THE POWER OF SMART PLANTING

A GUIDE TO PLANTING NEAR POWER LINES

ComEd®
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powering lives

Dear ComEd customer,

This Power of Smart Planting booklet is a cooperative effort between ComEd and The Morton Arboretum. It's a resource for you when landscaping near power lines. With a little knowledge and some direction, you can play a part in limiting power outages.

Trees play a valuable role in our communities–they provide shade, wildlife habitat, and many other environmental benefits. However, tall trees that exist near power lines can threaten our ability to provide safe, reliable electric service. Approximately 92% of tree-related interruptions are caused by seemingly healthy tree branches that have been broken and come into contact with power lines running from pole to pole. High winds and storms can cause tree branches to break and fall onto lines, utility poles and other equipment, causing damage and service interruptions.

ComEd recommends planting low-growing trees and shrubs near power lines and keeping tall trees at a further distance. The Morton Arboretum offers expertise in tree and shrub selection to help you choose vegetation that will work best around power lines while adding beauty to your property. You'll find planting tips in this brochure that will help you successfully grow these plants and bring more value to your property for years to come. An easy-to-read species guide is included in this brochure.

To learn more about smart planting, visit **ComEd.com/Trees.**

Additional plant information can be found at **MortonArb.org.**

Sincerely,
The ComEd Vegetation Management Team

This publication contains general guidelines and is applicable only to overhead local distribution lines on wood poles. Neither ComEd nor the Morton Arboretum can assume any responsibility for particular vegetation you plant. Please obey all codes and act safely whenever you are near electric lines.

A Short Tree is a Wise Choice

When it comes to selecting the best tree to plant near power lines, think low-growing trees that mature at heights of less than 25 feet. Selecting the right trees will help you avoid power outages and will reduce the need for utility tree trimming in the future. If you are selecting trees that grow taller than 25 feet, consideration should be given to the size and shape of the tree at maturity, as well as the location to nearby power lines. Tall trees that grow to more than 50 feet at maturity should be planted furthest from the power lines.

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There are a number of low-growing species you can consider, with different features and characteristics. Many of these trees have beautiful flowers, colorful fruit, or interesting fall color. Consider the space available for the tree and other site conditions, as well as the mature height and width of your tree selection. Pages 4-5 contain a sampling of interesting low-growing choices; however this is only a general reference overview. Feel free to visit ***MortonArb.org*** for more information.

Ann Magnolia
(Magnolia ann)

Growth Rate: Slow
Native to: Hybrid origin

Reddish-purple flowers appear in May before the foliage; sporadic blooming in mid-summer; medium green foliage; bronze-copper fall color; Good specimen tree for lawns and borders.

Star Magnolia
(Magnolia stellata)

Growth Rate: Slow
Native to: Japan

Grown as multi-stem shrub; silvery-gray bark; fragrant white flowers appear in spring; attractive red fruit. Good in established gardens, sheltered locations, entryways or as a border.

Red Buckeye
(Aesculus pavia)

Growth Rate: Slow-Medium
Native to: Southeastern US

Small multi-stemmed tree with dark green foliage; little color change in fall; carmine red flowers in May. Can be used as a specimen tree.

Eastern Redbud
(Cercis canadensis)

Growth Rate: Medium
Native to: Midwestern and eastern US

Purplish-pink buds in early May; dark green foliage; yellow fall color; brownish-black bark on older specimens. Attractive specimen tree or in woodland gardens.

Allegheny Serviceberry
(Amelanchier laevis)

Growth Rate: Medium
Native to: Midwestern and eastern US

Dark green foliage with distinctive red tinge; abundant white flowers in spring; small edible berry-like fruit; fall colors vary from yellow to orange to red. Native tree great for naturalizing, and can be mixed with conifers.

Cornelian (Cherry) Dogwood
(Cornus mas)

Growth Rate: Slow-Medium
Native to: Europe

Yellow blossoms in late winter/early spring; red berries attract birds and squirrels; nice fall colors. Good specimen tree or as a shrub border.

Kousa Dogwood
(Cornus kousa)

Growth Rate: Slow-Medium
Native to: Japan, Korea, China

White flowers appear in June; large raspberry-like fruit in August; dark green foliage; reddish-purple fall color; blooms 2-3 weeks after native dogwoods. A good small specimen tree.

American Hornbeam
(Carpinus caroliniana)

Growth Rate: Slow
Native to: Midwestern and eastern US

Multi-trunked; blue-gray bark; foliage emerges reddish-purple, changing to dark green in summer and yellow-orange-red in the fall. Good understory tree or use as shrub border.

Shrubs Make Beautiful Sense

Shrubbery can be used to screen your view of a neighbor's back yard or distract the eye from nearby power lines and other utility equipment. There are a number of attractive shrubs that can do the trick. But don't plant too close to utility poles or equipment, as they can become an obstruction for service crews that need to access ComEd equipment.

Did you know...

More shrub species bloom in the spring than at any other time of year.

The shrubs in the species guide on pages 8-9 grow more than eight feet tall and will provide a good visual break between properties. They also have beautiful ornamental traits that make them smart choices when landscaping your home. Here is a sampling of several interesting choices:

Bottlebrush Buckeye (Aesculus parviflora)

Growth Rate: Slow-Medium
Native to: Southeastern US

Large colony-forming shrub; dark green foliage; large white flower panicles appear in early July; golden yellow fall color. Excellent screen for woodland or naturalized areas.

American Filbert (Corylus americana)

Growth Rate: Medium-Fast
Native to: Midwestern and eastern US

Showy male flowers (catkins) are one of first to open in early spring; medium green leaves turn orange-yellow in the fall; a frilly enclosed nut attracts birds and wildlife. Use in woodland and naturalized settings.

Fringetree (Chionanthus virginicus)

Growth Rate: Slow
Native to: Southeastern US

Light brown textured bark; medium-dark foliage emerges in spring; outstanding fragrance; 6” to 8” long drooping clusters of white flowers open in late May-early June; male and female plants produce flowers but only females bear bluish fruit in September. Attractive specimen plant, excellent in groups, borders, or near buildings.

Common Smokebush (Cotinus coggyria)

Growth Rate: Medium
Native to: Southern Europe, central China

Depending on cultivar, rounded leaves can be maroon-red, purple or medium green; small yellow flowers change to large billow-puffed panicles that turn smoky pink to purplish pink in summer; in the fall their color can be reddish-purple to orange-red. Use as a specimen plant, in mass or hedge.

Witch Hazel (Hamamelis virginiana)

Growth Rate: Medium
Native to: Midwestern and eastern US

Large multi-stemmed shrub; irregular branching habit; dark green foliage turns yellow in fall and often hangs on into winter; yellow, strap-like, fragrant flowers appear in late fall but are often hidden by the leaves. Use in naturalized areas and shrub borders.

Seven Son (Heptacodium miconioides)

Growth Rate: Medium-Fast
Native to: China

Small, suckering tree or large shrub; arching branches; medium green leaves; yellow fall color; light tan exfoliating bark; small, fragrant white flowers August-October; in October, flower petals drop and sepals turn bright rosy-pink. Can be used as an accent, in borders, or in groupings.

Small Deciduous Trees (i.e. Leafy Trees)

Common name	Mature Size/Shape			Tolerant to					Traits			
	Shape	Height (feet)	Spread (feet)	Drought	Poor drainage	Alkaline soil	Salt	Light Required	Flowers	Fruit	Fall color	Special notes
Three-flowered Maple	R	20-25	20-25	Intermediate	No	Intermediate	Intermediate	Partial sun		Yes	Yes	3
Red Buckeye	R	10-20	15-18	Intermediate	Intermediate	Intermediate	Intermediate		Yes			
Allegheny Serviceberry	U,O	20-25	15-18	Intermediate	Intermediate	Intermediate	No		Yes	Yes	Yes	8
Apple Serviceberry	B	20-25	20-25	Intermediate	Intermediate	Intermediate	Intermediate		Yes	Yes	Yes	
Fox Valley River Birch	O	10-12	12-15	No	Yes	No	No					
European Hornbeam	N,C	15-20	8-10	Yes	No	Intermediate	No				Yes	1
American Hornbeam	O	15-20	10-12	No	Intermediate	Intermediate	No					1-8
Eastern Redbud	R	15-20	20-25	Intermediate	No	Intermediate	Intermediate		Yes		Yes	1-6 8
White Fringetree	S	12-18	8-15	Intermediate	Intermediate	Intermediate	Yes		Yes	Yes		
Pagoda Dogwood	H	15-25	20-25	No	No	Intermediate	Intermediate	Partial sun	Yes	Yes		1-2 6-8
Kousa Dogwood	R	15-20	15-20	No	No	Intermediate	Intermediate	Partial sun	Yes	Yes	Yes	1
Cornelian-cherry Dogwood	O	15-25	10-12	Intermediate	Intermediate	Intermediate	Intermediate		Yes	Yes	Yes	
Japanese Cornel Dogwood	R	15-25	15-25	Intermediate	Intermediate	Intermediate	Intermediate		Yes	Yes		
Thornless Cockspur Hawthorn	L	15	20	Yes	Intermediate	Yes	No		Yes	Yes	Yes	6
Winter King Hawthorn	L	20-25	20-30	Yes	Intermediate	Yes	No	Full sun	Yes	Yes		6
Little Girl Magnolia	R	12-15	12-15	No	No	Intermediate	Intermediate		Yes			
Loebner Magnolia	U,R	20-25	15-20	No	No	Intermediate	Intermediate		Yes			
Saucer Magnolia	O	20-25	20-25	Intermediate	No	Intermediate	No		Yes			
Star Magnolia	O	10-15	8-10	Intermediate	No	Intermediate	No		Yes			
Crabapple (select cultivars)	R	15-20	15-20	Intermediate	No	Intermediate	No	Full sun	Yes	Yes	Yes	5-6
Hoptree, Wafer Ash	V	15-20	10-15	Intermediate	Intermediate	Yes	Intermediate	Full sun	Yes	Yes		8
Peking Lilac-China Snow	R,S	20-25	20	Yes	No	Yes	Yes	Full sun	Yes			
Japanese Tree Lilac	O	20-25	20-25	Intermediate	No	Yes	Yes	Full sun	Yes	Yes		
Yellowhorn	S	18-24	9-10	Yes	No	Yes	Yes	Full sun	Yes			1

Special Notes:

1. Requires well-drained soils
2. Requires high soil moisture
3. Protection from afternoon sun recommended
4. Fruit/cones produced only on female plants
5. Fruit of plant parts can be a nuisance
6. Can be prone to disease , insect pests and animal browsing
7. Can sucker from root system and colonize
8. Native to the State of Illinois

Yes No Intermediate Full sun Partial sun Shade

Shape: **U**pright **R**ounded **P**yramidal **O**val **C**olumnar **V**ase shaped **S**preading **B**road **N**arrow **F**lat topped

Evergreen Trees

Common name	Mature Size/Shape			Tolerant to					Traits			
	Shape	Height (feet)	Spread (feet)	Drought	Poor drainage	Alkaline soil	Salt	Light Required	Flowers	Fruit	Fall color	Special notes
Chinese Juniper	C	10-25	8-10	🟢	🔴	🟢	🟢			🟢		4
Eastern Red Cedar	C	10-25	8-10	🟢	🔴	⚪	🟢			🟢		4-8
Waterer Scotch Pine	O	10-25	8-10	⚪	🔴	⚪	⚪	🟡				6
American Arborvitae	P	6-25	3-18	🔴	🟢	🟢	🔴			🟢		2-6
Western Red Cedar	P	6-25	5-18	🔴	⚪	🟢	🔴					

Note: Check individual cultivars for mature height.

Tall Shrubs (over 8 feet)

Bottlebrush Buckeye	S	8-12	8-15	🔴	⚪	⚪	⚪		🟢		🟢	
Shadblow Serviceberry	U	6-12	6-8	⚪	⚪	⚪	⚪		🟢	🟢		
Indigo Bush	R	6-14	5-10	🟢	⚪	🟢	🔴		🟢		🟢	8
American Filbert or Hazel	O	8-18	8-10	⚪	⚪	⚪	🔴	🟡		🟢	🟢	8
Common Smokebush	S	10-15	10-15	🟢	🔴	🟢	⚪		🟢		🟢	1-6
Forsythia (cultivars)	U	6-8	6-8	⚪	🔴	🟢	🟢		🟢			1
Vernal Witch-hazel	R	6-15	6-10	🔴	🟢	🟢	🔴		🟢		🟢	
Common Witch-hazel	R	15-20	8-18	⚪	⚪	⚪	⚪		🟢		🟢	8
Seven-Son Flower	U	15-20	6-8	⚪	🔴	🟢	⚪		🟢	🟢		1
Panicle Hydrangea	V	8-12	8-12	🔴	⚪	⚪	⚪	🟡	🟢	🟢		2
American Plum	S	8-10	8-10	⚪	🔴	⚪	⚪	🟡	🟢	🟢	🟢	7-8
Sargent Crabapple	R	6-12	8-15	⚪	🔴	⚪	🔴	🟡	🟢	🟢	🟢	
Northern Bayberry	S	5-12	5-12	🟢	⚪	⚪	🟢	🟡		🟢		4
Purpleleaf Sand Cherry	O	7-10	7-10	⚪	🔴	⚪	⚪	⚫	🟢	🟢		1-8
Smooth Sumac	S,F	10-15	10-15	🟢	🔴	⚪	⚪	🟡	🟢	🟢	🟢	4-7 8
Staghorn Sumac	S,F	15-25	15-30	🟢	🔴	⚪	🔴	🟡	🟢	🟢	🟢	4-7 8
Chinese Lilac	O	8-10	8-10	⚪	🔴	🟢	🟢	🟡	🟢			1
Common Lilac	R	8-12	8-10	⚪	🔴	🟢	🟢	🟡	🟢	🟢	🟢	1
Arrowwood Viburnium	R	5-9	15	🔴	⚪	🟢	⚪		🟢	🟢	🟢	2-8
Nannyberry	R	15-18	6-12	🔴	⚪	🟢	🔴		🟢	🟢	🟢	8
Blackhaw Viburnum	O	8-12	8-12	🔴	⚪	⚪	⚪		🟢	🟢	🟢	7-8
Lantanaphyllum Viburnum	C	10	11	🔴	🔴	⚪	⚪		🟢	🟢	🟢	

Choosing The Right Tree

- Choose a tree that will fit the space. Go to **ComEd.com/Trees** for height guidelines.
- Decide if you want single stem, multi-stem, fall color, seeds and/or blossoms.
- If road salt or salt spray will reach your tree, choose one that is salt tolerant.
- Make sure the tree you select is compatible with your soil conditions. Your soil might be predominantly wet, dry, clay, silt or sandy.

Proper Preparation to Plant

- Be safe! You are required by Illinois law to call 811 to locate gas, electric, and telephone lines before you dig–and that includes when planting a tree. Contacting a power line with a shovel or pick can damage power lines–or worse–cause severe injuries or death. City of Chicago residents can call DIGGER (Chicago Utility Alert Network) at 312-744-7000. If you live outside of Chicago, call J.U.L.I.E. (Joint Utility Locating for Excavators) at 800-892-0123 or 811. You also can visit www.illinois1call.com.
- The hole you dig for your tree should be about 1” to 2" shallower and two to three times wider than the root ball. Be sure the top roots are no more than 2” to 3" below the root ball soil surface. Remove any excess soil.
- There should be no gap in the soil around the base of the trunk.
- If the ball is encased in a wire basket, remove at least the top third of the basket. If the ball is wrapped in burlap and rope, remove them from the top of the root ball and the trunk of the tree.
- Cut any roots that are extending from the root ball, roots that may be circling a containerized tree, or other defective roots. Be sure to cut cleanly with a sharp tool.

Planting Correctly

- After placing the tree in the hole, fill the hole with soil removed from the hole and gently tamp it around the root ball. Consider mixing heavy clay soil with 10-15% organic matter.
- Water the soil so it settles firmly around the ball and moistens the root ball.
- Apply 2” to 3” of organic mulch to the top of the root ball but keep the mulch 1” to 2” from the trunk. Mulch in contact with the trunk can cause the bark to become diseased or decay, injuring the tree.
- Prune out any dead or crossing branches.

Watering Your Tree.

Water new trees twice weekly for the first two years, especially if rainfall has been inadequate. Amount will vary based on tree size. Trees with a 2” to 3" trunk diameter should be watered approximately 10 to 15 gallons twice per week. During hot weather, more frequent watering may be needed.

Did you know...

Trees located on the west side of your home can be a natural wind break and help moderate heating bills during the winter months.

Remove container, wire or any wrapping from root ball, and place tree into hole, on firmly packed soil to prevent settling.

Gently pack backfill around root ball and soak with water to settle soil. Place a 2” to 3” layer of mulch around tree, keeping the mulch 1“ to 2” away from the trunk.

If support is needed, use two stakes and opposing, flexible ties, placed on the lower half of the tree, and allow trunk movement.

If ComEd Needs to Trim Trees

There may be trees on your property that could interfere with power lines or other utility equipment. ComEd performs regular maintenance of trees near power lines and equipment.

Electric utility tree trimming is often perceived differently from other types of tree trimming because the objectives are different. However, the tools and methods used are similar to those used by commercial tree care companies. Likewise, ComEd has certified arborists on staff to ensure that the trimming adheres to the same professional standards as other arborists. ComEd employs “directional trimming” techniques to discourage the growth of sprouts that could grow into ComEd’s equipment, while also minimizing any stress on the tree. Directional trimming allows ComEd to take the characteristics of each tree into consideration when determining the extent of triming needed. Trimming clearances are based on the growth rate and mature size and shape of each tree, the location of the tree in relation to the power line, the type of utility facility, and a cycle length of four years. Trees trimmed for power line clearance may be significantly changed in appearance. Note that in some cases complete tree removal may be necessary. Tall-growing trees directly under power lines will require frequent trimming or they may cause ongoing power interruptions. It is also cost effective to remove the saplings of tall-growing tree species that are planted directly beneath power lines. While initially small, they will quickly grow and cause a reliability and safety issue. ComEd follows industry best practices when determining if tree removal is necessary.

ComEd is committed to improving electric service reliability for its customers. Since 2001, ComEd has invested approximately $9 billion to expand, upgrade and maintain the reliability of its transmission and delivery systems. Since 2001, ComEd has reduced the frequency of customer interruptions by 20 percent. During that same time, the duration of those outages decreased by 3 percent.

The Morton Arboretum

The Morton Arboretum is an internationally recognized outdoor tree museum on 1,700 acres located in Lisle, Illinois. Plant collections, scientific research and education programs support the mission to plant and conserve trees and other plants for a greener, healthier and more beautiful world.

To obtain additional brochures, contact:

The Morton Arboretum
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MortonArb.org

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