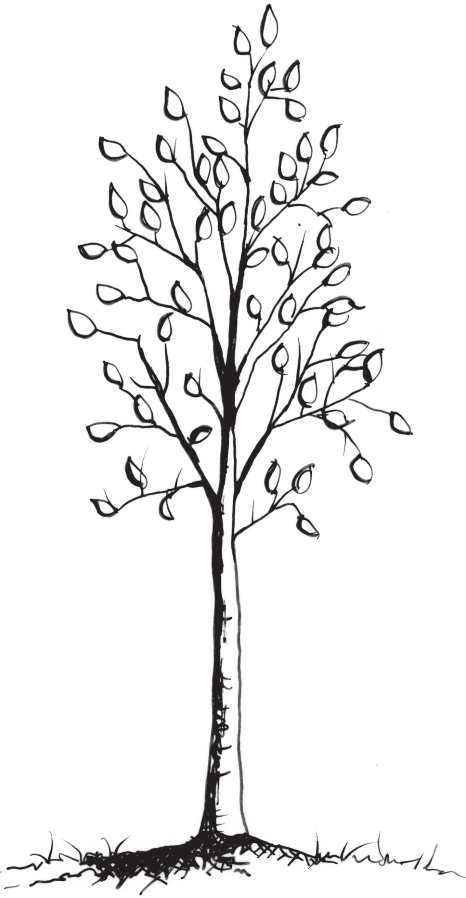




# Connecticut Tree Owner's Manual



## A Guide for Selecting, Planting and Caring for Young Trees

[https://portal.ct.gov/-/media/DEEP/forestry/  
CTTreeOwnersManualpdf.pdf](https://portal.ct.gov/-/media/DEEP/forestry/CTTreeOwnersManualpdf.pdf)

Adapted, with permission, from the

*Tree Owner's Manual*, published  
by the

United States  
Department of Agriculture

Forest Service

Northeastern Area  
State and Private Forestry

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## Note on the Connecticut Version

The Connecticut Tree Owner's Manual is an adaptation of the original Tree Owner's Manual\*, produced by the US Forest Service. The layout and most of the artwork and text come largely from the original publication.

This version was assembled by individuals representing several of the associations connected with the state's urban forests. It seeks to provide the information needed to pick and plant a tree that will grow and thrive.

The Connecticut group's contribution was largely the addition of certain details to better reflect Connecticut practices and conditions. Treat the information presented as guidelines - there are exceptions to the rules.

### The following individuals were involved with the creation of this updated version:

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\*the original version is available at [www.treeownersmanual.info](http://www.treeownersmanual.info)

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The use of trade or firm names in this publication is for reader information and does not imply endorsement of the U.S. Department of Agriculture of any product or service.

## IMPORTANT PRECAUTIONS

**WARNING:** To reduce the risk of personal injury or permanent damage to your tree, read and follow these important precautions:

- Do not dig until you are sure there are no buried utilities. Call 811 at least two full business days before digging (p. 12) and visit Call Before You Dig ([www.cbyd.com](http://www.cbyd.com)) for a reference guide with additional information.
- The lack of water is one of the most common causes of mortality in newly planted trees. Water regularly in the first three years after planting (p. 20).
- Never prune trees or branches that are within 10 feet of utility lines. Instead, contact your local utility company. All power lines shall be treated as if they are energized with potentially lethal voltages.
- Keep lawn mowers and string trimmers away from the base of your tree.
- Do not tie string, ribbon, wire, or pet leashes around the trunk or branches.
- Do not allow construction activities (digging, repaving, grading, building) within the Protected Root Zone (p. 30).
- Do not top your tree (p. 29).
- When hiring an arborist (<https://arborists.ctpa.org>), select someone who has a Connecticut Arborist license and general liability insurance of at least \$1 million per occurrence and \$2 million aggregate (p. 34).
- Check with your city or town tree warden ([www.ct.gov/deep/treewardens](http://www.ct.gov/deep/treewardens)) to see if there are laws regarding planting and pruning along town roads and with the Connecticut Dept. of Transportation for along state highways ([www.ct.gov/dot](http://www.ct.gov/dot)).
- If you cannot prune your tree with both feet on the ground, hire an arborist (p. 34).
- Do not let children climb trees that have branches within 25 feet of a power line.
- Do not nail or screw anything into your tree.

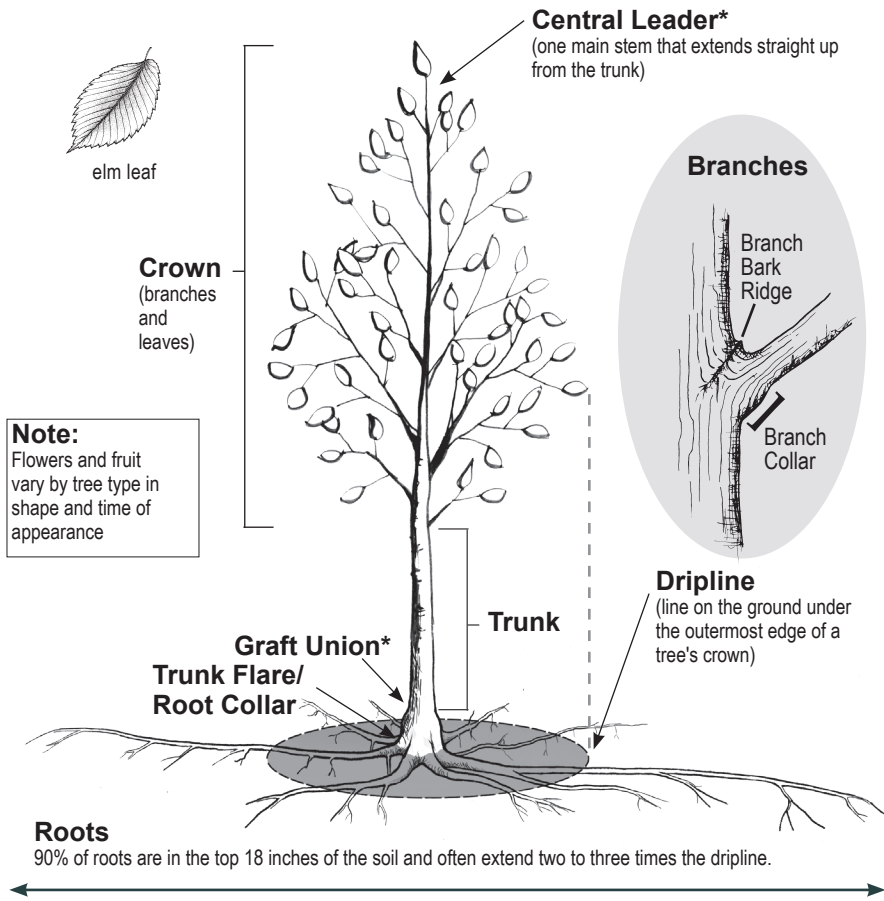
### These symbols are used throughout this manual:

-  = Potential for personal injury or legal issues
-  = Potential for permanent damage to tree

>>>>>> Save this manual for future reference. <<<<<<<

## MODEL INFORMATION AND PARTS DIAGRAM

### Tree Model



Deciduous trees (above) lose their leaves each year, usually in the autumn, while evergreen trees (below) generally keep their leaves for two or three years.



\*Not present on all trees

## PACKAGING

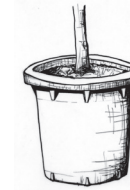
### Roots

Your tree has been packaged in one of the following ways:

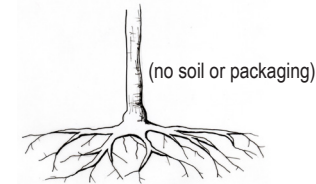
#### Balled and Burlapped



#### Containerized



#### Bare root



(no soil or packaging)

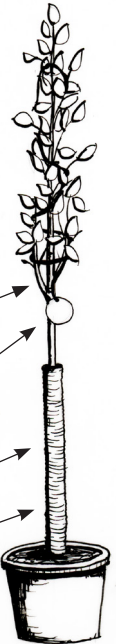
### Trunk and Branches

Twine around branches

Tag(s)

Nursery stake

Trunk wrap (Optional)



See Installation (Planting) Instructions for information regarding removal of packaging.

#### Balled and Burlapped:

- The most common way of planting trees, especially larger ones, is as Balled and Burlapped (B&B).
- This method allows the trees to be stored for a longer period of time before planting.
- The ball includes a relatively large volume of soil. As a result, B&B trees are heavier than other types of trees.

#### Containerized:

- Containerized trees are usually of smaller caliper size.
- 100% of the root system is moved with the tree.
- Lighter than B&B trees, so easier to handle and ship. Large sizes are often unavailable.
- More frequent watering needed than with B&B trees, both before and after planting.

#### Bare root:

- Very light and easy to handle
- Often less expensive than B&B or containerized trees but harder to find
- Larger size trees and many species of trees do not transplant as well when they are bare root.
- Because the root system is exposed, careful attention to handling is required - roots will dry and die if not protected and kept moist.

# SELECTING A TREE

## Decide on the type of tree

When planting a tree, be sure to select a tree that is suited to the site conditions. As you choose the “Right Tree for the Right Place”, consider the following:

### Mature Size of the Tree

Select a tree that will be able to reach its full mature crown height and width without interfering with buildings, overhead power lines, pavement or intersection sight lines (see illustration, p. 11).

### Cold Hardiness

Can your tree make it through the winter? Find your plant hardiness zone (see map, p. 5). Select a tree that can tolerate the cold where it is to be planted.

### Soil Drainage

Trees have preferences regarding water availability. Too wet or too dry and your tree may not survive. Check how quickly water soaks into the ground. Dig a hole 18 inches deep and fill it with water. Let it drain completely. Refill it again and time how long it takes for the water to drain.

- Less than 2 hours = Very Fast
- 18 hours or more = Very Slow

### Soil Test

Collect a soil sample from the area where the tree is to be planted and get a soil test to determine what species will grow under existing conditions and if soil modifications or amendments will allow for a broader range of options (p. 23).

### Sun Exposure

Is the area mostly sunny, mostly shady, or some mix of sun and shade? Trees have preferences on how much sun they like as well.



**TIP:** Visit <https://plantdatabase.uconn.edu/> To help with plant selection and plant identification of woody ornamentals.

Fill out the following worksheet to help choose a tree for your site.

Cold Hardiness Zone (write in)

---

Soil Drainage (circle one):



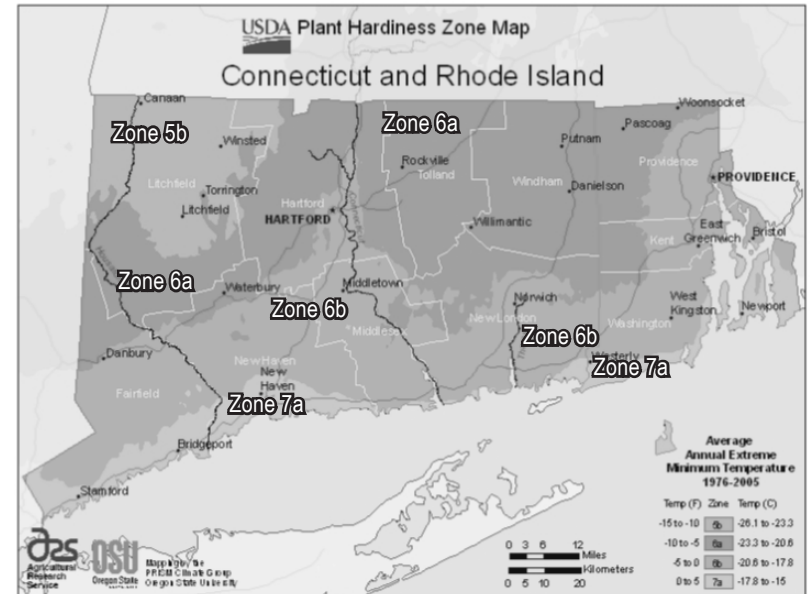
Sun Exposure (circle one):



Desired tree features (check all):

- Spring flowers
- Summer flowers
- Autumn leaf color
- Attract birds
- No messy fruit
- Provide shade
- Short
- Medium
- Tall

# USDA Plant Hardiness Zones



The USDA Plant Hardiness Zone system was originally developed to aid gardeners and landscape professionals. It remains a valuable guide for helping architects, designers, landscape professionals and home owners choose the trees and other plants that are appropriate for the planting location.

The Plant Hardiness Zone Map is based on the average annual extreme minimum temperature as measured in a specific area. Conceptually, this means that extreme cold more than extreme heat governs the survivability of an individual plant.

In Connecticut, there are four Hardiness Zones:

- Zone 5b, in the northwest corner of the state, from -15° to -10°F
- Zone 6a, along the northern half of the state, from -10° to -5°F
- Zone 6b, along the southern half of the state, from -5° to 0°F
- Zone 7a, along the Connecticut shoreline, from 0° to 5°F

To find your Hardiness Zone by zip code, visit the interactive map at:

[https://pdi.scinet.usda.gov/phzm/mm/ct\\_ri.jpg](https://pdi.scinet.usda.gov/phzm/mm/ct_ri.jpg)

Keep in mind, extreme cold is only one of the factors that should be considered when deciding whether a particular tree is appropriate for a site. Available water, drainage, soil type, available sunlight and competition from adjacent plants are all factors that should be considered.

## Six Requirements to Grow a Successful Tree\*

According to Jim Urban, there are six critical requirements to grow a successful tree:

### 1. Sufficient Soil Volume

The volume of soil available for rooting must be large enough to support the expected mature tree size.

### 2. Room for growth at the base of the tree

Leave ample area for the tree's trunk flare to grow. The first set of large roots extends out underground and rapidly tapers away from the trunk over the next 6 to 8 feet.

### 3. Water in

Trees, no matter their age, need a sufficient amount of water to survive and thrive. This water needs to be able to soak into the soil to reach the roots.

### 4. Water out

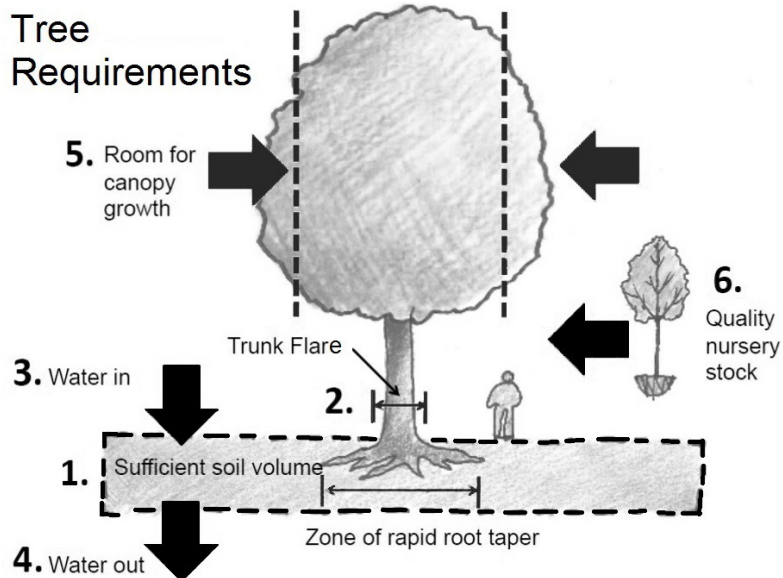
Water needs to be able to drain out through the soil as well. Take care that tree roots receive enough oxygen, so the tree doesn't drown. There is a balance of how much water should be coming in and going through the soil around the tree.

### 5. Room for canopy growth

Your tree will grow! Select a tree that will be able to reach its full mature crown height and width without interfering with buildings, overhead power lines, pavement or intersection sight lines.

### 6. Quality nursery root stock

Tree planting must start with a quality, healthy specimen of the tree desired. Give your tree the best chance of survival.



\*Adapted, with permission, from: Jim Urban (Fellow at the American Society of Landscape Architects and author of *Up by Roots: Healthy Soils and Trees in the Built Environment*); [www.jamesurban.net/](http://www.jamesurban.net/)

## Select a high-quality tree at the nursery

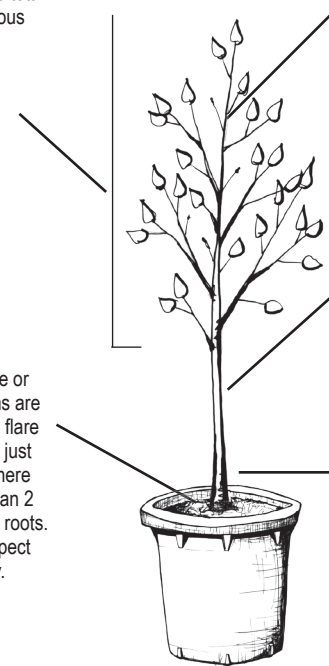
Crown height should be at least 60 percent of the total tree height for deciduous trees, 75 percent for evergreens.

Species will dictate whether to prune for a central leader or not. One central leader is strongly recommended for tall-growing shade trees. If not present, make sure that your tree can easily be pruned to one leader. With ornamental trees the preference may be different.

The bark should be free of scrapes or cracks (remove trunk wrap to check underneath).

Check for the root flare or trunk flare (these terms are interchangeable). The flare should be visible at or just above the soil. Also, there should not be more than 2 inches of soil over the roots. Feel free to ask to inspect the roots more closely.

The trunk should be centered in the soil and should not move independently of the root ball.



Tree planting must start with a good, healthy specimen of the tree desired!

Reject trees with:

- 1) dead bark, cankers or signs of disease or insects on the trunk or branches
- 2) poor branch structure, including tight, vertical branches where the bark is squeezed between two branches or between the trunk and a branch
- 3) an obviously excessive number of dead or broken branches
- 4) no sign of a root or trunk flare
- 5) any indications that it is dried out or has been improperly stored

Check with the nursery where you are purchasing your tree for recommendations regarding the particular species you are interested in. Research its mature size, growth habit, site requirements, special needs, susceptibility to pests, tolerance for drought, flooding, and wind damage.

## CHOOSING TREES IN A CHANGING CLIMATE

The world today is highly interconnected. The increasing transport of goods and materials across oceans and continents is beneficial, although unintended consequences may arrive along with these items.

### Invasive Plants

Invasive plants have been moved outside of their natural range and are particularly good at moving into and adapting to a new environment. They tend to have few natural enemies in their new environment because they did not co-evolve with that area's insects, diseases or herbivores that normally would keep a plant in check. Invasive plants often can outcompete native species for space and resources. The real concern of invasive plants is their ability to overwhelm and displace native species in a way that unbalances natural ecosystems.

The Connecticut Invasive Plant Working Group ([www.cipwg.uconn.edu](http://www.cipwg.uconn.edu)) keeps a list of non-native, invasive plants. Any reputable nursery will inform you if a particular tree or shrub is suspected of being invasive. As escaping from lawns and gardens is one of the key ways by which new invasive plants spread in Connecticut, property owners are asked not to plant invasives.

### Invasive Insects and Diseases

Similar to invasive plants, non-native insects and diseases that arrive here can also spread rapidly and, in many cases, largely unopposed.

In the case of invasive insects and diseases, the problem is twofold:

- (1) the invasive organisms do not have naturally occurring competitors and predators to slow them down, and
- (2) native plants usually have not evolved adequate defense mechanisms to ward off attack by these insects or diseases.

Native plants often need assistance in defending themselves against these invaders. In many cases, this means the use of arboricultural treatments, including the use of insecticides or fungicides, to help protect these trees.

Alternatively, you may seek out a resistant variety of that tree and shrub. Tree nurseries have developed a wide variety of such resistant trees against many of the more common insects and diseases. While these resistant varieties may not be adapted to deal with new invasive pests, asking about insect and disease susceptibility and resistance is always a good idea when choosing a tree or shrub.

## Climate Change

How will climate change affect the tree that you are about to plant? This is not an easy question to answer. Most people think of climate change in terms of a general trend towards global warming. At the local level, this will mean a longer growing season, higher average temperatures and more hot days. However, while warmth is an important factor in whether a tree survives, it is often colder temperatures that limit the geographic range of a tree as demonstrated by the Plant Hardiness Zone Map (p. 5).

In the future, we may have the same low temperatures as we have now, but just not as often. There may be as much precipitation as there is now, but coming in the form of more severe storms, with longer, drier periods in between. We may also have more sudden changes in weather, from day to day and week to week. These are all potential factors that could impact trees that are being planted now.

To be prepared for climate change, the recommendation is to choose a tree that likes weather that is as warm as or slightly warmer than we have now, but that can also handle the occasional cold snap. These trees should be carefully attended to during the establishment phase, to make sure that they are adequately watered. In addition, pay attention to any health or pest problems these trees might have. It is possible for new insects or diseases to move into an area as these organisms also adapt to the new weather patterns.

### Benefits of Trees in the Face of Climate Change

Planting a tree is perhaps one of the best things an individual can do to combat climate change at the personal level. As trees grow, they remove carbon dioxide out of the atmosphere and convert it into the wood that makes up their roots, trunks and branches. The shade of the tree provides local cooling and can reduce energy consumption by reducing the need for air conditioning. Trees can also act as a windbreaker and reduce heating costs.

Planting a native tree is also an excellent way to boost local ecological diversity. Research has shown that native trees increase the number and diversity of insects locally, which in turn increases the number and diversity of birds, and so on. Visit <http://bringingnaturehome.net/> to learn more.

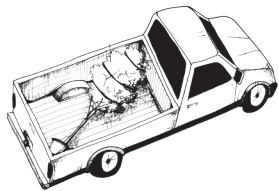
## TRANSPORTING YOUR TREE

Moving your tree is easiest if the branches are tied. Do not lift by the trunk if the roots are packaged with soil in a container or burlap. Instead, lift the tree by its root ball (see the sidebar on How to Move Your Tree, p. 13).

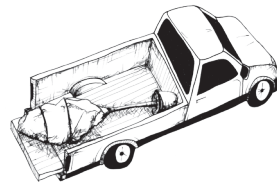
If your tree has leaves and will be sticking out the back of a vehicle, the crown should be wrapped or covered with a sheet, tarp, or burlap to prevent desiccation and wind burn. Also be careful that the wind does not whip the branches around.

**⚠️! Wrap or cover branches with a sheet or tarp! Do not keep a tarp on too long when there is extreme heat.**

Tree fits in bed



Tree hangs out back of vehicle



## STORING YOUR TREE UNTIL PLANTING

Keep the soil around the roots moist to the touch. Store in a shady spot. Avoid hot asphalt!

For bare root trees, pack wet newspapers, sawdust, or mulch around the roots, and wrap them in a big plastic bag. Plant the tree as soon as possible (within two days). The biggest risk to bare root trees is the roots drying out.

For Balled and Burlapped or containerized trees, if you cannot plant the tree within 24 hours, water the roots well and either cover the entire root ball with mulch or wrap the root ball in plastic or a tarp. Keep the soil moist to the touch. If the burlap is not treated to resist rotting - be careful! It will decay quickly under most circumstances. That will make it very difficult to move the tree with the ball intact.

**Before you leave the Nursery or Garden Center, write down:**

- Where tree was purchased
- Date of purchase
- Warranty period (years)
- Type of tree (species)
- Mature height and width

## PRE-INSTALLATION (PREPARING TO PLANT)

### Instructions

#### Step 1: Check above ground.

**⚠️! Your tree will grow.**

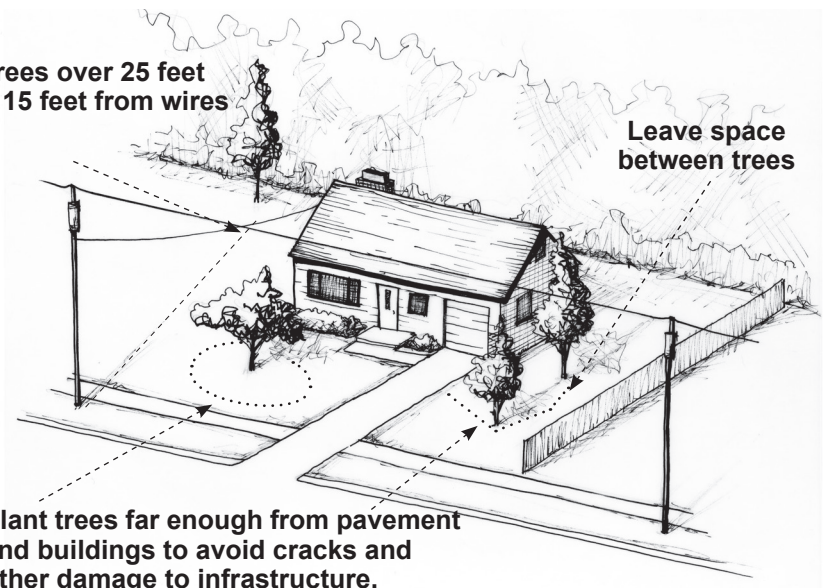
Consider the mature tree size and root spread when planting as to not interfere with overhead utility lines, buildings, pavement, or intersection sightlines.

1. You can plant your tree:
  - near roadside power lines if it will grow less than 25 feet high
  - at least 15 feet from power lines if it will grow 25-45 feet high
  - at least 30 feet from power lines if it will grow more than 45 feet high
2. Place trees away from roadside salt spray zones. Road salts desiccate foliage and prevent proper water uptake. Consider planting salt tolerant species where salt will be an issue.
3. Trees planted too close to intersections may block road signs resulting in vehicular safety hazards.

A newly planted tree might look all alone. Don't worry, it will grow!

**💡 TIP: Visit [eversource.com](https://www.eversource.com) 'Plan Before you Plant' for recommendations on planting trees near power lines.**

**Trees over 25 feet  
> 15 feet from wires**



**Plant trees far enough from pavement and buildings to avoid cracks and other damage to infrastructure.**

## Step 2: Check below ground.

Do not plant large trees in narrow roadside strips as the tree may not have adequate rooting volume to support itself.

### **Call Before You Dig - It's the law in Connecticut.**

If you don't call and then hit an underground power line, you may be held liable for damages.

### **Shocks can be deadly.**

At least 48 hours in advance of planting, call the underground utility locating service in your area to be sure that there are no buried utilities where you want to plant. Most services will mark utilities (e.g., electric, cable, gas) for free.

### **Call before you dig! Dial 811**



[www.cbyd.com](http://www.cbyd.com)

## Step 3: Check for other laws.

If you are planting a tree along a town or city street, you may need the permission of the municipal Tree Warden. If the tree is to go along a state road, you must check with the Connecticut Department of Transportation.

### **Will Your Tree Become a "Public Tree" Under the Control of Your City or Town?**

Public trees are those located on municipal property or within the road right-of-way (ROW)—regardless of who planted the tree.

The ROW is an extension of your city's or town's control beyond the street edge, often times reaching 10 feet or more beyond the pavement.

You may need to contact your City Engineer or City Hall to find out where the ROW is adjacent to your property.

Trees located within the ROW are under the jurisdiction of the municipality.

In these cases, state or local laws have authority over the type and location of trees that can be planted in the ROW.

Check with your city or town tree warden ([www.cttreewardens.org](http://www.cttreewardens.org)) regarding ordinances or policies pertaining to public trees.

## INSTALLATION (PLANTING)\*

### **How to Move Your Tree**

Carry your tree by its root package (ball or container)—not the trunk! Steady it by holding the lowest part of the trunk.

Large containerized trees may be tipped onto the bottom edge and rolled.




For Balled and Burlapped trees, you may find it easiest to place tarps or ropes under the ball as a sling.



A dolly, ballcart or other cart may also be used.




 **Protect the trunk.**  
Even a small wound on a young tree can cause permanent damage.

## Materials

- Tape measure or yard stick
- Metal skewer, coat hanger, stout wire, or pointed screwdriver
- Shovel, spade, iron rake, wire rake, crow bar; backhoe for larger trees
- Sharp knife or scissors
- Hand pruner—*bypass* type (p. 26), pruning saw, loppers
- Water supply
- Mulch to provide a 2-4 inch layer over the planting area
- Large-gauge wire cutter if Balled and Burlapped
- Hand saw if containerized and the main root system is more than 1 inch below the soil surface (Step 3). An inexpensive folding pruning saw works well, but any saw would work.

## Instructions

 **If you have NOT yet read the section on Pre-Installation (Preparing to Plant), do so now.**

 **Do not dig until Step 5.**

\*Adapted in part, from: Hargrave, R.; Johnson, G.; Zins, M. 2002. Planting trees and shrubs for long-term health. St. Paul, MN: University of Minnesota Extension Service. 12 p.



### Step 1. Move the tree to its planting site.

**⚠️ Young trees are not 2 by 4's.**

Do not lift or carry your tree by its trunk (unless bare root). See the sidebar on How to Move Your Tree (p. 13).

### Step 2. Remove trunk and branch packaging after tree is at its planting site.

Once the tree is at the planting site, remove the trunk wrap, any twine around the branches and any labels or tags. Leave any root packaging in place for now.

### Step 3. Find the trunk flare.

The trunk flare is where the trunk expands at the base of the tree and typically starts to curve (see illustration, p. 2).

**Bare root trees:** There is no soil or root packaging to remove. The biggest risk to bare root trees is the roots drying out, so keep roots moist.

In the case of B&B and containerized trees, the trunk flare may be buried under excess soil. Find where the trunk flare is relative to the base of the root ball.

**💡 TIP: Probe the soil ball with a stiff wire, skewer, or screwdriver to find the trunk flare and estimate how much soil will need to be removed, if any.**

**Balled and Burlapped trees:** Try not to overly loosen the top of the burlap at this point. You can gently probe the root ball, pushing through the burlap and into the soil until you encounter a woody root. Do this carefully so as to not injure the root. Do this at a couple of places around the ball, 3 or 4 inches out from the trunk, until you know where the top depth of the roots are in the ball.

Alternatively, open the top of the root ball packaging just enough to see the top of the root ball. A small slit in the burlap might be the best way to do this. Is the trunk flare at the top of the root ball? If not, dig by hand or use a piece of stiff wire to find how deep the top roots are into the root ball. Make note of that depth.

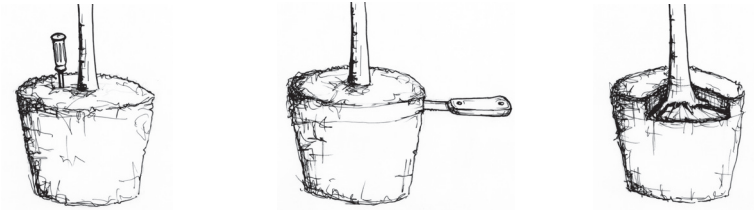
**⚠️ A root ball should remain a root ball.**

If it starts to fall apart as you open the burlap, stop!

Either way, use that number to determine the height of the root ball. If the first roots are more than 4 inches below the top of the root ball, consider returning the tree to the place of purchase. Leave the rest of the burlap and wire basket in place until the tree is put in the planting hole.

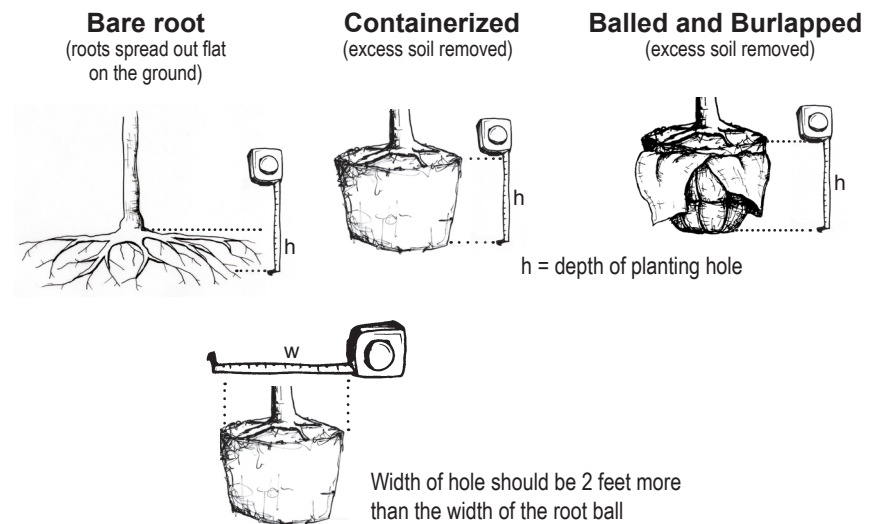
**Containerized trees:** Remove the entire container. If needed, pull or cut the soil off the top of the root ball until the trunk flare is found. If roots are massed along the sides and/or bottom of the container, cut off the bottom inch or two of massed roots and slice through the sides of the root ball in three to five places (depending on container size). If possible, pull roots that are growing downward out so they are more lateral, radiating away from the trunk.

**💡 TIP: An old saw works well to remove the top layer of soil. Be careful not to cut into the trunk.**



### Step 4. Determine how deep and wide to dig.

- A. Measure the height of the root ball. Adjust downward if you had to dig into the root ball to find the flare or top roots. This depth of the planting hole should be no greater than the height of the root system.
- B. Measure the approximate width of the root ball or root system. Add two feet to this, or more depending on if your soil is hard (clay or compacted). This is approximately how wide you should dig the hole to give yourself enough room to work.



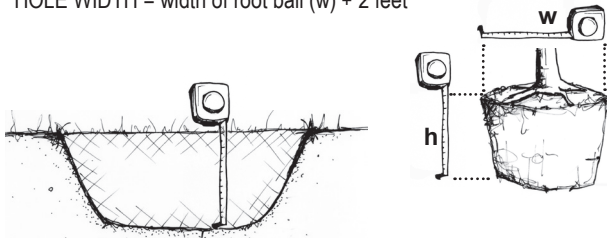
## Step 5. Dig a hole to the dimensions from Step 4.

### ⚠️ Do not put a \$100 tree in a \$10 hole.

The dimensions of the hole are very important in determining the survival of your tree. Break up compacted soil and then dig the hole **ONLY** as deep as the root system (NO deeper!). Loosening the soil beneath the tree will cause the tree to settle and become planted too deeply. Score the walls of machine-dug holes to prevent glazing.

Check for drainage (See Soil Drainage, p. 4).

HOLE DEPTH = height of root ball (h)  
HOLE WIDTH = width of root ball (w) + 2 feet



## Step 6. Put the tree in the hole.

### ⚠️ This is labor intensive work, therefore be careful when moving the tree. You want to be sure you have enough helpers on hand.

If the tree is **bare root** or **containerized**, you can probably just place the tree into the hole. If the hole is too deep, take the tree back out and put more soil in the bottom of the hole. Compact this soil so that the tree won't settle deeper into the hole. Turn the tree so that it is oriented in the direction you like. You can pack some soil around the base of the roots to hold it into position.

If the tree is **Balled and Burlapped**, you will probably have to slide it, very carefully, into the hole. This usually takes at least two people. It helps to know which way you want it to face before you place it into the hole, as adjustments are difficult with a heavy root ball. You might find a shovel or spade to be very useful in helping to straighten the tree out once it is in the hole. Being very careful, use it to slightly lift and turn or straighten the root ball in the hole. Stabilize the tree by packing just enough soil around the base of the root ball.

## Step 7. For Balled and Burlapped trees, remove root ball packaging.

### ⚠️ Wear gloves.

Using gloves and heavy gauge wire cutters, cut away at least the upper third of the wire basket. Remove the wire from the hole. Then, cut and remove as much burlap as you can from at least the top third of the root ball. Make sure nothing is left wrapped around the trunk. Twine left around the base of the tree can choke it. Now, carefully pull back all of the soil that is above the trunk flare. Level the soil out across the top of the ball. The base of the aboveground portion of the tree should be about level or a touch above the level of the surrounding soil.



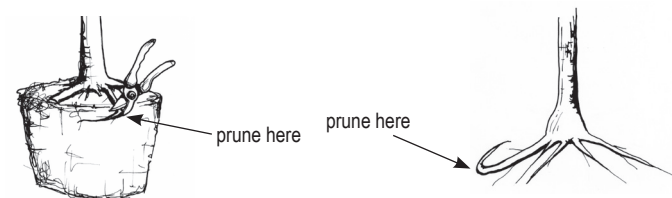
### ⚠️ Once in the hole, a root ball should remain a root ball.

If it starts to fall apart as you take off the wire and burlap, backfill the hole with enough soil to stabilize it. Then carefully remove the wire and burlap, and backfill as you go to keep the root ball intact.

## Step 8. Remove problem roots.

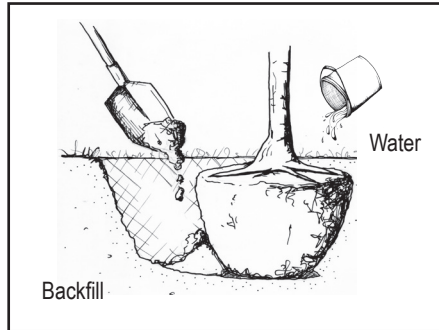
### ⚠️ Wear gloves.

- Remove all small roots above the main root system with a hand pruner.
- Examine the main root system for roots that extend out but then turn to the side or back towards the trunk. Prune these roots at the point where they turn.



### Step 9. Backfill with the same soil or amend as recommended by the soil test.

Make sure the trunk is straight. Put the original soil back in the hole, breaking up large clods, and working it in with your hands or a shovel.



### Step 10. Water.

Thoroughly water the root ball and entire backfilled area to fill any air pockets and allow the soil to settle. If desired, mound a 3-inch berm on the perimeter of the planting hole to retain water.

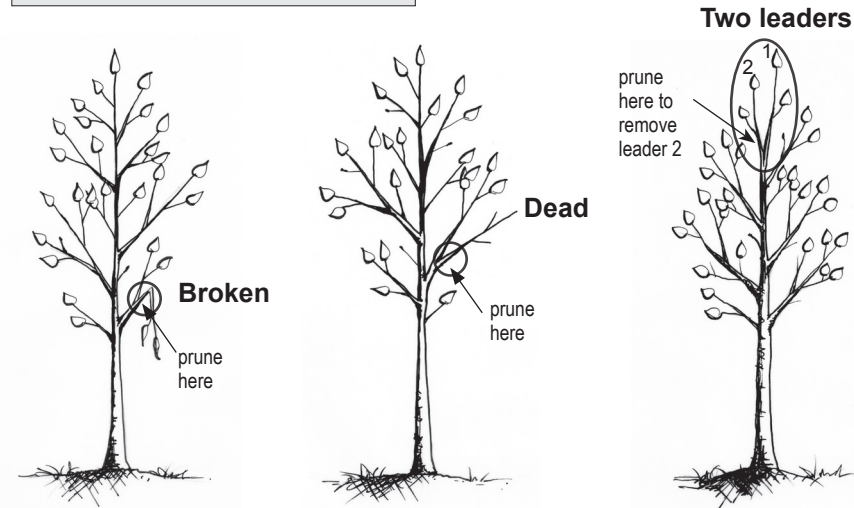
### Step 11. Prune critical branches and no others!

Prune only branches that are broken or dead. You may also remove competing leaders, if present. Most trees should have one central leader (p. 2). If there are two or more leaders, choose which one you want and remove the other(s).  
 Note: You might need to do some of this work before placing the tree in the hole.

**⚠** **Minimize pruning at the time of planting!**

Trees need as many leaves as possible to recover from transplant shock (leaves produce the tree's food).

See "Structural Maintenance" p. 25.



### Step 12. Mulch.

Put a 2-4 inch layer of mulch over the backfilled area. Pull mulch away from the trunk so that none touches the bark.

By blocking sunlight from reaching the soil, mulch hinders the growth of weeds and helps keep string trimmers away from thin young bark. It also generally improves the condition of the soil and encourages the growth of new roots.

#### To Stake or Not to Stake

Newly planted trees do not always need to be staked. If not done properly, staking can harm a tree. In order to grow strong, trees need the stimulation that comes from the wind's movement. Staking improperly or for too long can interfere with the tree growing correctly.

Stake only if the root ball is unstable or the trunk is bending excessively. Some trees need to be staked to remain standing straight in their new planting site. There are many options for staking a tree, such as wide nylon, canvas straps, or nylon stockings. Check with your local nursery for supplies and recommendations. The tree should not be tied tightly.



If the root ball is unstable, use 1-3 stakes attached LOW on the trunk. Check seasonally and tighten stakes as needed.



If the trunk is bending, use one stake attached HIGHER (at least six inches below the first set of branches).

**⚠** **To prevent trunk girdling, remove stakes after one year or once the tree has become established.**

**A Note on Young Trees** - Trees need to establish their root systems before they can grow. During the first couple of years after planting, it is much more important for the roots to develop than for the branches to grow and spread. This may mean that the crown of the tree looks sluggish during that early period, but that is not necessarily a problem. Planting can be tough on a tree, making watering and a nurturing environment vital for a tree to recover. Remember what the old-timers say: After a tree is planted, in its first year, it sleeps, in the second year it creeps and, then, in its third year, it leaps.

## MAINTENANCE INSTRUCTIONS

### Watering\*

It is important for tree survival to provide the right amount of water. Lack of water can easily kill a newly planted tree. The first three years are most critical, but pay attention to watering needs throughout the tree's life.

#### How often and how much?

Frequency depends on the species, soil drainage and seasonal weather conditions. Soils that drain quickly will require more frequent watering than those that drain slowly. Determine your soil's drainage rate (p. 4).

A good rule of thumb is to plan to water every week, particularly in the first year. Be sure to soak the roots around the base of the tree - a young tree can only make use of water that reaches its roots. A slow, deep watering is best. A soaker hose or a watering bag helps.

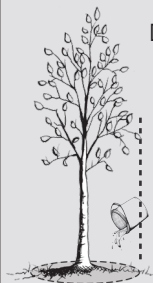
For most trees, 10-20 gallons weekly is not too much, however check with a CT licensed arborist for watering requirements of the species being planted.

Keep watering for the first 3 years. After 3 years, an established tree may not need as much watering. Continue to watch carefully for signs of underwatering or overwatering.

You can overwater a tree. Not all tree species like a lot of water. If the soil around your trees never seems to dry out and the tree does not look healthy, it may be overwatered. Be sure to check the drainage.

\*Adapted in part, from: Gilman, E. 1997. Trees for urban and suburban landscapes. Albany, NY: Delmar Publishers. 66 p.

#### First 3 years after planting:



- ☑ For the first few months, check every other day in fast-draining soils and weekly in slow-draining soils to see how the soil is draining and how much water the tree is using. Water within the dripline. Take note: a lawn irrigation system will usually not supply enough water to the root system of a newly planted tree.

#### After 3 years:



- ☑ Once established, water as needed during extreme drought conditions. Water within the dripline or, for large trees, within the dripline and beyond.

**When?** Start checking soil moisture and watering when necessary in early spring, and continue until the soil freezes. Watering can be done during the winter for newly planted trees when temperature permits and if rain or snowfall has not provided adequate moisture.

## Installing a Trunk Guard\*

### Trunk Protection

Young deciduous trees have thin bark that can easily be damaged by animals. Rodents such as rabbits and mice like to chew on young bark. Deer also damage young trees by scraping tree trunks with their antlers.

Any paper trunk wrap that is present should be removed at time of planting.

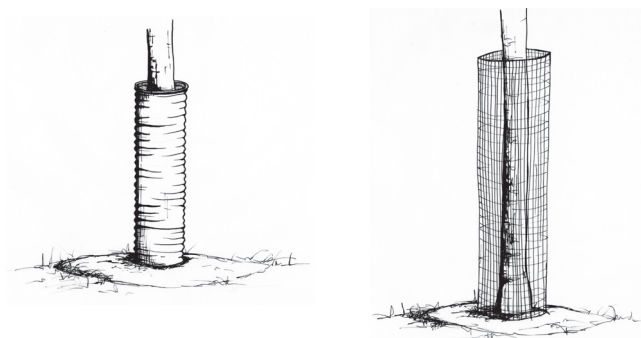
If concerned about trunk wounding, consider installing plastic tubing or hardware cloth (stiff wire fencing with 1/4-1/2 inch mesh squares) around the trunk. The tube should be big enough around to allow 1-4 inches of space between it and the trunk. It should be 1-3 feet tall (above snow height) for small rodents and as tall as possible (to lowest branch) for deer.

**How?** Wrap the tube around the trunk, taking care not to scratch the bark. Use a few pieces of wire to keep the tube closed. Push the tube into the ground or mulch less than an inch. Attach it to one or two stakes if necessary.

**When?** For rodents, install before snowfall as rodents and rabbits will feed on tree bark under the snow. Apply early in the autumn to prevent deer scraping.

Protection can be applied anytime and should be removed to allow for air circulation once the threat of damage is no longer there. Be sure to remove leaves and debris from the tube regularly to prevent insects and decay.

**⚠ Your tree will grow. Plan accordingly.**  
As the tree grows, the tube will need to be enlarged and eventually removed.



\*Optional: Important in areas where deer or rodents are active.

## Preventing and Correcting Encircling Roots\*

### Problem

Roots that encircle the trunk will likely cause health or safety problems later. Make sure that soil or mulch is never piled against the root collar.



Root likely to become a problem (when trunk and root meet)



Problem root already touching the trunk



Covering the root collar with soil or mulch encourages encircling roots

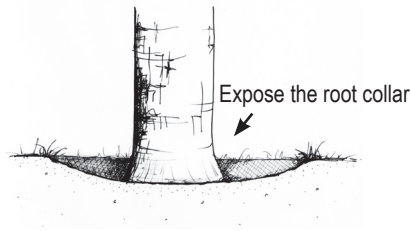
### How to Prevent

Plant at correct depth with the root collar (trunk flare) at level of the surrounding soil (see Planting Steps 3-5 and 7-8, p. 14-17).

Avoid volcano mulching (p. 23).

### How to Monitor and Correct

Every 4-5 years, check for roots that encircle the trunk. Use a hand trowel to loosen and remove the soil around the base of the tree until the first set of roots is found.



**TIP: Removing soil with a wet-dry vacuum speeds up the work without harming the roots.**

If a tree has an encircling root, leave the top of the root exposed, and consult a CT licensed arborist regarding treatment. When caught early, this can be an inexpensive and effective way to save your tree.

\*Adapted in part, from: Johnson, G.; Fallon, D. 2007. Stem girdling roots: the underground epidemic killing our trees. St. Paul, MN: University of Minnesota.

## Mulching

Maintain a ring of mulch around the tree (the wider the better) to reduce turf competition, protect the stem from mechanical injury (most commonly string trimmers and lawn mowers), provide organic matter to soils, conserve soil moisture, and moderate soil temperature. Organic materials like wood chips and leaves are best. Wood chips will take longer to break down and, therefore, will not require replacement as often. Never mulch stem or root collar tissues.



### TIP: Newspaper kills grass.

If there is grass in the area that needs to be mulched, put a 5-page layer of newspaper over the grass, and then add mulch on top (this will help keep the grass from growing up through the mulch).



### Mulch becomes soil.

There should never be more than four inches of mulch over the roots. Too much mulch or soil can prevent oxygen from reaching the roots. Refresh as needed, but consider removing old mulch to prevent buildup.

## Fertilizing

Do not assume a fertilizer is needed. At the same time, it is not unusual to find soils that are highly disturbed, compacted, low in organic matter, and have a high or low pH. To learn about your soil, collect a soil sample and get it tested at the Connecticut Agricultural Experiment Station (CAES), UCONN Extension or your local nursery. Apply fertilizer or soil amendments ONLY if a soil test indicates a need or if a diagnosis by a CT licensed arborist indicates that it is necessary.



### Do not overdose.

Fertilizer that is not absorbed by the tree has the potential to alter the soil or leach out and pollute groundwater, rivers, ponds, and lakes. Overdosing with fertilizer can harm your tree.



### Applying “weed and feed” to your lawn might injure or kill your tree.

Be very careful with weed killers. They have the potential to injure trees. Whenever applying chemicals, such as fertilizers and pesticides, always read the label for directions and precautions.

## Checking Tree Health

Tree health can be difficult to determine, but checking your tree yearly may help you notice problems as they appear.

Is the current year's growth much less than past years' growth? Fast growth does not mean good health, but a dramatic reduction in growth rate may be an indication of poor health.



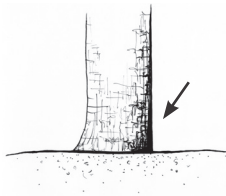
### TIP: Look at the branch tips or tree top.

Current year's branches will typically be smaller in diameter and a different color.

Also inspect the size, color, and distribution of the leaves. Look at individual leaves as well as the whole crown for differences between branches or sections of the crown.

Inspect the base of the trunk for damage (e.g., from rodents or string trimmers).

Also inspect the base of the tree to see if there is a flat side to the trunk.

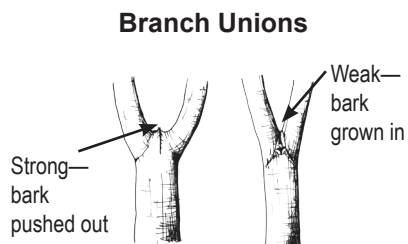


If anything is found, follow the guidance in the Troubleshooting section (p. 32) or contact a CT licensed arborist (p. 34).

## Checking Tree Safety

Inspect trees anytime, but especially after storms. Examine the crown, branches, trunk, and area around the roots for these common dangers:

- Broken, dead, or hanging branches
- Cracks, fungi, and cavities
- Weak trunk or branch unions  
See illustration to the right.
- Encircling root compressing the trunk (a flat-sided trunk at the ground level is a good indicator).  
See illustration above.
- Recent lean (especially if the soil or grass has lifted on one side).



If anything is found, or if in doubt, contact a CT licensed arborist (p. 34).

## Structural Maintenance\*

Pruning for structural maintenance is an important part of maintaining a safe and healthy tree. Working with a young tree so that it develops the proper form is critical to the long-term health and structural stability of that tree. Older trees (at least 10 years of age) also may need structural maintenance to correct storm damage, remove dead wood, or correct interference with infrastructure or buildings.

Pruning trees can be dangerous work. Follow these safety precautions to be sure you are around to enjoy your tree.



### Electricity flows through branches.

Never prune trees or branches that are within 10 feet of utility lines; instead contact your local utility company or hire a qualified line clearance company.



### Ladders and trees do not mix.

If pruning cannot be done with both feet on the ground, hire a CT licensed arborist (p. 34).



### Chainsaws are dangerous.

If power equipment is required, hire a CT licensed arborist (p. 34).



### Saws and pruners are sharp.

Wear gloves to protect your hands and eye protection to protect your sight.

The main reasons for pruning trees are safety, health, and esthetics. Pruning can encourage trees to develop a strong structure and reduce the likelihood of damage during severe weather.

Pruning for safety involves removing branches that could fall and cause injury or property damage, trimming branches that interfere with lines of sight on streets or driveways, and removing branches that grow into utility lines.

Pruning for health involves removing diseased or insect-infested wood, thinning the crown to increase airflow and reduce some pest problems, and removing crossing and rubbing branches.

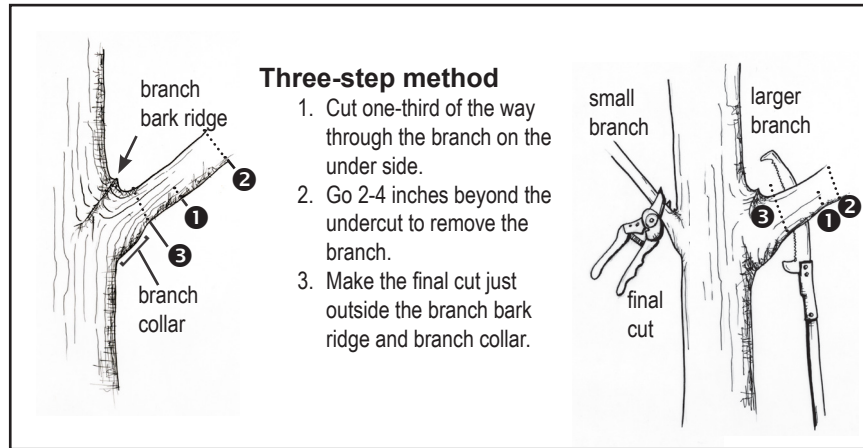
Pruning for esthetics involves enhancing the natural form and character of trees or stimulating flower production.

\*For more on pruning, visit: [How to prune trees - USDA Forest Service Northeastern Area. 30 p. www.fs.usda.gov/naspf/publications/how-prune-trees-na-fr-01-95](http://How to prune trees - USDA Forest Service Northeastern Area. 30 p. www.fs.usda.gov/naspf/publications/how-prune-trees-na-fr-01-95)

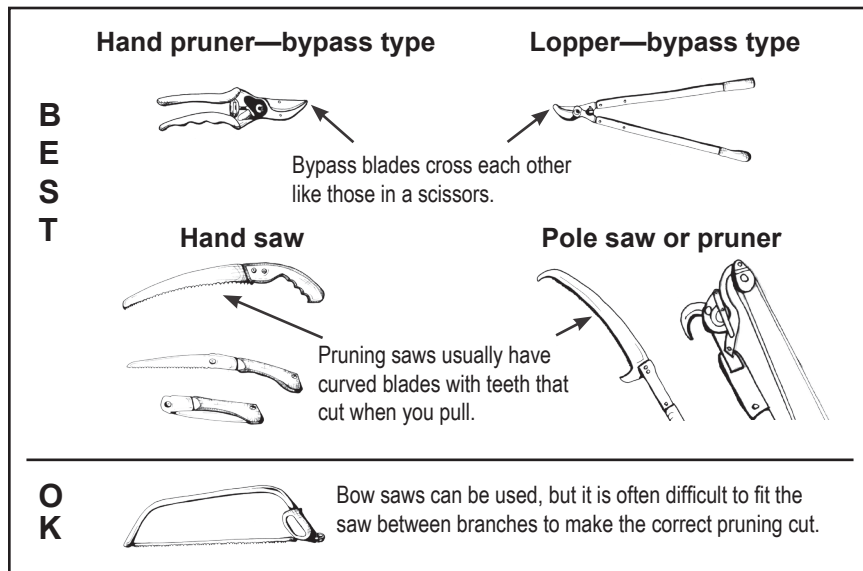
## Where to Cut

When using a hand saw, support the branch with one hand while you are cutting to prevent the bark from ripping (Do not do this with a chain saw!). If the branch is too large to support, use the three-step method (see details below).

For the final cut using either method, look for the branch bark ridge and branch collar. Begin the cut just outside of the branch bark ridge and, in a straight line, angle it down and away from the trunk. Stay close to the branch collar without cutting into it (see images below). Do not apply wound paint to the cut surface.



## Pruning Tools



## How Often

Except for dead or broken branches, most pruning should wait until the tree has been established in its new location, at least 3 years depending on its size at planting. Once the tree is established, prune lightly every year or every other year as needed. After 10 years, frequency of pruning depends on the type of tree, health of the tree, and amount of shade the canopy receives.

**⚠ Do not remove excessive amounts of live branches or foliage.**  
As a rule of thumb, remove no more than 25 percent of the tree's live branches or foliage at any one time.

Tree Type	First 10 years	10+ Years After Planting
<b>Fruit trees</b>	Once every 1-2 years	Once every 1-3 years & as needed
<b>Deciduous shade trees</b>	Once every 1-2 years	Once every 4-7 years* & as needed
<b>Evergreen trees</b>	Only as needed**	Only as needed**

\* Pruning lightly and more frequently is better than pruning heavily and less often.  
\*\* Evergreen trees usually need pruning only if they are diseased, their branches need to be raised up from the ground or to remove codominant leaders (p. 18). In either case, prune off the entire branch.

Removal of the following can be done every year:

- Broken, dead, or rubbing branches
- Branches sprouting from the base of the trunk
- Water sprouts anywhere on the tree

## Time of Year

Winter is the best time of year to prune because branches are easy to see, diseases cannot be spread, and there is minimal stress to the tree. But for most trees, pruning can be done at any time.

Exceptions are trees that are prone to fire blight. Trees susceptible to fire blight include mountain ash, apple, crabapple, hawthorn, pear, flowering quince, and pyracantha. To minimize disease infection of these types of trees, pruning should not be done during the growing season and sanitation of the cutting tools is critical.

Check with a CT licensed arborist or nursery for advice on timing of pruning specific species. The best time to prune flowering trees is after the flower has formed. Some trees “bleed” or have heavy sap flow in the early spring which does not usually affect the health of tree species. These species include, but are not limited to, dogwood, walnut, honey locust, hornbeam, sophora, maple, birch, and elm. It is better to prune elms in the winter to help reduce the risk of Dutch elm disease. Elm bark beetles that spread this disease are drawn to wounds and are not active in the winter.

## Pruning Young Trees\*

A young tree should be pruned once it is established, about 3-5 years after it is planted. Removing small branches is fairly easy compared with waiting until limbs are large, when pruning can be costly and pose a greater risk to the tree. Correctly pruning a tree when it's young will help it develop a strong, well-balanced crown. Prune to achieve the following:

### A. Branches that are well-attached to the trunk

Strongly attached branches at a wide angle to the trunk are less likely to break off in wind or heavy ice or snow. Branches that are less than half the diameter of the trunk are also less prone to breakage in storms.

### B. One central leader

Most trees will be strongest if they have one central leader. Check with a CT licensed arborist or your local nursery if your tree should have a strong central leader. If so, choose one leader to keep and prune off the competitors.

### C. Good spacing between branches

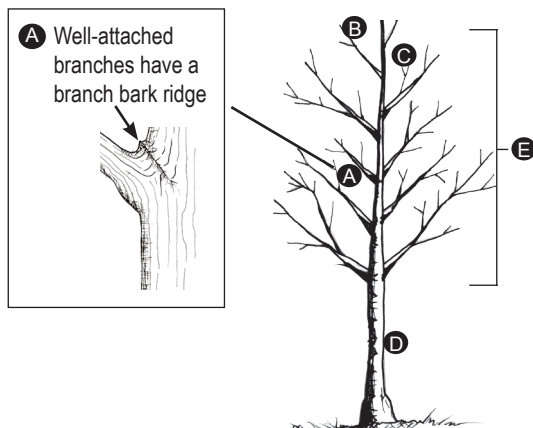
Vertical space between branches will vary with species. Try to space branches equally around the tree so that branches do not rub against each other. Consult with a CT licensed arborist on the growth habit of your particular tree.

### D. Enough clearance between the ground and first branch

As a tree grows, its branches remain at the same height. Branches located low on the trunk may get in the way of sidewalk paths or lawn mowing as the tree grows. Over time, gradually remove low branches as needed and according to the growth habit of the species. For street trees, the height of the lowest permanent branch over a sidewalk should be at least 8 feet, while over the street, the height of the lowest branch should be at least 14 feet.

### E. Good crown height

For its health and stability, the crown of a deciduous tree should be at least 60 percent of the total tree height.



\*Gilman, E. 2002. An illustrated guide to pruning, 2d ed. Albany, NY: Delmar Publishers. 330 p.

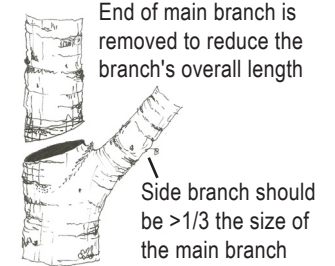
## Topping\*: (Also called stubbing, heading, tipping, hat-racking, dehorning, or roundover)

### ⚠️ Topping is not pruning.

(Pollarding is an exception)  
Topping is the indiscriminate removal of branch ends. Topping injures and can ultimately result in the early failure or death of a tree.



**TIP: Proper reduction pruning involves cutting the main branch back to a side branch that can take over. The size of the side branch should be at least 1/3 the diameter of the main branch where the main branch is cut.**



Reduction Pruning\*\*



Topped tree



Topped tree with regrowth

**Myth:** Topping will make the tree easier to maintain.

**Truth:** Topped trees can regain their original height quickly, often in two years. A topped tree will require more attention than a properly pruned tree because of the profusion of fast growing, loosely attached shoots that will form.

**Myth:** Topping invigorates a tree.

**Truth:** Topping immediately injures a tree and can start it on a downward spiral. Topping wounds expose the tree to decay and invasion from insects and disease. While a tree may survive topping, its life span may be significantly reduced.

**Myth:** Topped trees will add value to your property.

**Truth:** Topped trees lack natural beauty and may reduce your property's value. Also, a topped tree can become hazardous and cause property damage.



\*Adapted, with permission, from the "Experts Agree: Don't Top Your Tree" campaign which was developed by the Missouri Community Forestry Council and Forest ReLeaf of Missouri

\*\*Adapted, with permission, from: Gilman, E. 2002. An illustrated guide to pruning, 2d ed. Albany, NY: Delmar Publishers.



## PROTECTING TREES FROM CONSTRUCTION DAMAGE\*

Are you planning to build or remodel a home? Are you going to expand or pave your driveway? Are your city's streets, curbs, sidewalks, and buried utilities about to be widened, modernized, or replaced? Before construction begins, consider the impact on trees.

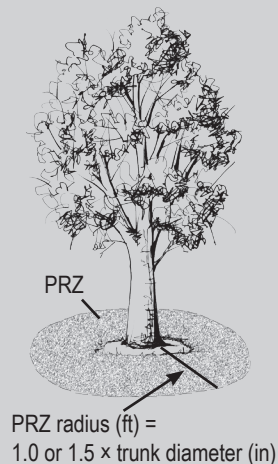
Careful tree protection will help you avoid the expense and heartache of later repairing or removing trees that were located too close to construction activities (see "How Close is Too Close?" below). Depending on the type of construction and proximity to trees, you may be able to protect the trees yourself, or it may be best to consult with a CT licensed arborist to design, implement, and enforce a tree protection plan.

**⚠ Start planning early.** To minimize costs and increase the likelihood of successful tree preservation, start tree protection planning as soon as possible.

### How Close Is Too Close? Defining The Protected Root Zone (PRZ)

The tree's Protected Root Zone (PRZ) can be identified as follows:

1. Measure the diameter (width) of the trunk 6-8 inches above the ground, to the nearest inch. To do this, either wrap a tape measure around the trunk and divide that number by 3 or hold a yard stick up to the trunk and approximate the distance. Record that number.
2. Multiply that number by 1.5 for mature or stressed trees or by 1.0 for young, healthy trees. Consider that number as representing a radius from the tree in feet.
3. Measure out that distance from the trunk of the tree. The area within this radius is the Protected Root Zone (PRZ).



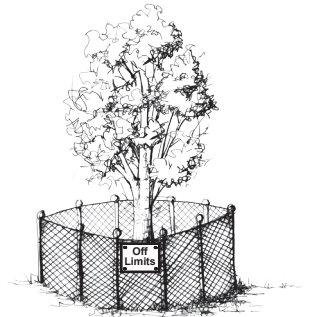
Example:  
1.5 × 24 in = 36 ft

\*Adapted, with permission, from: Johnson, G. 1999. Protecting trees from construction damage: a homeowner's guide. St. Paul, MN: University of Minnesota Extension. 21 p.

The activities listed below all negatively impact tree roots. To protect your trees, define the Protected Root Zone (PRZ), and keep these activities away from this area, at a minimum.

### Storing Materials and Moving Equipment

Soil compaction is one of the main killers of landscape trees. Stockpiling building materials, using heavy machinery, and excessive foot traffic all compact the soil. To minimize damage, install orange polypropylene or chain link fencing and post "Off Limits" signs around the PRZ of the trees you plan to save. Check the fence often to be sure that it is still intact and serving as a barrier.



### Changing the Grade

Adding or removing as little as 2 inches of soil in the PRZ can kill a tree. To minimize damage, consult a CT licensed arborist about methods to protect the roots if fill needs to be added or soil needs to be removed within the PRZ.

### Excavating

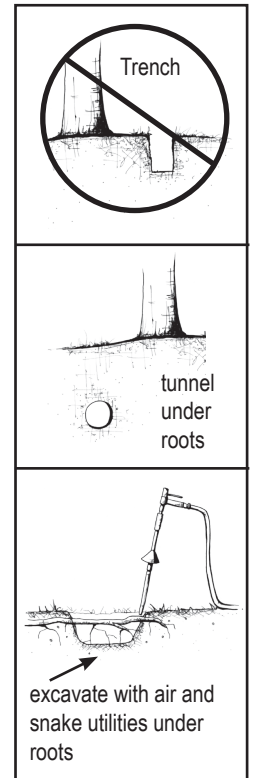
If utility or irrigation lines cannot be relocated outside the tree's PRZ, reduce root damage by requiring tunneling under the tree's root system (instead of trenching through it). Specialized equipment that blows soil away from the roots using compressed air allows utilities to be placed with very little root damage. Otherwise soil tunneling equipment can be used, reducing root damage by up to 25 percent compared with trenching.

For all digging operations, insist that exposed roots be cut cleanly to promote quick wound closure and regeneration. Vibratory plows, chain trenchers, stump grinders, and hand tools, such as saws and pruners, do a better job at this than bulldozers and backhoes.

Avoid excavating during hot, dry weather; keep the plants well watered before and after digging; and cover exposed roots with soil, mulch, or damp burlap as soon as possible.

### Paving

To minimize damage, keep walkways at least 3 feet from the anticipated mature trunk.



## TROUBLESHOOTING

If you see:	Potential cause:	You should:
<b>TRUNK</b>		
A flat-sided trunk at the base of the tree	Encircling root restricting the flow of water and nutrients between the roots and rest of the tree	Excavate to check for encircling root (p. 22)
Bark damage near the bottom of the tree	Rodent or string trimmer	Apply trunk guard/mulch to protect from future damage (p. 21, 23)
An elm or oak tree with liquid oozing from the trunk	Slime flux or wetwood	Not worry about health
<b>BRANCHES</b>		
An elm tree with bright yellow leaves on one or two branches	Dutch elm disease	Immediately call for advice*
Webs in the branches or webs covering the tips of branches	Fall webworm or Eastern tent caterpillar	Call for advice*
Many branch tips snapped off and laying on the ground	Squirrel damage	Call for advice*
Black clumps on branches of a cherry tree	Black knot	Call for advice*
Very little growth	Many	Call for advice*
Hole in trunk or branches	Many	Call for advice*
<b>LEAVES</b>		
Leaves sticky and covered with a black velvety coating (like soot)	Piercing, sucking insect and sooty mold	Call for advice*
Leaves wilted	Many	Call for advice*
Spots on leaves	Many	Call for advice*
Small leaves	Many	Call for advice*
Sparse leaves	Many	Call for advice*
Yellow or brown leaves	Many	Call for advice*
Holes in leaves	Insect feeding	Call for advice*
Bumps on leaves	Many	Not worry about health

\*Call a Connecticut licensed arborist or the Connecticut Agricultural Experiment Station (CAES) for advice and possible diagnosis (next page).

## OTHER SOURCES OF HELP

Licensed arborists, local nursery and horticultural professionals can provide good information about the health of your tree, and many communities have city foresters that may be of assistance. The following institutions and organizations can serve for answering tree health questions:

### University of Connecticut

(877) 486-6271

<https://plant.lab.uconn.edu/>

### UConn Extension

(860) 486-3581

<http://extension.uconn.edu/>

### Connecticut Agricultural Experiment Station

(203) 974-8500

<https://portal.ct.gov/caes>

### Connecticut Tree Protective Association

(203) 484-2512

[www.ctpa.org](http://www.ctpa.org)

## ADDITIONAL SOURCES OF INFORMATION

CT DEEP Forestry

<https://portal.ct.gov/DEEP>

Tree Wardens' Association of CT

[www.cnla.biz](http://www.cnla.biz)

CT Nursery & Landscape Association

[www.cgka.org/](http://www.cgka.org/)

CT Grounds Keepers Association

[www.treesaregood.org](http://www.treesaregood.org)

International Society of Arboriculture

[www.americanforests.org](http://www.americanforests.org)

American Forests

[www.arborday.org](http://www.arborday.org)

Arbor Day Foundation

[www.treecareindustry.org](http://www.treecareindustry.org) <https://>

Tree Care Industry Association

[www.fs.usda.gov](http://www.fs.usda.gov)

US Forest Service

[www.cbyd.com](http://www.cbyd.com)

Call Before You Dig

[www.eversource.com](http://www.eversource.com)

Eversource Energy

[www.uinet.com](http://www.uinet.com)

United Illuminating

The US Forest Service has produced a Spanish language version of the National Tree Owner's Manual. This publication is available at: [https://portal.ct.gov/-/media/DEEP/forestry/urban\\_forestry/TOM-Spanish-2021-07-16.pdf](https://portal.ct.gov/-/media/DEEP/forestry/urban_forestry/TOM-Spanish-2021-07-16.pdf)

## SERVICE AND REPAIR

### How to Hire a Connecticut Licensed Arborist\*

When selecting an arborist, look for the following qualifications:

#### Connecticut Arborist License

In caring for your trees, it is important to hire the right person or company. In Connecticut, we have an "Arborist Law" (CGS 23-61a-m). This law requires that any person who provides tree care services for hire must be licensed as an arborist. It also requires that any business that provides those services be registered with the Department of Energy and Environmental Protection.

Licensed arborists are experienced professionals who have passed an examination and meet requirements for on-going education. Arboriculture is any work to improve the condition of trees by pruning, fertilizing, cabling or protecting trees from insects or disease.

To find a Connecticut licensed Arborist or a Registered Arborist Business, visit <https://arborists.ctpa.org/>.

#### Proof of Insurance

A reputable arborist carries personal and property damage insurance (\$1 million per occurrence, \$2 million aggregate) and worker's compensation insurance (\$1 million). A reputable arborist also does not mind demonstrating that he or she is insured. Request certificates, and phone the insurance agency to verify. Ask if the entire job will be performed by employees of the tree care company bidding the job. If not, ask for insurance certificates from all independent contractors as well. If an arborist is uninsured, homeowners could be held responsible for damages and injuries that occur as a result of the tree work.

#### Membership in Professional Organization(s)

Arboricultural organizations include the International Society of Arboriculture (ISA), the Tree Care Industry Association (TCIA), the American Society of Consulting Arborists (ASCA), and the Connecticut Tree Protective Association (CTPA). Such memberships demonstrate commitment and professionalism.

Note: In Connecticut, an individual does not need an arborist license in order to plant a tree. However, post-planting care, including pruning and fertilizing, when done for hire, does require the services of an arborist.

\*Adapted, with permission, from: International Society of Arboriculture. 2004. Why hire an arborist? Champaign, IL. 4p.

### Additional Advice for Hiring an Arborist

- Ask for References and Speak to Former Clients
- Get More than One Estimate
- Do Not Automatically Accept the Lowest Bid
- Never Pay in Advance
- Be Wary of Door-to-Door Sales

These are especially common after storms. Know that good arborists perform only accepted practices and wear safety equipment. For example, topping a tree and using climbing spikes for pruning are unacceptable. Safety equipment includes hard hats, ear and eye protection.

#### Get it in Writing

When will the work be started and completed? Who will be responsible for clean-up? What is the hourly rate for additional work?

### Advice for Hiring a Landscape Professional

In addition to the above advice for hiring an arborist, look for the following qualifications:

#### Necessary licenses and registrations

If a pesticide will be used to treat for weeds, insect or disease pests, the applicator must be licensed and the business must be registered with DEEP. Visit <https://portal.ct.gov/DEEP/Pesticides/Pesticide-Certification-General/Pesticide-CertificationLicensing> for more information.

Any Contracted Landscaping done on Residential Property requires that the business be registered as a Home Improvement Contractor with the Department of Consumer Protection. Visit <https://portal.ct.gov/DCP/Trade-Practices-Division/What-to-Look-For-in-a-Home-Improvement-Contractor> for details. This registration is not required for work done under the DEEP Arborist License or any DEEP Pesticide Application License.

#### Membership in Professional Organization(s)

Landscape professionals often belong to one or both of the landscape trade associations in Connecticut - the CT Nursery and Landscape Association (CNLA) or the CT Grounds Keepers Association (CGKA). Both organizations are committed to advancing the knowledge and professional skills of their members.

## IN THE EVENT OF AN EMERGENCY

### Large branch or tree on the ground

If it is near a downed utility line, do not go near the tree! Trees can conduct electricity. Call the utility company. If it is in the street, contact the city or town. If it is in your yard, call a CT licensed arborist (p. 34). If the tree is still standing, have it assessed.

### Tree or branches on utility line

Stay away from the tree! Call your utility company.

### Branches broken, still hanging in the crown

Call a CT licensed arborist (p. 34) to have the “hangers” removed and to make clean cuts at a lateral branch or bud to encourage proper healing (p. 2, 26).

### Ice coating and weighting the branches

Stay in a protected area, out from underneath the branches. Some limbs may break. Once the ice is gone, check for safety (p. 24). Call a CT licensed arborist if necessary. Many branches return to their original state after severe bending.

### Tree hit by vehicle

If possible, get the license plate number, name, and insurance information of the driver. Document the tree’s injuries with photographs. Contact a CT licensed arborist to evaluate the damage (p. 34).

### Wounded trunk

Use scissors, a sharp knife or hand pruners (p. 26) to cut off any loose bark. Leave a small margin of loose bark. Monitor health (p. 24). Do not apply “wound paint.”

### Chemical spill around tree

Identify the chemical and the amount of the spill, if possible. Call CT DEEP Chemical Spill Response Toll-Free at 1(866) 337-7745 to report a spill. Contact a CT licensed arborist (p. 34) to remediate tree health concerns.

### Root severed

Photograph and call a CT licensed arborist (p. 34) to assess safety and make treatments as necessary.

### Flooding

Monitor the trunk to see if it begins to lean in one direction. Check the ground area around the roots to see if the soil or grass has lifted. If so, contact a CT licensed arborist right away for a safety assessment. Monitor the tree’s health over time (p. 24). It may take a year or more for symptoms to appear.

### Lightning or storm damage

Call a CT licensed arborist (p. 34) to assess safety and make necessary treatments.

### Trunk nicked by lawn care equipment (weed trimmer or lawn mower)

Create a mulch ring around the tree to eliminate grass and weeds (p. 23).

## REMOVAL AND DISPOSAL

### Whole Tree



#### Electricity flows through branches.

If the tree or branches are within 10 feet of utility lines, contact your local utility company for information on assistance in removal or hire a qualified line clearance company.

To remove a large tree, hire a CT licensed arborist. If you are interested in having the tree milled into lumber, visit <https://woodmizer.com/us/Services/Find-a-Local-Sawyer> to find someone with a portable mill in your area. You may also try contacting local woodworkers and technical schools to see if they would like the wood.

#### Disposing of debris:

Option 1: The CT licensed arborist can remove the wood for you.

Option 2: If you or someone you know could use the tree for firewood, ask the CT licensed arborist to cut and leave the wood for you in moveable chunks. If you do not know anyone who needs firewood, consider advertising it on community bulletin boards (e.g., at local grocery stores).



#### Insects and diseases are hitch hikers.

Many insects and diseases can be spread by moving firewood. To be safe, do not transport firewood to another town.

Please note: Due to the Emerald Ash Borer, wood and debris may not be moved outside of Connecticut.

### Trimmings

Check with your city or town for compost sites that accept tree branches and leaves.

### Leaves

If you live in the city, keep leaves out of the street to avoid clogging storm sewers and polluting water (nutrients from leaves get leached into the storm drains, which typically lead directly to lakes and rivers). Leaves can be used as mulch around your trees and in your garden beds or taken to your local compost site (Visit the CT DEEP website and search Large-Scale Organics Management for a list of leaf composting facilities). Check with your city for leaf disposal options.



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