Maintenance / Care Instructions for Trees:

Once you choose to install a tree, there are some simple steps that need to be taken to ensure the longevity and health of the tree. Reference the calendar at the end of this document to know when to take on these tasks.

Watering

One of the best ways to ensure the survival and healthy growth of your trees to maturity is to adequately water during the first 2 years after planting. Use the schedule below to water your newly planted trees:

- Weeks 1-2 - water trees once every 2 days, up to 3 times a week
- Weeks 3-12 - water trees once every 4 days or twice a week
- Week 12 and up – water trees weekly

Take care to ensure you follow these tips when watering your trees:

- Water the roots of the trees, not the leaves.
- Water each tree with 5 gallons of water each time, up to 15 gallons a week.
- Water inside the mulch reservoir to allow water to percolate into the soil.

Deep watering encourages deeper rooting, which leads to increased drought tolerance. Chlorinated water kills off beneficial soil life (biota), so if you are using municipal water, allow it to sit in an open bucket overnight to allow the chlorine to off gas.

Winter Watering

Watering can still be done in the winter if the following conditions are met:

- The ground is not frozen and there is no snow or ice present.
- The high temperature for the day is at least 40°F.
- Watering can be performed in the morning to allow water to soak in by midday before potentially freezing at night.

After about 2 years the tree roots will have established themselves in the surrounding soil. Once roots are established, regular watering is no longer necessary but still advisable in periods of high heat and low precipitation.

Supporting

Your trees are planted with added support in the form of wooden stakes and tree ties, as well as protection in the form of metal fencing. Together, these materials will assist with the upward growth of your tree while protecting it from deer browse, deer rub, and wind damage.

General Tree Support & Maintenance: Two wooden stakes and two tree ties are used to support your trees. Simple maintenance for this support system is outlined below:

- Visual check to ensure support stakes have not fallen over and are still upright. Pound stakes back into the ground as needed
- Visual check to ensure tree ties are still secured. Tree ties are intentionally installed with some "slack" to allow the tree to sway a little bit in the wind. This natural swaying encourages trees to grow stronger trunks and can be inhibited if tree ties are too tight.

Chestnut Tree Support & Maintenance: A Plantra Grow Tube and a fiberglass stake are used to support and shelter young chestnut trees. Check the tube and stake periodically to ensure trees are standing erect and well anchored.

Removing Tree Supports: Tree supports should be assessed for removal after the tree has been planted for 1 full growing season, either spring or fall.

- Begin removal by untying the tree ties one side at a time. Pay attention to see if the orientation of the tree changes significantly when removing each tie. If a tree begins to lean significantly upon removal of the tree ties, the ties will need to be re-secured to encourage stable vertical growth.
- After tree ties are removed, begin removing the wooden stakes, taking care to disturb the soil as little as possible.
- Using soil, compost, or topsoil; fill in the cavities left by the wooden stakes.
- Both the wooden stakes and tree ties can be re-used for staking other plants or future tree plantings!

Tree Cages: Each of your trees is surrounded with a piece of 4' tall metal fencing to protect the trees for damage, primarily from deer. Deer are a big threat to newly planted trees because of two behaviors:

- Browsing/eating of the leaves, buds, and young shoots. This can severely stunt the growth of trees and potentially lead to their death

- Deer rub that occurs annually in the late summer/early fall. Deer rub is when male deer rub their forehead and antlers against tree trunks in order to remove the velvet from their new antler growth. This rubbing action can break the trunk of a young tree and cause significant and lasting damage to the protective bark of the tree trunk.

Tree Cage Maintenance: Tree cages can protect your trees from deer for years after planting. During this time, maintenance will need to be performed occasionally to ensure the cages do not become a detriment to your trees as opposed to a benefit.

- Clear tall grasses and weeds within the cages. This limits root competition with weeds and more importantly discourages small animals from nesting inside of a tree cage.
- Visually inspect tree growth inside cages. If branches are growing through the cage, they can be pruned.

Tree Tube Maintenance: Plantra Tree Tubes are ideally left to protect your trees for years after planting. During this time, maintenance will need to be performed occasionally to ensure the tubes do not become a detriment to your trees as opposed to a benefit.

- Clear grasses and weeds from within the tubes This limits root competition with weeds and more importantly discourages small animals from nesting inside of a tree tube.
- Visually inspect tree growth inside tubes. If branches are growing through the tube, they can be pruned.

Removing Tree Cages: In general, tree cages can be safely removed once a tree trunk achieves around 2 inch diameter at breast height and once the majority of leaves are above the height of deer browsing, or more than 5-6 feet high.

Removing Tree Tubes: Tree tubes can be left in place for years to protect the trunk from deer and mechanical damage. Check the tree each year and remove the tree tube by cutting along the seam once the diameter of the tree trunk is nearly touching the walls of the tree tube.

Pruning

Young Trees: Prune dead or damaged branches on trees in the late winter before they leaf out. Any additional pruning to manage shape and size should happen in the dormant season as well. The main reasons to prune your young trees are:

- Removal of damaged or dead branches/stems
- Encourage growth of a single dominant stem of the tree
- Shaping of the tree for maturity

Mature Trees: Once a tree reaches maturity, pruning is still important and trees should be assessed yearly for pruning needs. There are three common pruning patterns for mature trees.

- **Raising** the tree by removing lower and low hanging branches provides clearance for people and vehicles underneath.
- **Thinning** the tree involves the selective removal of branches and limbs of the tree to improve its structural integrity. It increases light penetration and air flow through the crown.
- **Cleaning** the tree involves removing dead or dying limbs to improve the attractiveness of the tree. Cleaning is also done for safety reasons to preemptively remove branches that are at risk of falling.

Three Cut Method: The Three Cut Method is a simple and effective way to prune tree limbs while minimizing potential damage to the rest of the tree. Heavy limbs can often hurt a tree if cut incorrectly by stripping away bark and/or creating an unnecessarily large wound on the tree. Use the method below to protect your trees as your trim large branches. See Figure 1 for details.

1. Find a point on the limb about 1 foot from the trunk of the tree to make your first cut. Cut underneath the branch, no more than halfway through the branch.
2. Next, make a second cut, this time on top of the limb, slightly closer to the tree trunk. As you make this cut, the tree limb will eventually snap off where the first cut was made.
3. Finally, remove the remainder of the limb by making one final cut where the limb meets the trunk.

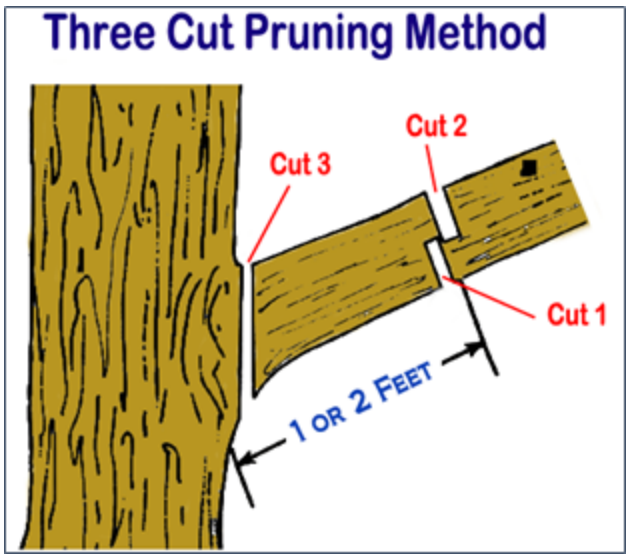

Figure 1. Use the Three Cut Method to safely remove large branches.

If you want more information about tree maintenance, please go to The Davey Tree Expert Company's website for Arborist Advice

Pest Management

Deer: Deer can cause significant damage to your young tree. As described above, the tree cages will be your first line of defense against deer browse and rub. There are other techniques you may wish to consider if deer are common in your neighborhood.

- Motion activated sprinklers can be used to scare off deer when they approach your trees.
- Use heavy duty fishing line tied to supports to create a barrier around your trees about 2-3 feet off of the ground. This plays to the poor eyesight of deer and often spooks them when they trip into the wire.
- Pets, primarily dogs, are great deterrents to deer and their smell around your property can sometimes persuade deer to move elsewhere.
- Use store bought deer repellents, or alternatively, create your own homemade repellent using hot peppers, garlic, pure soap (any soap without detergents works), and water. The soap will help the mixture adhere to leaves when applied. Blend 5-10 hot peppers, a couple cloves of garlic, and 1 teaspoon of soap in half a gallon of water until liquefied. Once the blend has settled,

strain through a cheesecloth into your container of choice and spray onto plants as needed and after rains. Store your homemade pepper spray in a cool and dark place when not in use.

Voles/Mice/Rodents: Less of an obvious nuisance than deer, field rodents can cause a lot of damage to your trees if left unchecked. The largest threat rodents pose to young trees arises from their desire to nest at the base of the tree and chew on the bark and roots. The most effective way to prevent rodents from nesting at tree bases is to keep weeds and grasses from encroaching on the trunk of the tree. Regular weeding and mulching will greatly reduce the chances of rodents nesting near your trees.

A visual inspection of your trees should be done regularly if you suspect rodents are a problem. Look for damage to the bark like that seen in Figure 2.

Figure 2. Typical damage to tree trunk caused by rodents.

Cleaning:

Removing Leaves

Rake leaves as necessary in the fall. Bag and remove from site or mulch dry leaves in place using a lawn mower.

Removing Debris

Check branches and surrounding ground for windblown trash and remove as necessary.

Mulch:

Raking and Removing

Use a leaf rake to loosen any compacted mulch. Remove old mulch before adding new mulch.

Replacing

Maintaining a mulched area around the tree keeps the roots cool and provides a protective buffer between the tree trunk and lawn trimming activity. Use shredded hardwood mulch in a layer about 3-4 inches deep in a ring that extends from the base of the tree to the drip line. Avoid piling mulch up against the trunk, keep it 1-2 inches away to prevent rot and pest damage.

HEW's Maintenance Program

Howard EcoWorks also offers a fee-for-service maintenance program for all the Bay-scapes, rain gardens, and conservation landscapes we install. Typical costs for participation in HEW's fee for service maintenance program range from $1000-$3000 per year depending on the number and size of the gardens. If this fee for service program is of interest to you, please contact Ted Wolfe at twolfe@howardecoworks.org for more details.

Triennial Inspections

As a requirement for all stormwater best management practices (BMP), an inspection of your project will need to occur once every 3 years. This inspection is to verify the functionality and effectiveness of the stormwater BMP in question. Inspections will be performed by Howard EcoWorks staff and notification of inspections will be sent to you at least 1 month before the intended inspection date. Triennial inspections take approximately 20-30 minutes and do not require your presence, just your permission to enter the property. Furthermore, photos of the project may be requested from your in lieu of an onsite inspection.

If you have any questions regarding the Triennial Inspections process please reach out to info@howardecoworks.org for more information.

PROJECT LOCATION

DATE

BMP TYPE Tree

INSTALLED BY Howard EcoWorks

MAINTENANCE SCHEDULES

	SEASONAL TASKS	DETAILS	Winter			Spring			Summer			Fall		
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	Tree Care	Watering						■	■	■	■	■		
		Winter watering			■	■	■	■					■	■
		Supporting			■			■		■				
		Pruning			■	■	■	■	■	■				
		Pest management				■		■		■		■		
2	Cleaning	Removing leaves									■	■	■	■
		Removing debris	■	■	■	■	■	■	■	■	■	■	■	■
3	Mulch	Raking and removing			■									
		Replacing			■									

	LIFETIME TASKS	DETAILS	YEAR					
			1	2	3	4	5	6+
	Tree Care	Watering	■	■				
		Inspection	■	■	■	■	■	■
		Removing stakes		■				
		Removing cages			■	■		
		Pruning		■	■	■	■	■
		Invasive management	■	■	■	■	■	■
		Pest management	■	■	■	■	■	■