

Indiana DNR Division of Forestry, Community and Urban Forestry Program

Addendum A: Tree Planting Project Requirements

The following are minimum standards for tree planting projects funded by DNR CUF grants. Any tree planting project that follows these standards should see the trees thrive and grow to a mature age. Local ordinances or guidelines with more stringent standards should be honored.

1. Planning

- A. The Project Coordinator (or professional employed by the Subgrantee) will monitor and guarantee that all species choices, site selections, tree purchases, inspections, and plantings will adhere to the requirements in this document. These professionals will be onsite at planting time to ensure that these requirements are met.
- B. The project will follow the Work Plan and Map submitted in the grant proposal. Any changes to this plan will be reviewed and agreed to by CUF personnel in writing before beginning planting. This Work Plan will also comply with any local detailed tree planting and maintenance plans prepared by a qualified professional and coordinated with local agencies to avoid conflicts **residence, city park, etc.**
- C. Utilities must be indicated on the plan if known. The Project Coordinator will use the 811 service to locate and mark all utilities on planting sites before starting to plant. If conflicts arise, and the Work Plan must be changed, the Coordinator will consult with CUF as in item A above.
- D. A minimum of one (1) year warranty is required on all planting contracts with landscaping or nursery contractors. **Any contractors used on a CUF grant planting project are REQUIRED to be given a copy of this Addendum A and they are REQUIRED to follow its guidelines as part of their contract with the Subgrantee.**
- E. All trees must pass inspection by CUF personnel within 30 days of planting. Failure to do so will delay or disqualify reimbursements. Make sure to plan for and to contact CUF to schedule timely inspections.

2. Species Selection

- A. Species will be selected to fit the planting sites, taking into consideration soils and rooting space, overhead space, adjacent utilities and buildings, drainage, pollution problems, and other site conditions.
- B. The miniaturization of the urban forest is becoming a significant issue. Larger trees yield larger benefits and Project Coordinators must be proactive in reversing this trend. Preference will be given to projects that prioritize the planting of species that will naturally grow to a large size. Make sure to plant the largest site appropriate species for each planting location. Conflicts preventing such selections should be noted in the Work Plans and agreed to by CUF personnel. Coordinators should always seek to upsize any proposed alternate sites to accommodate larger trees.
- C. 100% of trees planted will be species native to Indiana; cultivars of native species are acceptable.
 - i. Please view the accepted species list below titled "Acceptable tree species."

- ii. If your plan includes the establishment or planting of an urban food forest, please contact the CUF Department as soon as you can in the planning process to discuss acceptable tree species.
 - iii. Additionally, unless a current inventory demonstrates a population under 5% in the genus Acer (maple), no maples are to be planted. Communities with less than 5% Acer can choose Acers for up to 10% of their project trees.
- D. Trees must be a minimum of ½ inch caliper (3-gallon pot size) and up to a maximum of 2.5 inches caliper (measurement of trunk width 6 inches from soil grade). No tree larger than 2.5 inches caliper will be eligible for reimbursement.
 - E. Only high-quality nursery stock trees will be eligible for reimbursement. Restoration or park-grade stock is not eligible. Whips and seedlings are also excluded. Trees with severe root defects are also not eligible.
 - F. In caring for trees before planting, all precautions customary in good trade practice will be taken.

3. Site Selection

- A. Trees will be located so that they do not block infrastructure such as signs and lights and they do not reduce critical visibility.
- B. Utilities must be indicated on the plan if known. The Project Coordinator will use the 811 service to locate and mark all utilities on planting sites before starting to plant. If conflicts arise, and the Work Plan must be changed, the Coordinator will consult with CUF as in item A above.

4. **Planting Standards - A qualified professional arborist OR trained volunteer OR the Project Coordinator must be ON SITE to supervise all tree plantings.** The following criteria will be used as a minimum in carrying out and inspecting the projects.

- A. Holes dug for planting of trees will be 1.5-2x the diameter of the root system or root ball. Sides of the hole should be gently sloped and slightly less deep than the root ball: more like a saucer than a cylinder in shape.
 - i. Dig the planting hole shallower in areas with wet soil conditions and backfill up to the edge of the root ball. This will allow for “settling” of the tree.
- B. **Trees will be planted with the root flare at grade. It is likely that you will need to remove soil on top of the root ball to get to the flare.** In compacted or heavy clay soils, they can be planted slightly higher (no more than 1/8 of the root ball above ground level). Seeing the root flare at grade level is crucial. In no case should the first main lateral root emerging from the trunk be more than 1 inch above or below the soil level. If the root flare is not at grade level at the time of inspection corrections will be required before full reimbursement will be issued.
- C. Cut/correct any circling, girdling, or adventitious roots before planting the tree.
- D. Strings, twine, netting, and any other packaging materials will be removed from the trunks, branches, and roots of trees.
- E. It is a **REQUIREMENT** that the burlap and wire basket be completely removed from the upper 1/3 - ½ of the root ball after the root flare has been found and exposed, or as needed to prevent obstruction of the primary structural roots of the tree. Removal of the entire basket and burlap is acceptable, but stakes and ties are recommended when the entire basket is removed. These

stakes and ties should stay in place no more than 6–12 months and be removed when the trees' root systems have been established. If the burlap and wire basket are not removed from the upper portion of the root ball and the root flare has not been found and exposed at the time of the inspection, then corrections will need to be made before plantings will be approved. **All plantings must be approved in order for you to receive reimbursement.**

- F. Backfill with existing site soil. Large rocks and debris are to be removed. Excess soil from the hole will be removed from the site; leftover soil should never be placed over the root zone. This changes the grade of the landscape and plants the tree too deeply.
 - G. Trunk wrap is not necessary; however, a freestanding wrap/screen tube may be used when sensitive species are exposed to direct sun or to animal damage. The wrap should allow some light to pass through, and it should not be in direct contact with the trunk.
 - H. A layer of mulch, 2 to 4 inches thick, and a minimum of 6 inches away from the trunk, will be applied around the tree in a circle 36 inches wide or twice the diameter of the root ball, whichever is larger. Under no circumstances should trees be volcano mulched: Do not pile mulch directly against the tree trunk.
 - I. Dead, damaged, or poorly located branches will be removed using proper pruning techniques.
 - J. All bare root trees (and balled and burlap trees if in exposed, windy areas) will be staked to keep them upright for one growing season.
 - i. When staking, use flat tree support strapping or grommets rather than ropes, wires, or hose segments against the trunk. The straps spread the pressure over a wider area, reducing the potential for bark damage. Straps should lie flat against the trunk and should not be bunched up or twisted. Two or three straps are routinely used in tree staking.
 - K. Thoroughly water the tree and the entire mulch area to collapse any air pockets introduced during planting.
 - L. **It is a requirement that for every tree that is planted the exact location be recorded on a map or spreadsheet including the property type. Property type examples are, tree lawn, ROW, private.**
5. **Tree Maintenance** - Trees should be maintained for a minimum of **three years** to ensure survival. Tree maintenance is particularly important through the growing season, generally April through October. Watering is especially important and must be scheduled. Newly planted trees require more frequent watering schedules than mature trees. **A maintenance plan is required to be submitted with your application. The maintenance plan shall include how you plan to care for the trees following planting.**
- A. Trees should be inspected regularly by the Subgrantee to evaluate general health and disease and insect problems.
 - B. Treat disease and insect problems as needed to maintain tree health.
 - C. Water during the growing season. A long slow soak is best. Water should be applied weekly or as needed when natural precipitation is not enough. A good rule is to provide water at the rate of 5 gallons for every caliper inch. Keep the area under the tree canopy properly mulched. Check soil with a soil probe, if available, for dampness and drainage. Overwatering can be just as lethal as underwatering. Most importantly, a consistent watering regimen in the fall before the ground freezes is recommended to help ensure a healthy plant in the spring.

- D. Trees will be pruned as needed to remove dead, damaged, or poorly located limbs using accepted practices of industry (ANSI A300 – 2017 Pruning for Tree Care Operations – Tree, Shrub, and other Woody Plant Maintenance Standard Practices).

Acceptable Tree Species

Common name (s)	Genus	Species
Aspen		
Big-tooth	<i>Populus</i>	<i>grandidentata</i>
Quaking	<i>Populus</i>	<i>tremuloides</i>
Basswood, American	<i>Tilia</i>	<i>americana</i>
Beech, American	<i>Fagus</i>	<i>grandifolia</i>
Birch		
Gray	<i>Betula</i>	<i>populifolia</i>
Paper	<i>Betula</i>	<i>papyrifera</i>
River	<i>Betula</i>	<i>nigra</i>
Yellow	<i>Betula</i>	<i>alleghaniensis</i>
Black gum (sour, tupelo)	<i>Nyssa</i>	<i>sylvatica</i>
Buckeye		
Ohio	<i>Aesculus</i>	<i>glabra</i>
Yellow	<i>Aesculus</i>	<i>flava (octandra)</i>
Butternut	<i>Juglans</i>	<i>cinerea</i>
Catalpa, northern	<i>Catalpa</i>	<i>speciosa</i>
Cedar		
Eastern red	<i>Juniperus</i>	<i>virginiana</i>
Northern white	<i>Thuja</i>	<i>occidentalis</i>
Cherry		
Black	<i>Prunus</i>	<i>serotina</i>
Chestnut, American	<i>Castanea</i>	<i>dentata</i>
Coffeetree, Kentucky	<i>Gymnocladus</i>	<i>dioica</i>
Cottonwood		
Eastern	<i>Populus</i>	<i>deltoides</i>
Swamp	<i>Populus</i>	<i>heterophylla</i>
Crabapple		
Sweet, American	<i>Malus</i>	<i>coronaria</i>
Prairie	<i>Malus</i>	<i>ioensis</i>
Cypress, bald	<i>Taxodium</i>	<i>distichum</i>
Dogwood, flowering	<i>Cornus</i>	<i>florida</i>
Elm		
American (White)	<i>Ulmus</i>	<i>americana</i>
Rock	<i>Ulmus</i>	<i>thomasii</i>
Slippery (Red)	<i>Ulmus</i>	<i>rubra</i>

Winged	<i>Ulmus</i>	<i>alata</i>
Hackberry		
Southern hackberry (Sugar)	<i>Celtis</i>	<i>laevigata</i>
Northern hackberry	<i>Celtis</i>	<i>occidentalis</i>
Hawthorn		
Cockspur-thorn	<i>Crataegus</i>	<i>crus-galli</i>
Dotted	<i>Crataegus</i>	<i>punctata</i>
Downy	<i>Crataegus</i>	<i>mollis</i>
Green	<i>Crataegus</i>	<i>viridis</i>
Hemlock, eastern	<i>Tsuga</i>	<i>canadensis</i>
Hickory		
Bitternut	<i>Carya</i>	<i>cordiformis</i>
Mockernut	<i>Carya</i>	<i>tomentosa</i>
Pale (Sand)	<i>Carya</i>	<i>pallida</i>
Pignut	<i>Carya</i>	<i>glabra</i>
Red	<i>Carya</i>	<i>ovalis</i>
Shagbark	<i>Carya</i>	<i>ovata</i>
Shellbark	<i>Carya</i>	<i>laciniosa</i>
Honeylocust	<i>Gleditsia</i>	<i>triacanthos</i>
Honeylocust, Thornless	<i>Gleditsia</i>	<i>triacanthos</i> , var. <i>inermis</i>
Hop-hornbeam; ironwood	<i>Ostrya</i>	<i>virginiana</i>
Hornbeam, Blue beech, Musclewood	<i>Carpinus</i>	<i>caroliniana</i>
Locust, black	<i>Robinia</i>	<i>pseudoacacia</i>
Magnolia		
Cucumber-tree	<i>Magnolia</i>	<i>acuminata</i>
Umbrella-tree	<i>Magnolia</i>	<i>tripetala</i>
Maple		
Black	<i>Acer</i>	<i>nigrum</i>
Boxelder, Ash -leaved maple	<i>Acer</i>	<i>negundo</i>
Red	<i>Acer</i>	<i>rubrum</i>
Silver	<i>Acer</i>	<i>saccharinum</i>
Sugar	<i>Acer</i>	<i>saccharum</i>
Mulberry, red	<i>Morus</i>	<i>rubra</i>
Oak		
Black	<i>Quercus</i>	<i>velutina</i>
Blackjack	<i>Quercus</i>	<i>marilandica</i>
Bur	<i>Quercus</i>	<i>macrocarpa</i>
Cherrybark	<i>Quercus</i>	<i>pagoda</i>
Chestnut	<i>Quercus</i>	<i>prinus</i>
Chinkapin	<i>Quercus</i>	<i>muehlenbergii</i>
Deam	<i>Quercus</i>	<i>X deamii</i>
Northern pin (Jack)	<i>Quercus</i>	<i>ellipsoidalis</i>
Northern red	<i>Quercus</i>	<i>rubra</i>
Overcup	<i>Quercus</i>	<i>lyrata</i>
Pin	<i>Quercus</i>	<i>palustris</i>

Post	<i>Quercus</i>	<i>stellata</i>
Scarlet	<i>Quercus</i>	<i>coccinea</i>
Shingle	<i>Quercus</i>	<i>imbricaria</i>
Shumard	<i>Quercus</i>	<i>shumardii</i>
Southern red	<i>Quercus</i>	<i>falcata</i>
Swamp chestnut	<i>Quercus</i>	<i>michauxii</i>
Swamp white	<i>Quercus</i>	<i>bicolor</i>
White	<i>Quercus</i>	<i>alba</i>
Pawpaw	<i>Asimina</i>	<i>triloba</i>
Pecan	<i>Carya</i>	<i>illinoensis</i>
Persimmon	<i>Diospyros</i>	<i>virginiana</i>
Plum		
American wild	<i>Prunus</i>	<i>americana</i>
Hortulan (Wild goose)	<i>Prunus</i>	<i>hortulana</i>
Canada-plum	<i>Prunus</i>	<i>nigra</i>
Pin-cherry	<i>Prunus</i>	<i>pensylvanica</i>
Pine		
Eastern white	<i>Pinus</i>	<i>strobus</i>
Jack	<i>Pinus</i>	<i>banksiana</i>
Virginia	<i>Pinus</i>	<i>virginiana</i>
Redbud, eastern	<i>Cercis</i>	<i>canadensis</i>
Sassafras	<i>Sassafras</i>	<i>albidum</i>
Serviceberry		
Downy	<i>Amelanchier</i>	<i>arborea</i>
Smooth	<i>Amelanchier</i>	<i>laevis</i>
Sourwood	<i>Oxydendrum</i>	<i>arboreum</i>
Sweet gum	<i>Liquidambar</i>	<i>styraciflua</i>
Sycamore, American	<i>Platanus</i>	<i>occidentalis</i>
Tamarack	<i>Larix</i>	<i>laricina</i>
Tulip Tree	<i>Liriodendron</i>	<i>tulipifera</i>
Walnut, Black	<i>Juglans</i>	<i>nigra</i>
Water Locust	<i>Gleditsia</i>	<i>aquatica</i>
Willow		
Black	<i>Salix</i>	<i>nigra</i>
Peachleaf	<i>Salix</i>	<i>amygdaloides</i>
Yellowwood	<i>Cladrastis</i>	<i>lutea</i>

Tree Planting Guidelines for Balled & Burlap Stock

The instructions on this page are highlights from the **American National Standards Institute (ANSI) A300 Part 6 – 2012 Tree, Shrub, and other Woody Plant Maintenance Standard Practices (Planting and Transplanting)**. Subgrantees will employ the standards outlined in this document as standard practice in their CUFA projects. **Projects found out of compliance upon inspection will be required to be corrected; failure to do so will risk losing grant reimbursement.**

Inspect all trees to be planted upon pickup/delivery. Reject those specimens which present severe health and form limitations or visible damage.

Limit pruning at the time of planting. Prune only broken, dead, or significantly structurally defective branches. Also prune girdling and/or adventitious roots.

Stake only if needed.

Protect tree trunks with mesh or screen materials only if it is a thin bark species or there is threat of trunk damage by animals. Remove as appropriate.

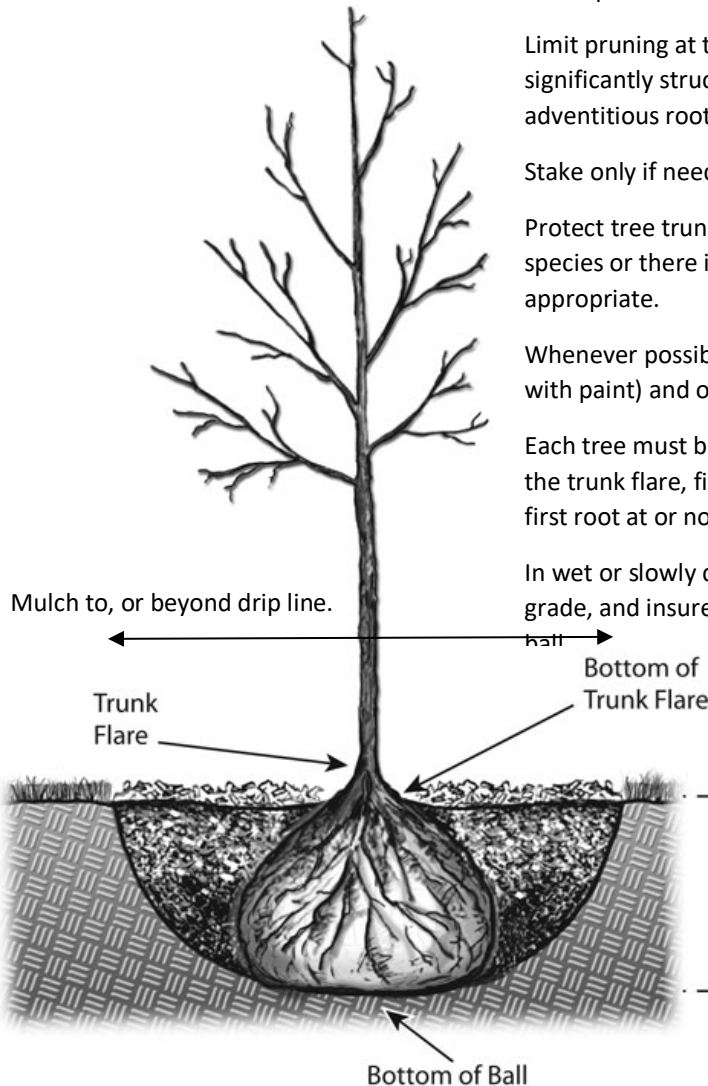
Whenever possible, determine the north side of the tree (sometimes marked with paint) and orient the tree similarly at the planting site.

Each tree must be planted so that the trunk flare is at grade level. To locate the trunk flare, find the first main lateral root and plant the tree with that first root at or no more than 1" below grade.

In wet or slowly draining areas, position the root flare 1 – 2 inches above grade, and insure good soil contact for radial roots at the edge of the root ball. Completely remove the burlap and wire basket from the upper ½ of the root ball, or as needed to expose the root flare and the primary structural roots of the tree. You may remove the entire basket and burlap. Stakes and ties are recommended when the entire basket is removed.

Place root ball on unexcavated or tamped soil. Do not over-dig the planting hole.

Do not cover the trunk or the top of the root ball with excess soil. Gently tamp soil around root ball base firmly with foot pressure so that root ball does not shift and any air gaps are removed.



Spread 2 – 4 inches of mulch around the tree in a minimum 36-inch diameter circle around the tree trunk. Do not place mulch in contact with the tree trunk. Maintain the mulch weed-free for a minimum of 3 years after planting.

Water thoroughly immediately after planting and weekly thereafter for a minimum of two growing seasons. You may need to schedule additional watering during periods of drought.