0.265 M H ac-alk FS G/
Oak, Southern Red	Quercus falcata	1,600 L	NewC 🗸 🗸 🗸 🗸 🗸	L L	Rounded 60-100 30-70	DB M OR I	Y M L -0.576 M H ac FS G/
Oak, Swamp Chestnut	Quercus michauxii	1,600 L	NewC 🗸 X 🖌 X X 🗸 🗸	LL	Oval 70-90 30-60	DB M YE I 🖌	Y M L -0.544 M M n/a FS G/
Oak, Swamp White	Quercus bicolor	1,600 L	NewC 🗸 🖌 🖌 🖌 🗸	LL	Oval 70-90 30-60	DB M YE I	Y M L -0.457 M M n/a FS G/
·	Quercus nigra	1,600 L	Limit X X X X X ✓ ✓ X Limit	LL	Rounded 50-100 30-70	DB M YE I	Y F M -0.451 M M ac-slalk FS G/
	Quercus alba	1,600 L	NewC VV V VV		Rounded 60-100 30-80	DB M RE I	Y S L -0.348 M M acidic FS GM/S
	Quercus phellos	1,600 L	NewC $\sqrt{4}$ $\sqrt{4}$ $\sqrt{4}$ $\sqrt{4}$ $\sqrt{4}$ X $\sqrt{4}$ X $\sqrt{4}$	L L	Rounded 40-100 30-60	DB F/M YE I	Y F L -0.314 M H acidic FS GM/S 🗸
	Maclura pomifera	900 M	Limit 🗸 X 🖌 X X X	M M		DB M/C YE I 🖌 🖌 X	N F L 0.000 D H slac-slalk FS n/a 🗸
	Parrotia persica	400 S	Limit 🗸 🗸	S S		DB M OR R Spring	N F S n/a M M ac-slalk n/a
	Pyrus calleryana	900 M	Cnsv defective branch structure	мм		✓ X	N N N N N N N N N N N N N N N N N N N
	Carya illinoensis	1,600 L	NewC 🗸 X 🗸 X X		Upright 60-100 30-75	DB M/C YE I	N S M 0.088 M L slac-slalk FS mg
	Diospyros virginiana	900 M	NewC $\checkmark$ X $\checkmark$ X X $\checkmark$	LM		DB M RE I	Y M S 0.058 M H ac-alk FS G/P 🗸
	Pinus strobus	1,600 L	Cnsv not heat tolerant	L L			N N N N COUNT I O ON
	Pinus taeda	1,600 L	NewC 🗸 🗸 🖌 🗸 🗸 🗸 Limt	LL	Pyramidal 80-100 20-40	EC F EV I	Y F M 0.016 M M acidic FS G/
	Pinus palustris	1,600 L	Cnsv 🗸 🗸 🖌 X	LL	Pyramidal 60-100 20-40	EC F EV I	N M L 0.010 M H ac-sl alk FS GM/C
	Pinus echinata	1,600 L	NewC 🗸 🗸 🖌 🗸 🗸 🗸	LL	Pyramidal 60-100 20-40	EC F EV I	Y M L 0.008 M H ac PS GM/P
	Pinus elliotii	1,600 L	Cnsv 🗸 🗸 X	LL	Pyramidal 60-100 20-50	EC F EV I	N F M 0.010 M M ac-slalk FS G/
	Pinus virginiana	900 M	NewC V V V VV V	мм		EC F EV I	Y F S 0.003 M H ac FS G/ 🗸
	Pistacia chinensis	900 M	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	мм		DB M RE G Spring	N M M n/a M H ac-alk FS n/a 🗸
	Platanus x acerifolia	1,600 L	NewC V VV VV V Limt		Irregular 60-100 20-80	DB C YE I	N F M -0.415 M H slac-slalk FS pg ✓
*	Prunus angustifolia	150 VS	Cnsv V X V V	s vs		DB F I W Late Winter	Y M S n/a M H slac-slalk FS M/IS
	Prunus cerasifera	400 S		s s		DB F RE P/W Spring	N M S 0.014 M M slac-slak FS mg
	Populus nigra var. italica	900 M	NoPInt susceptable to pests and disease	LM			N
	Populus alba	900 M	Cnsv 🗸	L M		DB C YE I	N F M -0.417 M H ac-alk FS n/a
	Liriodendron tulipifera	1,600 L	NewC VV V X Limt		Oval 80-150 30-60	DB C YE Y Spring	Y         M         L         0.171         M         L         slac         FS         P/IS
	Cercis canadensis	400 S	New $\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{$	S S		DB M YE P Spring	Y F S 0.012 M M ac-slac PS M/S
	Cercis canadensis var. alba	400 S	New $\checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark$	s s	n Mada and Mada Mada Mada Mada Mada Mada	DB M YE W Spring	Y F S n/a M M ac-slac PS n/a
	Cercis canadensis 'Forest Pansy'	400 S	New $\checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark$	s s		DB M YE P Spring	Y F S n/a M L ac-slac PS n/a
	Cercis reniformis 'Oklahoma'	400 S	New C $\checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark$	s s		DB M YE P Spring	N M S n/a D H ac-slac FS n/a V
	Cercis reniformis 'Texas White'	400 S	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	<u>s</u> s		DB M YE W Spring	N M S n/a D H ac-slac FS n/a
	Juniperus virginiana	900 M	New $\checkmark$ $\checkmark$ $\checkmark$ $\checkmark$ $\checkmark$ $\checkmark$ $\checkmark$ $\checkmark$ $\checkmark$	<u>ы а</u>		EC F EV I	Y         S         M         -0.010         M         H         ac-nu         FS         M/IS
	Metasequoia glyptostroboides	900 M	New $\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{$	L M		DC F BR I	N F L 0.163 M M n/a FS n/a ✓
	Paulownia tomentosa	900 M	Cnsv X V X X X	M M		DB C YE P Spring X	N         F         L         0.103         M         M         Max         F3         Max           N         F         S         0.022         M         M         ac-sl alk         FS         g
· · · · · ·	Sassafras albidum	900 M 900 M		M M		DB M OR Y Spring	N         F         S         0.022         M         M         ac-straik         FS         g           Y         M         M         0.069         M         H         slac         FS         G/
			$\begin{array}{c c} c_{nsv} & \bullet & \bullet & \bullet \\ \hline \\ NewC & \checkmark & $				
	Amelanchier arborea	400 S		S S	*	DB M OR W Spring	
Silverbell, Carolina	Halesia tetraptera	900 M	NewC 🔨 🗸 🗸 🗸	M M	Irregular 30-60 20-35	DB M YE W Spring	Y M M n/a M L ac-sl alk PS M/ISC

		FOR DEVELOPMENT		RECO	RECOMMENDED USES PHY:						PHYSICAL CHARACTERISTICS										ENVIRONMENTALCHARACTERISTICS AND TOLERANCES							
SPECIES COMMON NAME	LATIN NAME	Square Feet of Canopy Canopy Size Category	Level of Use Large Landscape Areas Road Frontages - Street	Soad Frontages - Yard	Parking Lots	Plazas and Downtown Settings Buffers	Riparian Zones and Drainage Areas	Utility Corridors	Tree Commononly Utilized	Height Class in Urban Conditions	Crown Class in Urban Conditions	Mature Cown Form	Typical Range of Mature Tree Height	Typical Range of Mature Crown Width	Leaf Type asf Tavture	Fail Leaf Color	Flower Color	Flowering Time	Wildlife Value Excessive Litter	Native Tree to Athens-Clarke Co.	Growth Rate	Average Life Span	Net Effect on Air Quality	Soil Moisture	Drought I olerance Preferred Soil pH	Light Requirement	Construction Tolerance/Limitations Urban Tolerant Tree	
Silverbell, Two-Winged	Halesia diptera	400 S	Limit 🗸	V			1	$\checkmark\checkmark$		s	S	Rounded	15-20	15-20	DB N	1 YE	W	Spring	×	N	M	М	n/a	M	M ac-sl alk	PS M	/SC	
Smoketree, American	Cotinus obovatus	150 VS	Limit	×				1		S	VS	Oval	15-30	10-25	DB N	1 MU	Р	Spring		Y	м	S	n/a	D	H sl ac-sl alk	PS r	va 🗸	
Smoketree, Common	Cotinus coggygria	150 VS	Limit	~				~		s	VS	Oval	10-15	10-15	DB N	1 MU	Р	Late Spring		N	М	S	n/a	D	H sl ac-sl alk	FS r	ı/a 💉	
Sourwood	Oxydendrum arboreum	900 M	Cnsv 🗸 🗸	×	6					М	М	Spreading	30-60	20-30	DB N	1 RE	W	Summer		Y	м	s	0.018	M	M ac-sl ac	FS F	'/A	
Sparkleberry, Tree	Vaccinium arboreum	150 VS	Cnsv	1	8		1	1		S	VS	Irregular	10-20	5-10	DB F	RE	W	Late Spring	$\checkmark$	Y	s	S	n/a	M	M ac-sl alk	S N	//A	
Spruce Varieties	Picea species	900 M	NoPInt		not he	at tolera	nt			L	М									N								
Sugarberry	Celtis laevigata	1,600 L	Cnsv 🗸	~		)	< <			L	Ĺ	Spreading	60-80	25-60	DB F/	M YE	Ĩ		1	Y	М	М	0.118	M	M ac	FS (	3/1	
Sweetgum	Liquidambar styraciflua	1,600 L	Cnsv 🖌 🗙	<ul> <li>✓</li> </ul>	X	X	<ul> <li>Image: A start of the start of</li></ul>			L	L	Oval	60-80	40-60	DB N	1 MU	I		✓ X	Y	F	L	-0.488	М	L slac	FS	G/	
Sycamore	Platanus occidentalis	1,600 L	Cnsv 🗸				~	Х		L	L	Oval	70-100	30-70	DB C	BR	1		X	Y	F	M	-0.789	M	M slac-slalk	FS	G/	
Tallowtree, Chinese	Sapium sebiferum	900 M	NoPInt		in	vasive				М	М									N								
Tree-of-Heaven (Ailanthus)	Ailanthus altissima	900 M	NoPInt		invasive	brittle w	ood;			М	М									N								
Walnut, Black	Juglans nigra	1,600 L	Cnsv 🖌 🗙	. V	X	X	1			L	L	Rounded	60-70	50-70	DB N	1 YE	I		<ul><li>✓ X</li></ul>	Y	м	L	0.086	м	L acidic	FS F	/IS	
Waxmyrtle, Southern	Myrica cerifera	150 VS	NewC	1	1	~	X	~		S	VS	Multi-Stemmed	10-30	10-30	EB F	EV	Ĩ		1	N	м	S	n/a	M	M ac-alk	FS	G/	
Willow, Black	Salix nigra	900 M	Cnsv 🖌 🗙		X	X	1	X		М	М	Irregular	30-40	30-40	DB F/	M YE	I			Y	F	s	-0.177	W	L n/a	FS	G/	
Willow, Weeping	Salix babylonica	1,600 L	Limit 🖌 🗙	×	X	X		Х	Limt	L	L	Rounded	30-70	20-70	DB F/	M YE	1			N	F	М	-0.096	W	M acidic	FS r	ng	
Winterberry, Common	llex verticillata	150 VS	NewC 🗸 🗸	<ul> <li>✓</li> </ul>		v	< √	1		S	vs	Multi-Stemmed	5-15	5-10	DB N	1 1	I		1	Y	м	s	n/a	М	L ac	FS	G/	
Witchhazel, Common	Hamamelis virginiana	400 S	NewC 🗸	1		×	$\checkmark$	1		s	s	Spreading	20-35	20-35	DB M	C YE	Y	Fall		Y	м	М	-0.009	M	M slac	PS N	I/IS	
Yellowwood, American	Cladrastis kentukea	900 M	Limit 🗸	<ul> <li>✓</li> </ul>					1	м	м	Upright	30-50	40-50	DB M	C YE	-	Spring		N	м	м	0.013	M	M n/a	PS F		
Zelkova, Japanese	Zelkova serrata	1,600 L	Limit	-		<b>√</b>	Х	X	~	L	Ĺ,	Upright	40-80	30-75	DB N		2				м				H ac-sl alk	FS r		
	siveness. Limit planting until further invo		The manufacture of the second s								0.02																	