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AN EXELON COMPANY

The Power of **Smart Planting**

A guide to planting near power lines

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 performing landscaping near power lines. You can play a part in reducing vegetation impacts to utility infrastructure while enhancing green space by Smart Planting!

Trees play a valuable role in our communities. They provide shade, wildlife habitats and many other environmental benefits. However, trees that exist near power lines can threaten our ability to provide safe, reliable electric service. Annually a significant number of tree-related interruptions are caused by seemingly healthy trees that have broken or come into contact with power lines. Inclement weather, natural growth or structural failure can cause tree related damage to utility poles and other equipment, causing service interruptions.

If planting near power lines, ComEd highly recommends selecting shrubs and low-growing trees. Trees should be planted away from power lines and poles at the distance of the tree's mature height. Local municipal ordinances should also be understood in developing your plan. The Morton Arboretum offers expertise in shrub and tree 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.

Safety First: Call 811 before you dig!

811® Know what's **below.** **Call** before you dig.

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

The 811 Logo is a registered trademark of the Common Ground Alliance.
This publication does not supersede state laws and local ordinances. The contents are general guidelines that are applicable to ComEd overhead distribution lines, poles, and equipment. The information and recommendations contained in this publication do not apply to transmission power lines. Neither ComEd nor the Morton Arboretum can assume any responsibility for the vegetation you plant. ComEd cannot guarantee that any vegetation will not require maintenance. Please act safely and responsibly near power lines and equipment. Call 1-800-Edison-1 (1-800-334-7661) with any questions or concerns.

Review Your Space

Be safe! You are required by Illinois law to call 811 to locate gas, electric and telephone lines before you dig, which includes planting trees or shrubs. 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**.

Choose a tree or shrub that will fit the space after you locate all utilities above and below ground. Consider the full size of the tree or shrub once they are fully mature. Go to **ComEd.com/Trees** for height guidelines.

Decide on the different traits you may want such as single stem, multi-stem, fall color, seeds and/or blossoms. For example, 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 can be predominantly wet, dry, clay, silt or sandy.

If you would like assistance selecting the right tree, please contact the Morton Arboretum Plant Clinic at 630-719-2424 or email at **plantclinic@mortonarb.org**

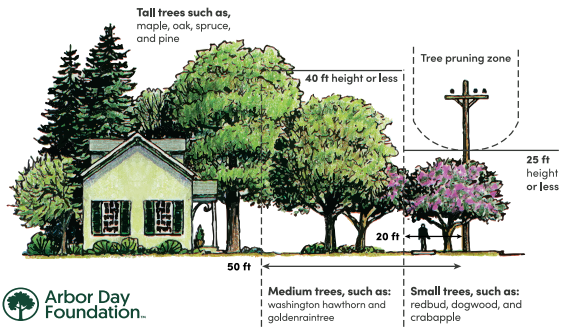
Shrub or Short Tree is a Wise Choice

When it comes to landscaping near power lines, first think of non-woody, non-vining plants, such as flowering plants, then shrubs or low-growing trees. Vines shouldn't be planted on or near ComEd owned equipment. Selecting the right shrub or tree will reduce the need for utility tree pruning in the future and help avoid power outages. Consideration should be given to the size and shape of the tree at maturity, as well as the location of nearby power lines. Tree foliage may be pruned or the tree removed if it overhangs or comes within, though not limited to, approximately 15 feet of a power line. Trees are assessed individually by species, structure, health, and distance from energized equipment. Tree branches within 10 feet of a power line will legally require coordination with your local utility and a Line Clearance Qualified Arborist to prune.

To minimize utility pruning and risk of an outage, consider planting any tree at least as far as it is expected to grow tall. For example, a tree expected to reach 25 feet tall should be planted at a minimum of 25 feet away from any power lines or equipment and a 50-foot-tall tree should be planted at least 50 feet away. This is also an excellent rule of thumb for any structure such as a house, shed, or a gazebo.

Plant the right tree in the right place.

Plant taller trees away from overhead utility lines.



If you are selecting shrubs or trees that grow taller than 20 feet, consideration should be given to the size and shape of the tree at maturity and the location to nearby power lines.

Shrubs Make Beautiful Sense

Did you know...

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

Shrubbery can screen your view of a neighbor's backyard or distract the eye from nearby utility equipment. 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.

The shrubs in the species guide on pages eight and nine grow more than eight feet tall, but no more than 20 feet tall to provide a visual screen and have beautiful ornamental traits. Planting a shrub that grows no more than 20 feet tall reduces risk of interference with power lines and the need for utility pruning. Here is a sampling of several interesting choices:

American Hazelnut
(Corylus americana)

Growth Rate: Medium-Fast
Native to: North America

American hazelnut is a four to 15 foot thicket-forming native shrub, excellent for naturalizing, woodland gardens and shade areas. Showy male flowers (catkins) add early spring interest and dark green leaves turn a beautiful kaleidoscope of colors in the fall. The nuts mature from September to October, attracting seed-eating birds, such as blue jays and woodpeckers.
Wildlife: Birds

American Bladdernut
(Staphylea trifolia)

Growth Rate: Medium-Fast
Native to: Midwestern United States

American bladdernut is a large (eight to 15 feet), native, understory shrub, often forming thickets in undisturbed landscapes. Beautiful clusters of drooping, tubular white flowers appear in early spring, followed by unusual bladder-like seed pods, which are persistent long into the winter months. A great plant for naturalizing or shady woodlands.
Wildlife: Bees, Deer resistant

Buttonbush
(Cephalanthus occidentalis)

Growth Rate: Medium
Native to: North America

Buttonbush is large at 20 feet, yet a great shrub for naturalizing in wet areas and attracts butterflies. It has glossy green leaves and fragrant, round flower clusters during mid-summer. Native to the Chicago area and the eastern United States, buttonbush attracts more than 24 species of birds, as well as numerous species of butterflies.
Wildlife: Butterflies and birds

Red-osier dogwood
(Cornus sericea)

Growth Rate: Fast
Native to: North America

Red-osier dogwood is a large, seven to nine foot, erect shrub. The shrubs can be used in front of evergreens that will show off the dark red winter stems. Besides attractive, red stems in the winter, red-osier dogwood has yellowish-white flowers that appear in late May to early June, and bluish-white fruit borne in late summer. Fall color is reddish-purple. This species was formerly known as Cornus stolonifera.
Wildlife: Bees, butterflies, and birds

Spicebush
(Lindera benzoin)

Growth Rate: Slow - Medium
Native to: North America

Spicebush, named for its spicy, fragrant leaves and stems, is native to moist woodlands in the Midwest and occasionally found in the Chicago area. At five to 15 feet tall, it is most often used in shrub borders and naturalizing landscaping. Bright red fruits ripen from July through October on female plants, but are only showy once the foliage falls off. High in fat content in the berries are quickly eaten by various species of birds.
Wildlife: Butterflies and birds

A Selection of Beautiful Small Trees

There are several low-growing trees with different features and characteristics. Many of these trees have beautiful flowers, colorful fruit, or interesting fall colors. Consider the space available for the tree and other site conditions, as well as the mature height and width of your tree selection. Pages six to seven contain a variety of interesting low-growing choices; however, this is only a general reference overview. Feel free to visit **mortonarb.org** for more information.

Sweetbay Magnolia
(Magnolia virginiana)

Growth Rate: Slow
Native to: Eastern US

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.
Wildlife: Birds

Common Witch-hazel
(Hamamelis virginiana)

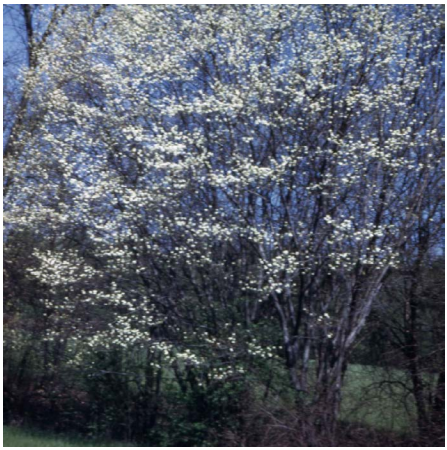
Growth Rate: Medium
Native to: Midwestern and eastern US

Large multi-stemmed shrub at up to 20 feet; 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.
Wildlfe: Birds and bees

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.
Wildlife: Bees and butterflies



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.
Wildlife: Birds and bees

Pagoda dogwood
(Cornus alternifolia)

Growth Rate: Slow-Medium
Native to: Chicago, IL; North America

Pagoda dogwood is an excellent 25-foot-tall native plant for the four-season garden. The unique horizontal branching pattern reaching 30 feet wide has a distinct tiered habit, often catching snow in the winter. Clusters of white flowers show up in spring, dark green foliage turns a beautiful burgundy-red in fall, and blue-black berries attract many birds. Pagoda dogwood makes an attractive small tree or large shrub in a shade garden or for naturalizing.
Wildlife: Birds, bees, and butterflies

Low Growing Northern Illinois Trees

Common Name	Mature Size/Shape			Tolerant to				Min. Light Required	Traits			
	Shape	Height (feet)	Spread (feet)	Drought	Poor drainage	Alkaline soil	Salt		Flowers	Fruit	Fall color	Special notes
Allegheny Serviceberry	U,O	15-25	15-25	Intolerant	Tolerant	Tolerant	None	Partial	Yes	Yes	Yes	8
Apple Serviceberry	B	20-25	20-25	Moderate	Intolerant	Moderate	Intolerant	Partial	Yes	Yes	Yes	
Eastern Redbud	I	20-25	20-25	Intolerant	None	Tolerant	Intolerant	Shade	Yes	None	Yes	1,6,8
Pagoda Dogwood	B,O,R,U	15-25	20-25	Intolerant	Moderate	Moderate	Intolerant	Shade	Yes	Yes	Yes	1,6,8
Thornless Cockspur Hawthorn Crataegus crus-galli var. inermis	B	25	25	None	None	None	Moderate	Sun	Yes	Yes	Yes	6
Winter King Green Hawthorn Crataegus viridis 'Winter King'	B	20-25	20-30	Tolerant	Moderate	Tolerant	Intolerant	Sun	Yes	Yes	None	6
Sweetbay Magnolia	V	20-25	20-25	Intolerant	Tolerant	Moderate	Intolerant	Partial	Yes	None	None	
Crabapple	R	15-20	15-20	Moderate	Intolerant	Moderate	Intolerant	Sun	Yes	Yes	None	5
Hoptree, Wafer-ash	V	15-20	10-15	Moderate	Moderate	Tolerant	Moderate	Sun	None	Yes	None	8
Common Witch-hazel	I	15-25	15-20	None	None	Tolerant	Tolerant	Shade	Yes	None	Yes	8
Pawpaw	S, P	15-20	15-20	None	Tolerant	None	None	Partial	None	Yes	Yes	1,7,8

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 or insect pests and animal browse
7. Can sucker from root system and colonize
8. Native to the State of Illinois

Form

B - Broad
C - Columnar
F - Flat topped
I - Irregular
N - Narrow
O - Oval
P - Pyramidal
R - Rounded
S - Spreading
U - Upright
V - Vase shaped

Tolerance

Tolerant
Moderate
Intolerant
None

Traits

Yes
No

Min. Light Required

Sun
Partial
Shade

Tall Growing Northern Illinois Shrubs

Common Name	Mature Size/Shape			Tolerant to				Min. Light Required	Traits			
	Shape	Height (feet)	Spread (feet)	Drought	Poor drainage	Alkaline soil	Salt		Flowers	Fruit	Fall color	Special notes
Bottlebrush buckeye	S	8- 12	8- 15			■		◐	■		■	7
Canada Serviceberry	U	10-20	10-20	■	■			◐	■	■	■	
Indigo Bush	R	6-14	5-10		■		■	●	■		■	8
American Hazelnut	O	8-10	4-6			■		◐		■	■	8
Sargent Crabapple	R	6-10	6-12			■		●	■	■	■	
Northern Bayberry	S	5-12	5-12		■			◐		■		4, 7
Smooth Sumac	S, F	10-15	10-15	■	■	■	■	○	■	■	■	4, 7, 8
Common Lilac	O, U	8-12	8- 10	■	■	■	■	○	■			1
Nannyberry	U	15-18	6-12					◐	■	■	■	7, 8
Buttonbush	U, B	5-20	10-15		■			◐	■	■	■	2, 8
Red-osier Dogwood	U, V	5-9	2-10					◐	■	■	■	7,8
Spicebush	R	6-12	6-12			■		◐	■	■	■	1, 4, 8

Evergreens

Eastern Arborvitae Thuja occidentalis 'Techny' or 'Smaragd'	P	6-15	3- 18	■	■	■	■	◐		■		6
Common Juniper	U	15-25	3-6					○		■		1, 4, 8

Special Notes

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4. Fruit/cones produced only on female plants
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Tolerance

Tolerant
Moderate
Intolerant
None

Traits

Yes
No

Min. Light Required

Sun
Partial
Shade

Trees to Avoid Planting

Invasive Species are non-native species that are considered economically or environmentally injurious to a locale, or cause damage to human health. Invasive species came from other parts of the world—often from another continent where they evolved in a complex ecosystem where natural enemies, such as insects and diseases, would keep populations balanced. Since they left those natural controls behind when they were brought here, these plants can spread more freely and rapidly than native plants. More than 42% of the Chicago region's trees considered invasive. According to the U.S Department of Agriculture's Invasive Species Information Center, Invasive species have cost North America over $26 billion per year since 2010.

For more information, contact The Morton Arboretum Plant Clinic (630-719-2424 or **plantclinic@mortonarb.org**).

Buckthorn

(Rhamnus sp.)

Growth Rate: Moderate - Fast
Native to: Europe and Asia

Buckthorn species are invasive plants in Illinois and should not be planted. It forms dense thickets and reproduce very freely, crowding out other plants and disrupting ecosystems in forest preserves and other natural areas. In woodlands, it can completely replace existing understory plants, including native wildflowers. Buckthorn has berries that are spread by birds. The seeds germinate at a very high rate and remain viable in soil for two to three years. Buckthorn is very common in gardens and yards in the Midwest but should be removed where it is found. Buckthorn is a large shrub or tall tree with glossy oval leaves that can easily be recognized in fall, when it remains green after most other leaves have fallen. **The Illinois Exotic Weed Act prohibits the sale of buckthorn in Illinois**.

Trees to Avoid Planting

More than 42% of the Chicago region's trees are considered invasive

Callery pear
(Pyrus calleryana)

Growth Rate: Moderate
Native to: Korea and China

Callery pear has invasive traits that enable it to spread aggressively. This tree is under observation and may be listed on official invasive species lists in the near future. Review of risks should be undertaken before selecting this tree for planting sites. The various cultivars of this species are more commonly available than the species itself. Callery pear has a weak wood and branch structure and is susceptible to ice storm damage. Its flowers have a fish-like odor that may be unpleasant.

Tree of Heaven
(Ailanthus altissima)

Growth Rate: Moderate
Native to: China

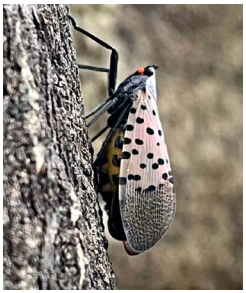
Tree of heaven has invasive traits that enable it to spread aggressively. This tree is under observation and may be listed on official invasive species lists in the near future. Review of risks should be undertaken before selecting this tree for planting sites. Tree of heaven is an aggressive grower and produces a lot of suckers. It is not recommended for landscapes. This tree is the host to another invasive species, the spotted lanternfly (Lycorma delicatula).

Insects to be Aware of

Spotted Lanternfly

(Lycorma delicatula)
Host: Tree of Heaven (Ailanthus altissima)

The Spotted lanternfly is a planthopper. Their feeding can weaken host plants. In addition, spotted lanternfly produces the sticky, sugary excretion known as honeydew. It is capable of making honeydew in larger quantities than other sap-feeding insects such as scale and aphids. If honeydew coats plant leaves, sooty mold may grow on it and block sunlight to limit photosynthesis, further weakening the plant. Other insects, like ants and wasps, may also come to feed on the sticky honeydew. Because spotted lanternfly produces extremely large amounts of honeydew, it is unpleasant to be under an infested tree.



While it commonly feeds and lays eggs on the invasive tree of heaven (Ailanthus altissima), it has been found on a range of host plants including many of high economic importance including grapes, hops, stone fruits, and apples, as well as oak, walnut, tulip, willow, and maple trees. The insect will be on different hosts at different times in its life cycle.

Be on the lookout for suspicious egg masses on smooth outdoor surfaces. They tend to include 30 to 50 small eggs in a gray, waxy, mud-like coating. Hatched eggs appear as brownish seedlike deposits arranged in four to seven columns about 1 inch long.

Watch plants carefully during the growing season for signs of stress or wilt and for excessive honeydew or residue buildup on the bark. To report a sighting of this pest, contact your state Department of Agriculture. In Illinois, send an email with photos, to lanternfly@illinois.edu.

Emerald Ash Borer

(Agrilus planipennis)
Host: Ash (Fraxinus sp.)

The emerald ash borer (EAB) is a serious pest of ash trees. EAB has been found in a large portion of the United States and Canada. It was found in Illinois in 2006 and has killed millions of ash trees since that time. The emerald ash borer does not attack mountain-ash, prickly-ash, or wafer-ash since they are not true ash or Fraxinus species.

While adult emerald ash borer (EAB) may feed on ash leaves, it is the larvae that do the real damage. The larvae tunnel under the bark in the water-conducting tissue, cutting off the water supply. This leads to dieback of limbs, first in the top of the tree. As the damage under the bark continues, dieback of limbs increases and the whole crown may decline. Cracks can form in the bark and expose the serpentine galleries made by the larvae. In later stages of decline, suckers, known as epicormic shoots, may form low on the trunk. Woodpecker damage can be another sign of EAB infestation, as woodpeckers will try to get at the larvae to eat them. While many wood-boring insects are drawn to stressed or dying trees, EAB will attack healthy trees.
This invasive pest is so aggressive that trees may die within two to four years after they become infested.

Tree Selection & Planting

Tree Selection

After you know what species you are planting where, select the individual plants looking for:

- Healthy looking foliage, trunk and branches without any damage or disease.
- No gap in the soil around the base of the trunk.
- Confirm the cultivar will be the size and shape you planned for.

Planting Correctly

Call J.U.L.I.E or 811 before you dig. The hole you dig for your tree should be as deep as the root ball 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.

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 it cleanly with a sharp tool.

After placing the tree in the hole, fill the hole with soil removed from the hole and gently tamp it around the root ball. If your soil is clay, consider mixing with 10-15% organic matter.

Water the soil so it settles firmly around the ball and moistens the root ball. In March – November, continue to water with a slow and steady soak once a week for 10–20 minutes. This is recommended for the first year, and best to continue for the first three years of a newly planted tree to help the roots develop.

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.

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. Any stakes and ties must be removed within the first year to promote proper trunk growth. There is no need to fertilize newly planted trees.

Tree Selection & Planting

Watering your tree

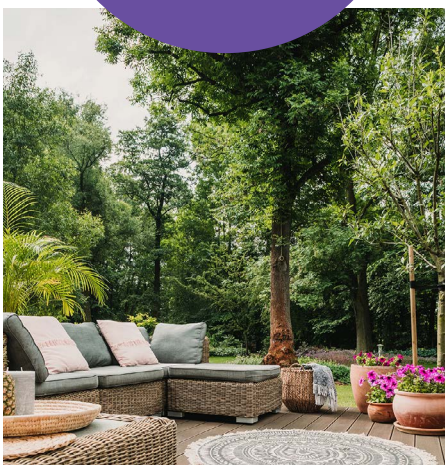
Water new trees once a week for the first three years, especially if rainfall has been inadequate. The amount of water will vary based on tree size. Trees with a 2" to 3" trunk diameter need 10 to 15 gallons twice per week. In March – November, water regularly for 10-20 minutes every week without rain for at least the first two years. It is wise to continue this routine beyond the first three years, especially in warm weather!

Pruning

When, how, and frequency of pruning depends on the species, age, location and goals and personal preferences. There are many different styles of pruning to consider. Your goals should be discussed with an International Society of Arboriculture (ISA) Certified Arborist to determine the best maintenance schedule for your trees. Proper cuts and time of year are also important to consider for the health of your tree. You might even start your relationship with an ISA Certified Arborist at the time of planting to ensure the health and longevity of your tree. Typically, most trees should receive some type of maintenance pruning every two to five years to maintain health, structure, and safety. A tree within 10 feet of a power line legally requires coordination with the utility to prune. To find an ISA Certified Arborist visit **TreesAreGood.com/FindAnArborist**

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.



For guidance on selection, planting, and care, please visit the following informational websites:

- **https://mortonarb.org/plant-and-protect/tree-plant-care/**
- **https://www.arborday.org/trees/tips/**
- **TreesAreGood.com/FindAnArborist**

If ComEd Needs to Prune 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 pruning is often perceived differently from other types of tree pruning because the objectives are different. However, the tools and methods used are similar to those used by commercial tree care companies. Likewise, ComEd has ISA Certified Arborists on staff to ensure that the pruning adheres to the same professional standards as other arborists. ComEd employs "directional pruning" techniques to discourage the growth of sprouts that could grow into ComEd's equipment, while also minimizing any stress on the tree. Directional pruning allows ComEd to take the characteristics of each tree into consideration when determining the extent of pruning needed. Pruning clearances are based on the growth rate, the 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 maintenance cycle length. The appearance of trees may be significantly changed when pruned for proper power line clearance.

Note that in some cases complete tree removal may be necessary. Tall-growing trees directly under or in close proximity to power lines will require more frequent pruning to avoid power interruptions. It is 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 may cause a reliability and safety issue. ComEd follows industry best practices when determining if tree removal is necessary.

This document was compiled using information from The Morton Arboretum website as its primary source.

ComEd is committed to improving electric service reliability for its customers. Since ComEd started smart grid improvements in 2012, it has improved overall reliability by more than 57 percent, helping customers avoid nearly 24.7 million customer interruptions and save more than $4.3 billion in outage-related costs. ComEd earned the 2024 ReliabilityOne® award for Outstanding Reliability Performance in the Midwest Metropolitan Service Area, and a Climate Action Leader award from PA Consulting, a global innovation and transformation consultancy.

The Morton Arboretum® | THE CHAMPION *of* TREES

The Morton Arboretum is a world-renowned leader in tree research and education, working with communities to save and plant trees. It is a nonprofit 1,700 acre tree museum and botanical garden with a vision of a greener, healthier, and more beautiful world where people and trees thrive together.

To obtain additional brochures, contact:
The Morton Arboretum
4100 Illinois Route 53
Lisle, Illinois 60532
mortonarb.org

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