SAMPLE OHIO TREE PLANTING SPECIFICATIONS

Endorsement: This information is approved and endorsed by the Ohio Chapter International Society of Arboriculture, Ohio Green Industry Association, Ohio State University Extension, and Ohio Department of Natural Resources Division of Forestry.

Purpose: To increase planting and transplanting success by providing the most current and acceptable tree planting procedures. This information is prepared to convey specific requirements to public employees, contractors, developers, property owners, and/or volunteers. It contains the fundamental elements necessary to ensure that trees are properly planted or transplanted using best management practices to ensure the health and longevity of the chosen species. Specifications are intended to be contract-ready and provide mutual standards and a shared vocabulary among Ohio's arboriculture, landscape, construction, and government entities.

1.0 Plant Material Supply and Pre-Planting Management Requirements

All plant material complies with American Standard for Nursery Stock Z60.1. All plant material has been selected based on site conditions and constraints.

1.1 Trees shall be freshly dug and properly stored prior to planting. Trees determined to have inferior root systems or poor-quality health shall be refused by [client name.]

1.2 Each tree shall be labeled with a Latin name with varietal or cultivar names and a common name. All unlabeled or mislabeled trees shall be refused by [client name.]

1.3 Tree stock shall be protected from excessive vibration; avoiding being thrown or bounced off mobile equipment to the ground. Trees shall not be dragged, lifted, or pulled by the trunk or foliage parts in a manner that damages or loosens the roots from the soil in the root ball. Trees damaged and mishandled before and upon delivery shall be refused by [client name.]

1.4 To avoid damage when setting a tree in the hole, straps or rope may be necessary to lift the root ball. Lifting trees by their trunk is prohibited.

1.5 Special strapping mechanisms shall be constructed to carefully lift trees out of large containers.

2.0 Planting Guidelines

Trees shall be planted following the landscape plan or design as well as adhering to current recognized Best Management Practices as outlined by the International Society of Arboriculture and the current edition of the American National Standards Institute (ANSI) A300 part 6.

2.1 Planting Balled and Burlapped Trees:

1. Locate the root collar by removing twine, burlap, and excess soil from the top of the root ball.
2. When practical, dig a planting hole 2-3 times wider than the diameter of the root ball or a minimum of 20-24" wider than the diameter of the root ball. Slope the sides to an unexcavated or firm base. Dig the hole to a depth so the root collar at the first order lateral root is at or within 2 inches above the surrounding, undisturbed finished grade.
3. When using an auger or spade, make sure the sides are not glazed or excessively compacted.
4. Tip the tree on the side to remove the bottom wire basket with bolt cutters.
5. Lifting from the bottom of the root ball or sides of the remaining wire basket, position the tree on the firm base of the planting hole so that the tree is straight, and the top of the root collar is level with or within 2 inches above the surrounding soil.

6. Remove and discard the remainder of the wire basket. Remove the burlap to the bottom of the root ball. Preferably all burlap will be removed from the root ball and planting hole.
7. Inspect the root ball to ensure the tree has not been wrapped with another layer of burlap and that the roots are healthy and properly formed.

Go to section 2.4 Finishing

2.2 Planting Containerized or Grow Bag Trees

1. Locate the root collar. Remove all excess soil to expose the root collar.
2. Dig the planting hole at least three times wider than the root ball with sloping sides. Dig the hole to a depth so the located root collar, at the first order lateral root, is at or within 2 inches above the surrounding, undisturbed finished grade.
3. Tamp bottom of the planting hole.
4. Remove the tree from the container or grow bag and select from the option below.
    i. Create a firm soil mound at the bottom of the planting hole. Completely tease apart the root system, repositioning any stem girdling, potentially stem girdling, and encircling roots.
    ii. Place in planting hole so that root collar is at or within two inches (2”) above finished grade and the tree is straight. With a sharp saw, shave off the entire outer 1 inch (1”) of the root ball.
    iii. If grow bag is designed to tear off encircling roots, place it in the planting hole so that the root collar is at or within two inches (2”) above the finished grade and the tree is straight.

Go to section 2.4 Finishing

2.3 Planting Bare Root Trees

1. Dig the tree hole at least two times wider than the root ball with sloping sides. Dig the hole to a depth so the located root collar, at the first order lateral root, is at or within 2 inches above the surrounding, undisturbed finished grade.
2. Create a firm soil mound at the bottom of the planting hole.
3. Spread roots over soil mound so that root collar is at finished grade and the tree is straight.

Go to section 2.4 Finishing

2.4 Finishing

1. With clean, sharp pruning tools, prune off any secondary/adventitious, stem girdling, and potential stem girdling roots.
2. Before backfilling, ensure the tree is in an upright position avoiding the appearance of leaning.
3. Backfill the planting hole with existing unamended soil.
    i. If soil is compacted or damaged, the equivalent of two inches (2”) of EPA Rated Class IV compost or aged leaf litter may be mixed into the top twelve inches (12”) of the existing soil.
    ii. If soil is compacted or damaged, top-dress the entire planting hole with one inch (1”) (50 ft) of EPA Rated Class IV Compost or aged leaf litter to at least an eight-foot (8’) diameter around the tree.
4. Mulch the entire planting surface (ideally at least an 8 ft diameter around the tree) with composted bark applied no less than two inches (2”) deep and no more than three inches (3”) deep, leaving three inches (3”) adjacent to the tree trunk free of mulch.
5. Water tree with five (5) gallons per caliper inch plus five (5) gallons.

3.0 Staking Trees

Staking shall only be utilized for trees exposed to excessive winds or if the tree is unable to stay upright without temporary support. Install a staking system in a way that will not damage the bark on the tree. Wire, rubber hose, or similar materials shall not be permitted.

4.0 Planting on Slopes

1. The tree shall be set in the planting hole so the top-most first order lateral root in the root ball is on the uphill side and is at or within two inches (2”) above the surrounding, undisturbed finished grade on the uphill side.
2. Utilize soil from excavated planting hole to cover the exposed sides of the root ball on the downhill side.
3. Soil from off-site shall not be utilized without the express consent of [client name.]

5.0 Planting Aftercare

5.1 Watering

1. All recently planted trees shall be watered weekly from [April 1 – October 31 or adjusted as needed based on prevailing weather conditions such as late-season droughts.]
2. Deep soaks through mulch ring only
    i. Water shall not be sprayed onto the trunk or leaves.
3. Watering Rates
    i. Five (5) gallons per caliper inch plus five (5) gallons.
    ii. Taper off five (5) gallons after two (2) growing seasons.
    iii. Continue to taper off five (5) gallons for each growing season until the tree is acclimated to the site.

5.2 Stake Removal

Above ground staking and support materials shall be removed from the tree within twelve (12) months of planting/installation.

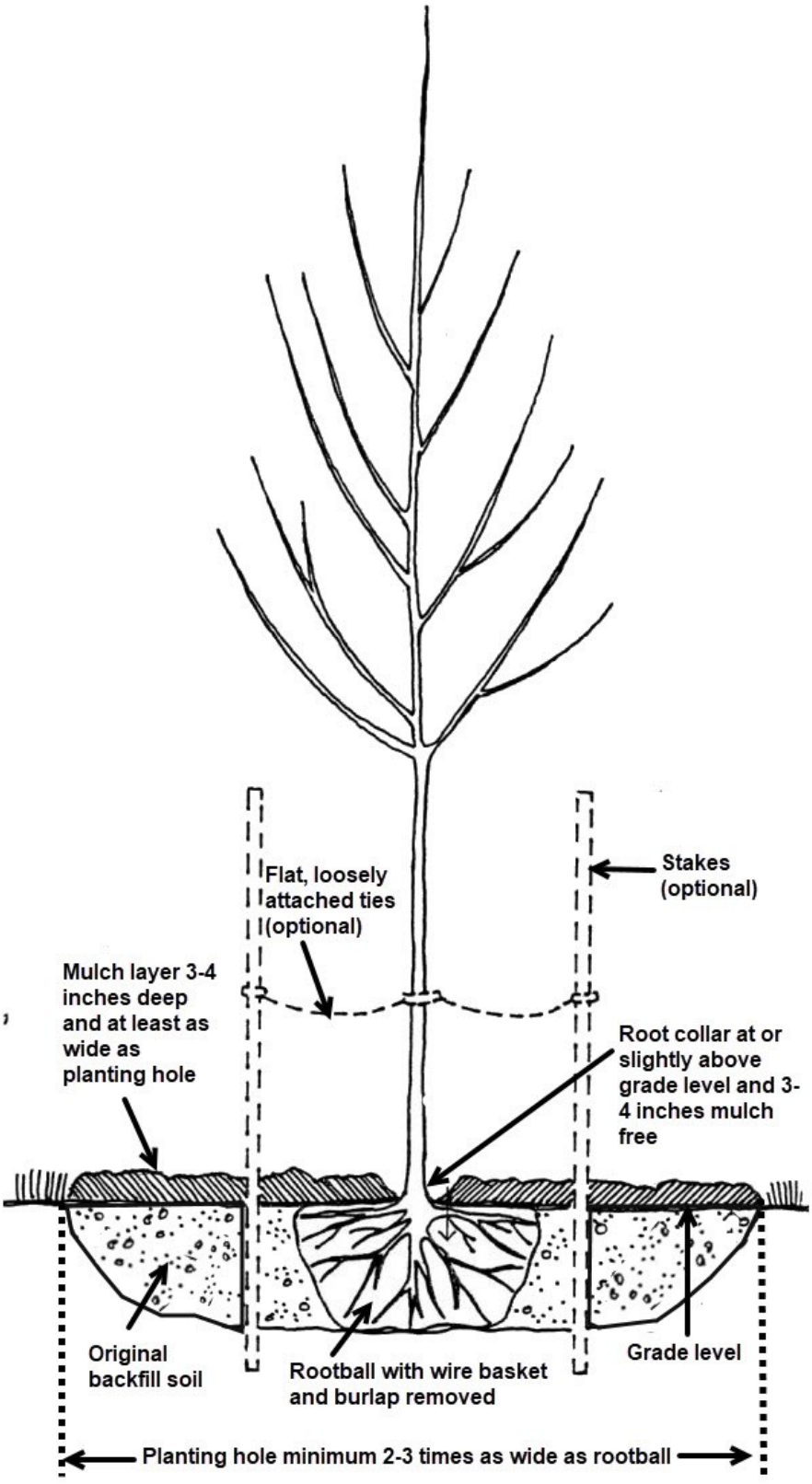
5.3 Mulching

1. Maintain mulched area with composted bark/wood chips applied no less than two inches (2”) deep and no more than three inches (3”) deep, leaving three inches (3”) adjacent to the tree trunk free of mulch.
2. The area shall be replenished annually as site conditions merit.

5.4 Root Collar Protection

The root collar is the transition zone between the roots and trunk often identified by an abrupt swelling or flare between the two areas.

1. The root collar shall always be slightly above the surface of the surrounding soil and free of soil, compost, mulch, stone, and other media.
2. If the root collar is not visible or buried, remove soil or media from around the tree until the root collar is at or within two inches (2”) above the surrounding, undisturbed finished grade.


Flat, loosely attached ties (optional)
Stakes (optional)
Mulch layer 3-4 inches deep and at least as wide as planting hole
Root collar at or slightly above grade level and 3-4 inches mulch free
Original backfill soil
Rootball with wire basket and burlap removed
Grade level
Planting hole minimum 2-3 times as wide as rootball