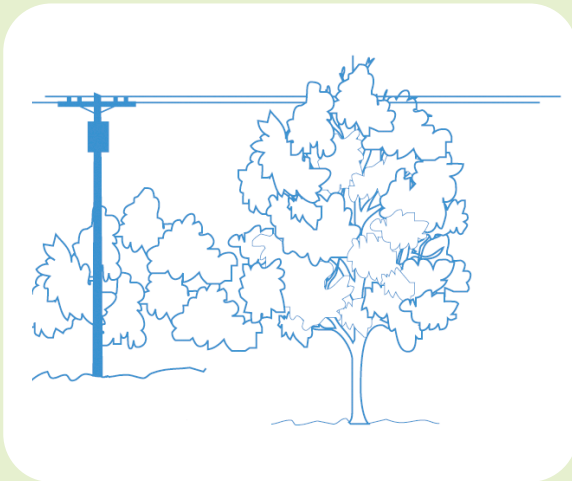
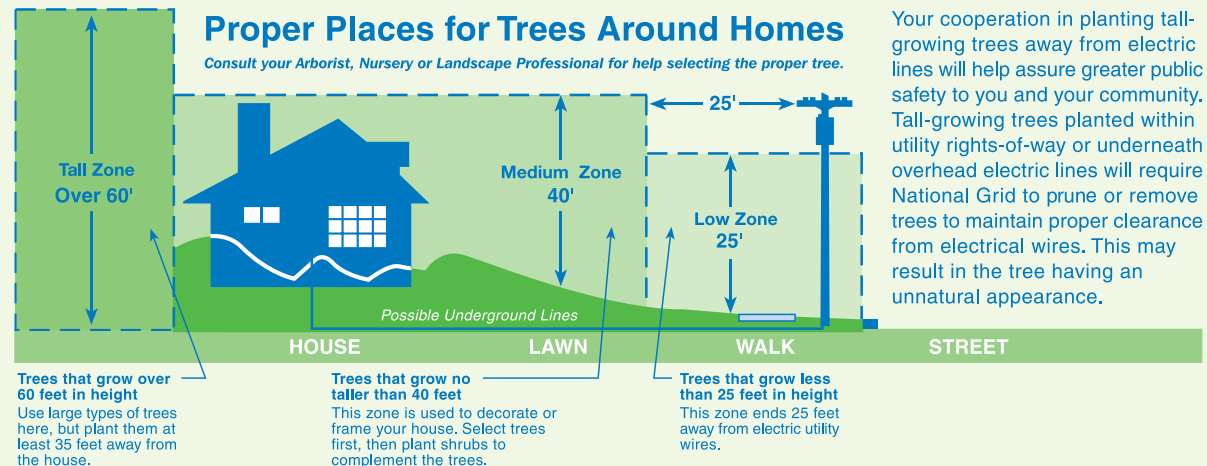


How to avoid tree & utility line conflicts when selecting and planting trees



Determining where to plant a tree is a decision that should not be taken lightly. Many factors need to be considered prior to planting. Before planting, make sure to consider the tree's full growth potential to see how the location of the tree will affect any overhead or underground utility lines and rights-of-way. The ultimate mature height of the tree to be planted must be within the available overhead growing space. Proper tree species selection and placement will assure the avoidance of utility line conflicts in the future.

To assist you in making a decision on what type of low-growing tree species to choose, where to place it to avoid potential conflicts and how to plant it properly, National Grid is providing this fact sheet for your use. This will help assure the tree you plant will not only add beauty to your home, your community and benefits the environment, but also contributes to future electric service reliability by avoiding overhead and/or buried lines.



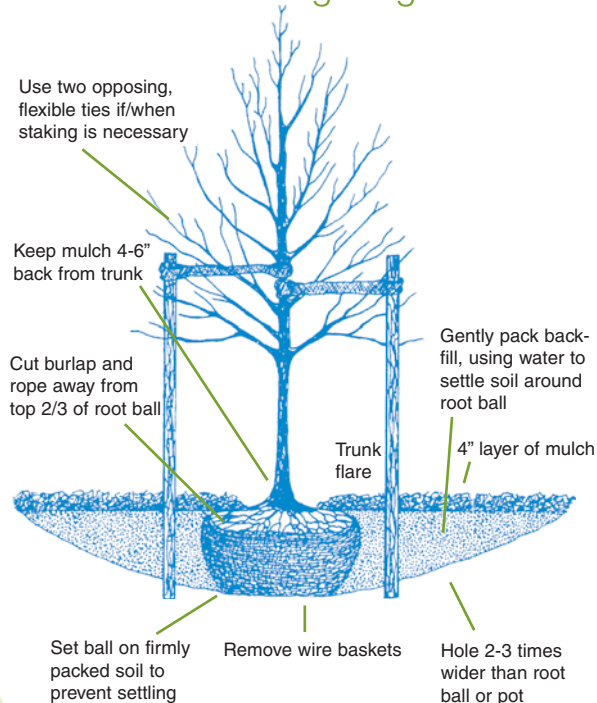
Your cooperation in planting tall-growing trees away from electric lines will help assure greater public safety to you and your community. Tall-growing trees planted within utility rights-of-way or underneath overhead electric lines will require National Grid to prune or remove trees to maintain proper clearance from electrical wires. This may result in the tree having an unnatural appearance.

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Correct planting instructions

Tree Planting Diagram



1. Dig a shallow hole, 2-3 times wider than the width of the ball/pot, but no deeper than the depth of the ball/pot.
2. Lift and set the tree carefully into the center of the hole on firm soil. **Be sure the top of the trunk flare at the base of the tree is even with grade level, or even 1-2" higher to allow for possible settling. Carefully pull back some soil from the base of the tree to assure the trunk flare and upper layer of roots have not been covered with excess soil. Remove any excess soil back to the original soil level across the top of the ball or pot and raise the ball or pot to the proper level by adding soil to the bottom of the hole.**
3. Straighten the tree and back fill the hole 1/3 of the way. Remove all rope or twine from the base of the tree and top of the root ball; cut and remove the upper 2/3 of the burlap and remove the wire basket. Be sure to remove all plastic/nylon twine and synthetic burlap as this material will not rot away and may strangle tree roots. Plastic pots need to be removed completely while peat pots need only be sliced down the sides. Carefully loosen the outer roots from potted containers.
4. Backfill and pack the soil firmly and uniformly in layers around the hole, watering as you go to settle the soil. It is not necessary to amend the soil or add fertilizers at this time. Use the excess soil to create an earthen berm

(low earth wall) around the ball on the surface just past the root ball to help retain water. Apply a 2-4" layer mulch to the entire area under the tree to help maintain moisture, keeping the mulch 4-6" from the base of the tree.

5. Stake the tree for support, only if absolutely necessary, and do so with 2-3 stakes and wide, soft, loose ties which will allow the tree to move with the wind encouraging faster establishment. Water the tree as needed once the upper soil surface has dried well into the Fall. Do NOT cut the main central leader; prune only dead or damaged limbs; do NOT apply tree paints.

For more information, call our Distribution Forestry Department at **315-428-5987**, or visit **www.nationalgridus.com**.

Before You Dig

Upstate NY

Dig Safely

811 or 1-800-962-7962

www.digsafelynewyork.com

at least two working days prior to excavation

Massachusetts and New Hampshire

811 or 1-888-344-7233

www.digsafe.com

72 hours (except weekends and holidays)

Rhode Island

811 or 1-888-344-7233

48 hours (except weekends and holidays)

Recommended Small Trees For Planting Under Low Overhead Utility Lines or Confined Spaces

Urban Trees Recommended for USDA Planting Zones 6 and Below

Common name	Scientific name	Zone	Mature Height**	Crown Shape	Comments
Trident Maple	<i>Acer buergeranum</i>	6a	20'-25'	round	variable Fall color (yellow-red), low branched, will require pruning for street tree use
	var. 'Street Wise'	6a	20'-25'	oval	can be trained to single stem; burgundy Fall color
Hedge Maple (CU-SS)	<i>Acer campestre</i>	5b	20'-35'	round	adapted to compaction, will sustain severe pruning; several new cultivars available
	var. 'Queen Elizabeth'	5b	20'-35'	upright oval	vigorous grower
	var. 'Schichtel's Upright'	5b	20'-35'	narrow oval	narrower crown form
	var. 'St. Gregory'	5b	20'-35'	upright oval	strong central leader, smooth bark
Amur Maple	<i>Acer tartaricum</i> ssp. <i>Ginnala</i>	3a	15'-25'	rounded	often multi-stemmed, but can be trained/specified for single stem; variable Fall color
	var. 'Betzam', aka 'Beethoven'	3a	15'-25'	narrow upright	10-15' wide crown, deep hunter green leaves; red samaras (seeds); gold-red Fall color
	var. 'Embers'	3a	15'-25'	rounded	red seeds, red Fall color
	var. 'Flame'	2	15'-25'	rounded	seed grown, variable form; can be trained to quality low branched/multi-stem tree
	var. 'Mozam', aka 'Mozart'	2	15'-25'	pyramidal	symmetrical form; strong central leader; red Fall color
Tartarian Maple	<i>Acer tartaricum</i>	3	15'-25'	rounded	multi-stemmed, irregular, but can be trained/specified for single stem; variable Fall color
	var. 'Hotwings'	3	15'-25'	rounded	scarlet-red fruit in Summer
	var. 'Pattern Perfect'	3	15'-25'	rounded	persistant bright-red fruit in Summer; red-orange Fall color
	var. 'Rugged Charm'	3	15'-25'	oval	red fruit in Summer; drought tolerant
Shantung/Painted Maple (CU-SS)	<i>Acer truncatum</i>	5a	25'-35'	round	spring color purplish-red changing to green
	var. 'Kiethsform', aka 'Norwegian Sunset'	5	25'-35'	upright oval	yellow/orange Fall color; more drought tolerant than Norway Maple
	var. 'Warrenred', aka 'Pacific Sunset'	5	25'-35'	rounded upright	bright yellow/orange early Fall color; finer branched
Serviceberry	<i>Amelanchier</i> spp.	3b-4	20'-30'	oval	edible fruit, early white flowers, red to yellow Fall color
	var. 'Autumn Brilliance'			oval	heavy flowering, bright red-orange Fall color; excellent heat/drought tolerance
	var. 'Cole's Select'			narrow	15' wide crown; glossier, smaller green leaves; orange-red to red Fall color
	var. 'Cumulus'			narrow	12-18' wide crown; faster growing; yellow to orange-scarlet Fall color; may root sucker
	var. 'Forest Prince'			oval	heavy flowering; leathery dark green foliage' orange-red Fall color
	var. 'Lustre' aka 'Rogers'			upright open	flower clusters droop; leaves emerge purplish-bronze, yellow to red Fall color
	var. 'Princess Diana'			oval	bright red, long lasting Fall color; (difficult to find in tree form!)
	var. 'Robin Hill'			narrow	12-15' wide crown; heavy flowering, pink buds, early bloomer; bronze tinged leaves
	var. 'Snowcloud'			narrow	15' wide, open crown; blue-green leaves in Summer, copper-orange to scarlet in Fall
	var. 'JFS-Arb', aka 'Spring Flurry'		35'	upright oval	strong central leader; green Summer foliage; orange Fall color
American Hornbeam	<i>Cercis canadensis</i>	4a-5b	20'-30'	open, spreading	edible, pink, very early Spring flowers; typically multi-stemmed; heart shape leaves
	var. 'Appalachian Red'	5b		open, spreading	magenta pink bids, bright pink flowers
	var. 'Forest Pansy'	5b-6		open, spreading	typically smaller, slower growth; red-purple Spring leaves, bronze Summer foliage
	var. 'Northern or Minnesota Strain'			open, spreading	more cold hearty; limited availability
Corneliancherry Dogwood (CU-SS)	<i>Cornus mas</i>	4	20'	round - oval	faster growth rate; white flowers; lighter green foliage
	var. 'Golden Glory'			narrow upright	multi-stemmed; showy early small yellow flowers; heavy fruiting (litter may be a nuisance!)
American Smoketree	<i>Cotinus obovatus</i>	5a	20'-30'	oval -round	larger fruit; red-purple Fall color
Thornless Cockspur Hawthorn (CU-SS)	<i>Crataegus crus-galli</i> var. <i>inermis</i>	4a	20'-25'	round	low branching, multi-stemmed tree; 6-10" light, puffy, pyramidal Spring flower; color variable
	var. 'Cuzam', aka 'Crusader'		5'	round	white flowers, bright red persistent fruit
Washington Hawthorn (CU-SS)	<i>Crataegus phaenopyrum</i>	4a	20'-30'	round	faster growing; 12-15' wide; reportedly disease resistant
	var. 'Presidential', aka Prezan		15'	upright	white flowers; thorny; reddish-purple Fall color ; insect & disease prone; 'usually' multi-stem
	var. 'Lustre'			oval	faster growing; almost thornless; relatively pest free
	var. 'Washington Lustre', aka Westwood 1			oval	faster growing; fewer thorns
Winter King Hawthorn (CU-SS)	<i>Crataegus viridis</i> var. 'Winter King'	4-5a	20'-30'	oval	faster growing; fewer thorns; early blooms
Imperial Thornless Honeylocust (CU-SS)	<i>Gleditsia tricanthos</i> var. <i>inermis</i> 'Impcole'	4a	30-35'	broad round	thorny, white flowers, purple and scarlet Fall color, fruit persists
Goldenraintree (CU-SS)	<i>Koelreuteria paniculata</i>	5b	30'-40'	irreg. rounded	open, spreading form; good branch angles; small leaves; yellow Fall color
Amur Maackia (CU-SS)	<i>Maackia amurensis</i>	4a	20-30'	rounded upright	pest free; 12" pyramidal, mid-Summer, yellow flower clusters
Flowering Crabapple (CU-SS)	<i>Malus</i> spp.	3-4			4-6" long white pedulous flower clusters; grey-green leaves turn to olive green; pest free
	var. 'Adams'	4a	20'	round	various cultivars (some may be disease resistant); buds deep pink, flowers deep pink, profuse

Common name	Scientific name	Zone	Mature Height**	Crown Shape	Comments
Flowering Crabapple (CU-SS)	var. 'Adirondack'	4	18'	vase	bright red fruit 1/2" diameter, dark green leathery leaves
	var. 'American Salute'	4	18'	upright oval	rose-red flower, cherry red 3/8" fruit; maroon-red foliage
	var. 'American Spirit'	4	18'	round	deep rose flower, persistent red 1/2' fruit
	var. 'American Triumph'	4	20'	upright columnar	dark red single flower, dark burgandy-red fruit; reddish-purple leaves
	baccata, var. 'Jackii'	3a	20'	round	flowers are white fragrant and early, fruit is deep red-purple
	var. 'Cardinal'	4	16'	broad spread.	flowers bright pink-red purple, fruit deep dark red, leaves deep glossy purple-red
	var. 'Centurion'	4	20'	narrow oval	flowers rose red, bright red persistent 5/8" diameter fruit, leaves reddish
	var. 'Dolgo'	3b	30'	oval	flowers white, fruit bright red, edible 1 1/2" in diameter, leaves glossy green
	var. 'Donald Wyman'	4	20'	round	flowers white, abundant, fruit glossy bright red, abundant
	var. 'Doubloons'	4	18'	dense oval	flowers white, double fruit bright lemon-yellow, abundant
	floribunda	4b	20'	round	flowers pink fading to white, profuse, 1-1 1/2" diameter, fruit yellow-red
	var. 'Liset'	4a	15'	columnar	flowers pink-red 1 1/2" diameter, fruit dark red, leaves reddish
	var. 'Ormiston Roy'	4a	20'	oval - round	pink-rose bud, white flower, yellow 3/8" diameter persistent fruit, green leaf
	var. 'Prairifire'	4	20'	oval - round	crimson bud, pink-rd flower, orange-red persistent 1/2" fruit, leaves age to red-green
	var. 'Professor Sprenger'	4	20'	oval - round	pink bud, white fragrant flower, orange-red persistent 1/2" diameter fruit, green leaf
	var. 'Purple Prince'	4	20'	round	carmine bud, rose red flower, persistent maroon 3/8" fruit, purple-bronze leaf
	var. 'Red Jewel'	4	15'	oval	pink-white bud, white flower, persistent bright red 1/2" diameter fruit, green leaf
	var. 'Robinson'	4	25'	oval	crimson bud, deep pink flower, dark glossy red 3/8" fruit, red aging to bronze leaf
	var. 'Royal Raindrops'	4	20'	upright spread.	pink bud, bright pinkish flower; persistent red 1/4" fruit; purple cut-leaf, orange-red Fall
	var. 'Sentinel'	4	18'	narrow oval	red buds, white-pink flower, persistent bright red 1/2" fruit, dark green glossy leaf
var. 'Strawberry Parfait'	4	18'	vase	red buds, large pink flower, yellow 3/8" fruit, red aging to green leaf	
var. 'Sugartyme'	4	18'	oval	pink bud, white fragrant flower, red persistent 1/2" diameter fruit, green leaf	
x zumi 'Calocarpa'	4a	20'	round	bright red, persistent 3/8" diameter, leaves large green, dense canopy	
Persian Parrotia (CU-SS)	Parrotia persica	5	20'-30'	pyra.-round	relatively pest free; red-purple new foliage to green in Summer, yellow-red in Fall
	var. 'Ruby Vase'	4	20'	upright-vase	narrower than species; foliage emerges ruby red in Spring, persisting through Fall
Accolade Flowering Cherry	Prunus sargentii + subhirtella	5a	20'-25'	round-vase	deep rose-pink bud, semi-double pink flowers, attractive bark
Snow Goose Cherry	Prunus 'Snow Goose'	5	20'-25'	upright	white flowers, foliage green aging to yellow-red in Fall; fruit is 1/4" blue-black
Edgewood Callery Pear (CU-SS)	P. calleryana x P. betulaeifolia 'Edgedell'	4	30'	round	leaves emerge with purple tint, silvery green through Summer, red-purple in Fall
Jack Callery Pear (CU-SS)	Pyrus calleryana 'Jaczam'	4	15'-20'	oval; dense	glossy green to gold-red leaves in Fall; 1/2" yellow-green fruit
Jill Callery Pear (CU-SS)	Pyrus calleryana 'Jilzam'	4	15'-20'	round	olive green to gold leaves in Fall; 1/2" yellow-green fruit
Valiant Callery Pear (CU-SS)	Pyrus calleryana 'Valzam'	4	25'-30'	upright-pyram.	glossy hunter green to crimson red leaves in Fall; 1/4" tan fruit
Korean Sun Pear (CU-SS)	Pyrus fauriei 'Westwood'	4	15'-20'	round	reddish-orange leaves in Fall; leaves drop earlier than P. calleryana
Prairie Gem Ussurian Pear (CU-SS)	Pyrus ussuriensis 'MorDak'	3	20'-25'	oval - round	large, showy white clustered flowers; 1"-1 1/2" green-yellow fruit (if cross pollinated)
Globe Black Locust (CU-SS)	Robinia pseudacacia 'Globe' (or 'Inermis')	4	20'	round; dense	late Spring flowering (possibly flowerless); spineless; medium to blue-green leaves
Bessoniana Black Locust (CU-SS)	Robinia pseudacacia 'Bessoniana'	4	30'	oval	late Spring flowering; essentially spineless; medium to blue-green leaves; central leader
Swedish Mountain Ash (CU-SS)	Sorbus intermedia	5b-6a	25-35'	round	green upper leaf/grayish white undersides; orange-red Fall color
Columnar Oakleaf Mountain Ash (CU-SS)	Sorbus thuringiaca	3b	25-35'	oval-pyram.	dark green upper leaf/whitish undersides; rusty orange-yellow Fall color
	var. 'Fastigiata'	3b	25-35'	narrow pyram.	more narrow pyramidal crown form
Japanese Tree Lilac (CU-SS)	Syringia reticulata	3a	20'-25'	oval	large cream colored flowers in late June; good for use in large containers
	var. 'Ivory Silk'	3a	20'-25'	upright	dense; compact; heavy flowering; fast growing; cherry-like bark
	var. 'Summer Snow'	3a	20'-25'	round	glossy leaves; heavy flowering
	var. 'Regent'	3a	20'-25'	upright	glossy leaves; heavy pure white flower producer
Peking Lilac	Syringia pekinensis				
	var. 'Beijing Gold'	4	20'	upright spread.	primrose-yellow flowers; cinnamon clored bark
	var. 'China Snow'	4	30' +	upright rounded	showy cinnamon clored exfoliating bark
Summer Sprite Littleleaf Linden (CU-SS)	Tilia cordata 'Halka'	4	15'-20'	narrow pyram.	may grow slower than the species; fragrant, mid-Summer flowers (attracts bees!)
Wireless Japanese Zelkova (CU-SS)	Zelkova serrata 'Schmidtlow'	5	35'	broad vase	exfoliating bark; less likely than species to have poor branch structure; Elm-like appearance
	var. 'City Sprite'	5	20'	oval to vase	as above, smaller in form; red Fall foliage

*Trees over 30 feet in mature height should be planted at least 25' away from the edge of overhead wires; trees over 25 feet high that are planted directly under electric lines **may** require minor pruning to avoid conflicts with overhead primary electric lines in the future.

(CU-SS = Trees suitable for planting in Cornell University Structural Soil mix)

Tree list summarized from **RECOMMENDED URBAN TREES: SITE ASSESSMENT AND TREE SELECTION FOR STRESS TOLERANCE**; 2009 (revised)

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