The Nuts and Bolts of Planting Specifications

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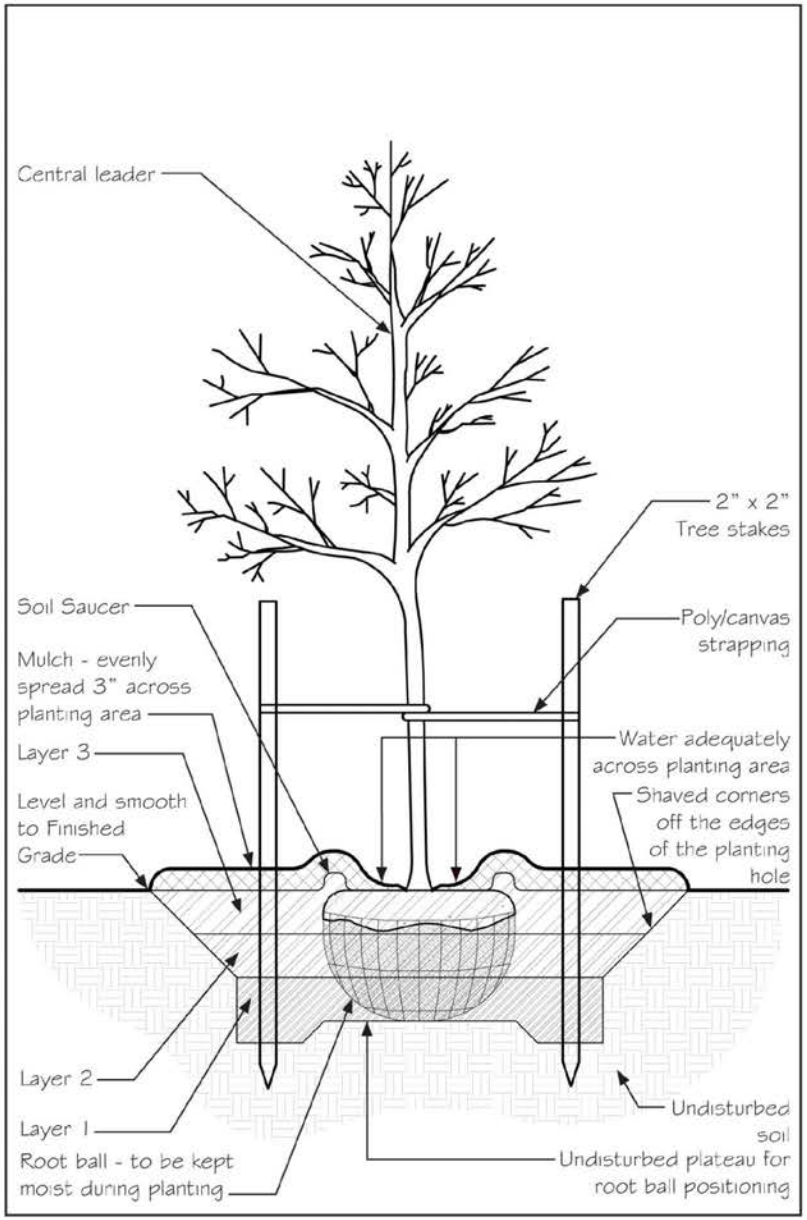
B&B Tree

Notes:

1. Prune to remove dead, damages, broken, or weak branches; lightly thin the interior of the crown. Prune to maintain a central leader on appropriate species. Soil/root ball should have adequate moisture prior to positioning the plant in the hole. Examine the trunk/root crown and inspect the soil/root ball for the true top of the root system. Planting depth is referenced to the top of the root system.
2. Dig the planting hole 12" wider than the edge of the soil/root ball. Due to poorly drained soils the top of the root system is elevated with the top 1/8 – 1/4 of the ball above existing grade. Soil should be added to smooth the transition from finished planting grade to the existing grade. The bottom of the hole should be firm and shaped as a plateau for positioning the soil/root ball.
3. Orient the plant in the hole with respect to optimum viewing; the plant should be set firmly on the base of the hole; align the plant so that it is plumb (straight) in the hole. Remove twine, basket wire and burlap from the top of the soil/root ball; remove excess soil down to the level of the roots.
4. Define the backfill soil/mix; for example, Backfill with existing soil; Backfill with a 50/50 blend of existing soil and topsoil; If requiring an amended backfill mix, identify the amendments and the percentages of amendments and soil in the mix.
5. Back fill in 3 layers by packing the soil around the root ball to stabilize the plant, remove any air pockets in the backfill, and minimize or eliminate future soil settling which may cause a shift in plant orientation. Begin backfilling by slicing soil at an angle from the edge of the hole and use it to stabilize the soil/root ball and ensure that the plant is plumb in the hole. The second layer is then applied and packed around the soil/root ball. Additional soil is added to the third layer to develop a smooth transition from finished planting grade to the surrounding existing grade, cover the top of the soil/root ball and shape a saucer over the soil/root ball area. (A saucer is shaped over the soil/root ball area to collect water and allow its gradual percolation into the soil/root ball. The saucer may remain or be knocked down after the plant has become established.)
6. Mulch is applied at a 3" depth over the planting area following the soil contour. Elevated planting levels typically extend the width of the mulch ring. Do not allow the mulch to come in contact with the tree trunk.
7. Apply nutrients (based on a soil test) at the appropriate rate and method for the plant.
8. Stake the tree with appropriate stakes (2" x 2" wooden stakes, metal posts, guide wires and anchors, etc.). Staking specifications may call for 1, 2, or 3 stakes per tree. Stakes are evenly disturbed around the tree with one stake positioned on the windward side. Stakes are driven through the backfill into the undisturbed subgrade. Poly/canvas strapping is used to firmly secure the trunk to the stakes. Stakes are typically removed after one year however in the case of larger plants they may stay in place for two years.
9. Water soil/root ball area and backfill adequately after planting.



Container Shrub

Notes:

1. Prune to remove dead, damages, broken, or weak branches; lightly thin the interior of the crown. Prune to maintain the appropriate shape of the plant. Container media/root mass should have adequate moisture prior to positioning the plant in the hole.

2. Remove the plant from the container; Disrupt the root mass to allow root/backfill soil contact. Butterfly the container/root mass on pot bound plants by slicing through the root mass 1/3rd the distance up from the bottom of the mass in two directions; resulting in four lobes at the bottom of the container/root mass. Butterflying facilitates root development into the backfill and allows for the integration of backfill soil into the core area of the container/root mass.

3. Dig the planting hole 6" wider than the edge of the container/root mass. The hole depth is determined by the height of the container media/root mass. The top of the container/root mass should coincide with existing grade. The bottom of the hole should be firm and shaped as a plateau for positioning the root mass.

4. Orient the plant in the hole with respect to optimum viewing; Spread the four lobes and set the plant firmly on the plateau at the base of the hole; align the plant so that it is plumb (straight) in the hole.

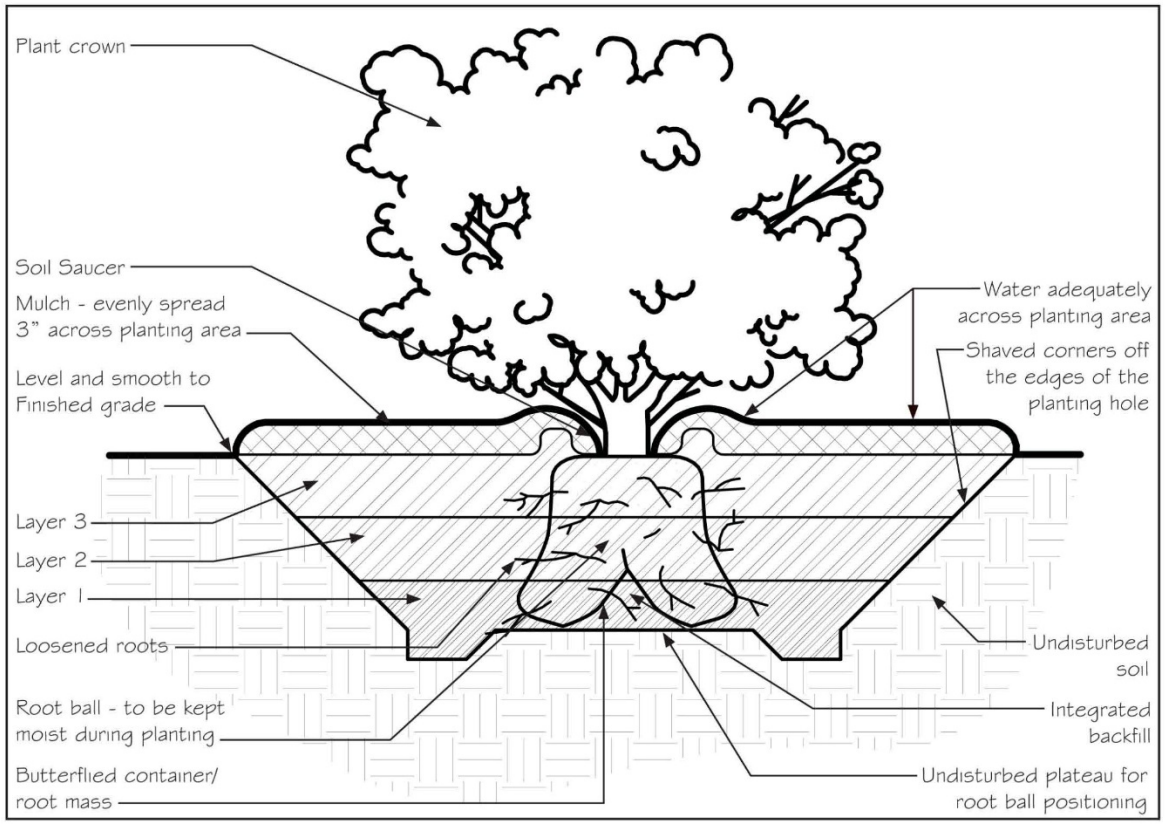
5. Define the backfill soil/mix; for example, Backfill with existing soil; Backfill with a 50/50 blend of existing soil and topsoil; If you are requiring an amended backfill mix, identify the amendments and the percentages of amendments and soil in the mix.

6. Back fill in 2-3 layers, depending on the size of the plant, by packing the soil around the container/root mass to stabilize the plant, remove any air pockets in the backfill, and minimize or eliminate future soil settling which may cause a shift in plant orientation. Begin backfilling by slicing soil at an angle from the edge of the hole and use it to stabilize the container/root mass and ensure that the plant is plumb in the hole. Integrate backfill soil into the interior core area of the butterflied container mass and around each lobe. The second layer (and third layer, if needed) is packed around the container/root mass, finishes filling the hole to final grade, covers the top of the container/root mass and shapes a saucer over the container/root mass area. (A saucer is shaped over the container/root mass area to collect water and allow its gradual percolation into the container/root mass area. The saucer may remain or be knocked down after the plant has become established.)

7. Mulch is applied at a 3" depth over the planting area following the soil contour. Do not allow the mulch to come in contact with the trunk.

8. Apply nutrients (based on a soil test) at the appropriate rate and method for the plant.

9. Water root mass and backfill soil area adequately after planting.



Planting Specifications

- Minimize Transplant Shock
- Promote Establishment
- Sustain Long Term Development

Planting Specifications

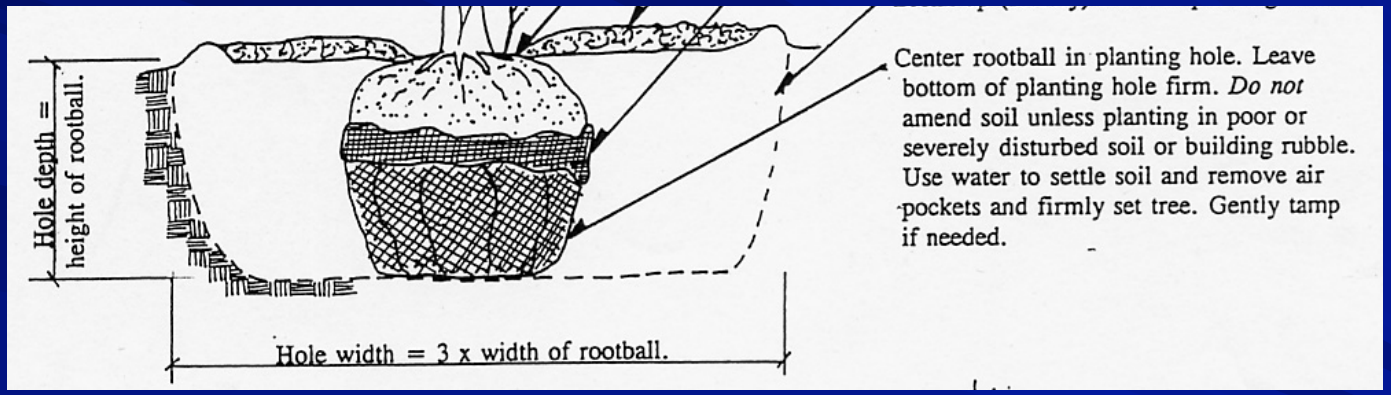
- Basic Foundations in Plant and Soil Sciences
- Landscape Design and Development Parameters
- Current Technology and Construction Practice
- Economically and Environmentally Sound

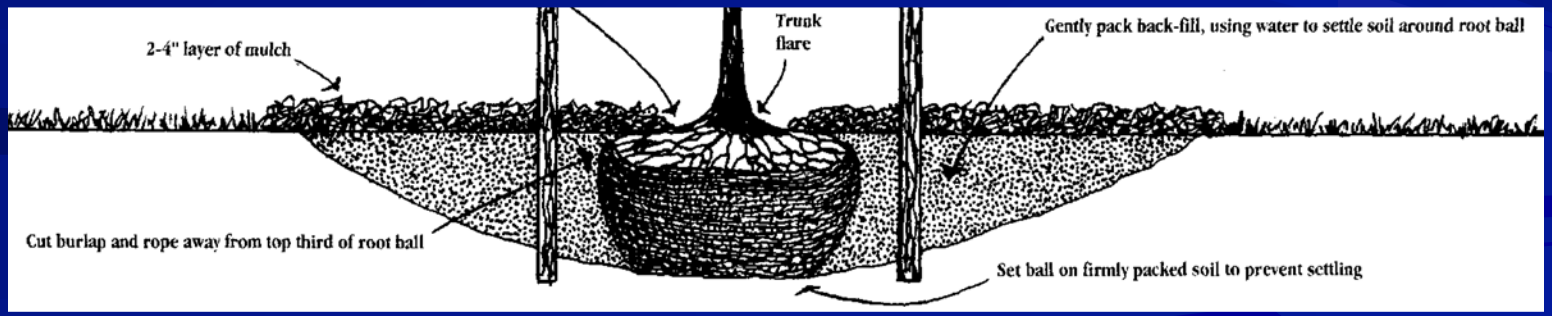
Planting Specification

- Realistic

Planting Specifications

Set rootball level to grade or slightly above grade (1/2") if in clay soil.



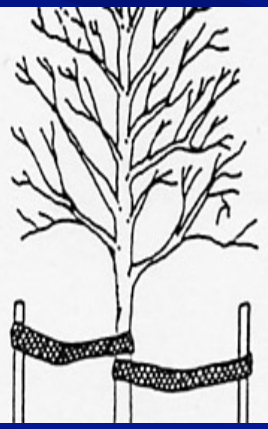


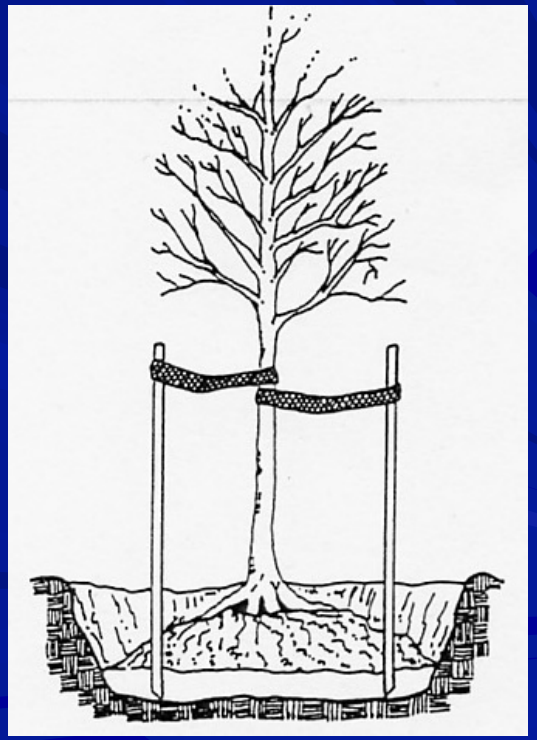
Planting Specifications

Do not prune terminal leader or branch tips.

Do not stake unless in heavy clay soil, windy conditions, 3" or greater diameter tree trunk or large crown. If staking is needed due to these conditions:

* Stake with 2 X 2 hardwood stakes or approved equal driven 6"-8" outside of rootball.
* Loosely stake tree trunk to allow for trunk flexing.



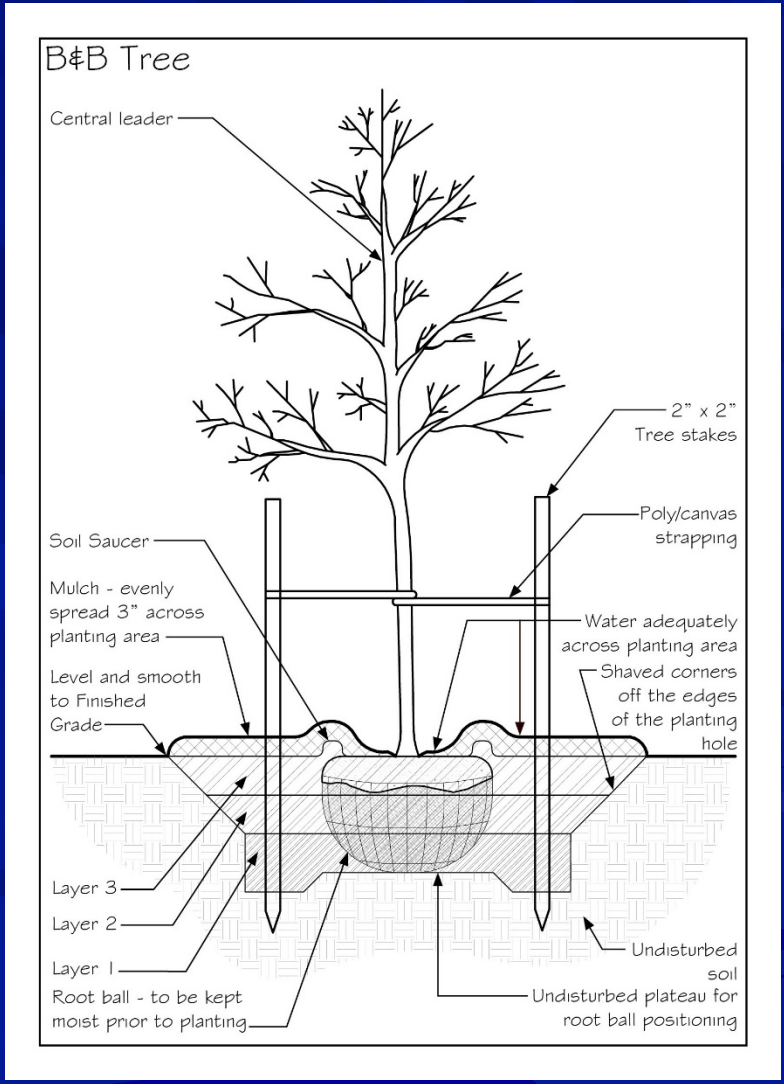


Planting Specifications

- Plant – Stock Type
- Planting Procedures – Site Soils/Environmental Conditions
- Management – Cultural Practice

Planting Procedures

- Hole
- Backfill procedures
- Mulch depth
- Mulch diameter
- Staking / Guying
- Pruning
- Watering
- Fertilizer
- Maintenance



Planting Specifications

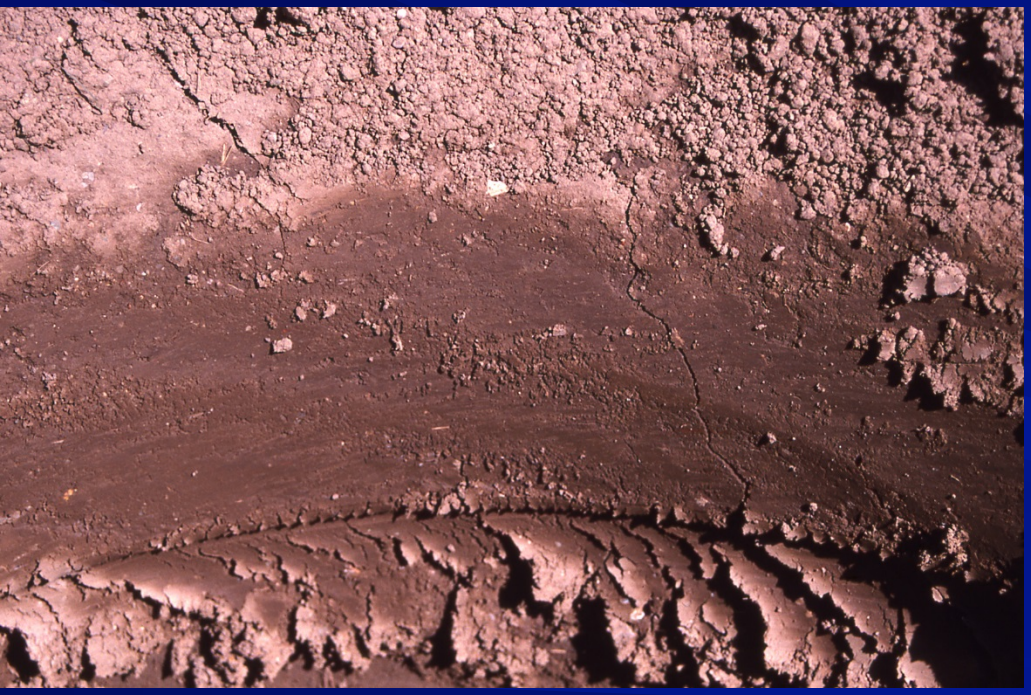
Hole

Planting Specifications

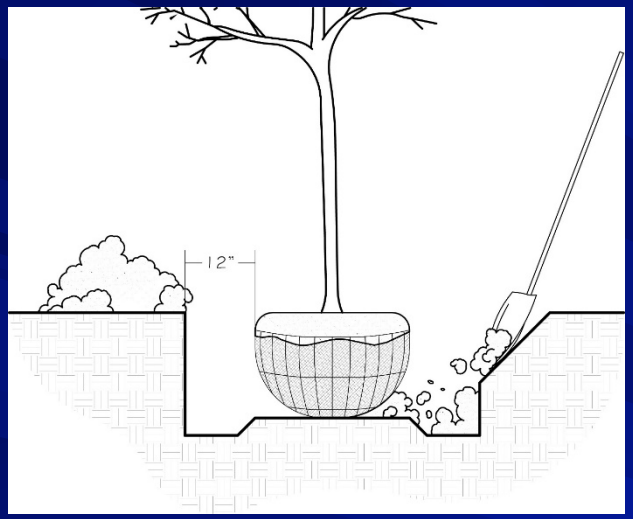
- Width of Planting Hole
  - Trees: Minimum of 12 inches on each side of the root mass
  - Shrubs: Minimum of 6 inches on each side of the root mass

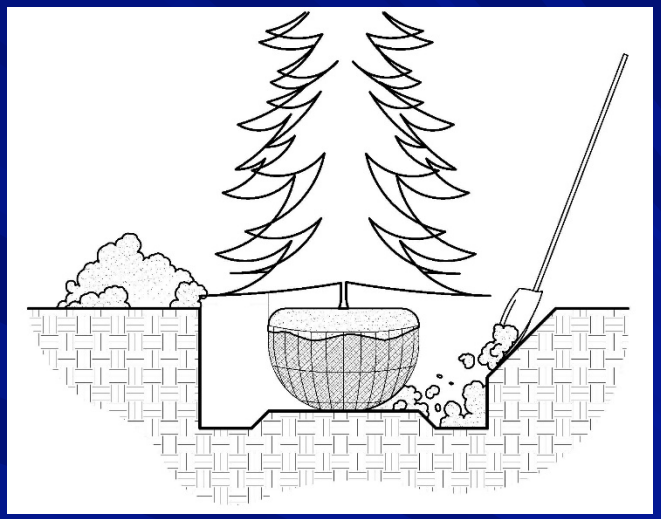
Planting Specifications
Hole

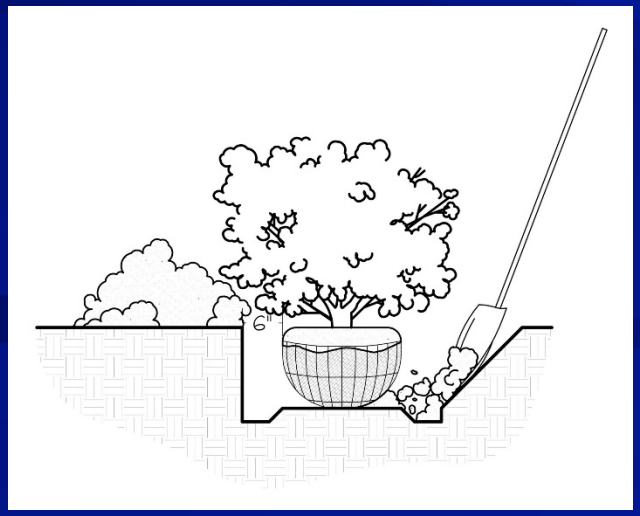
Planting Specifications
Hole

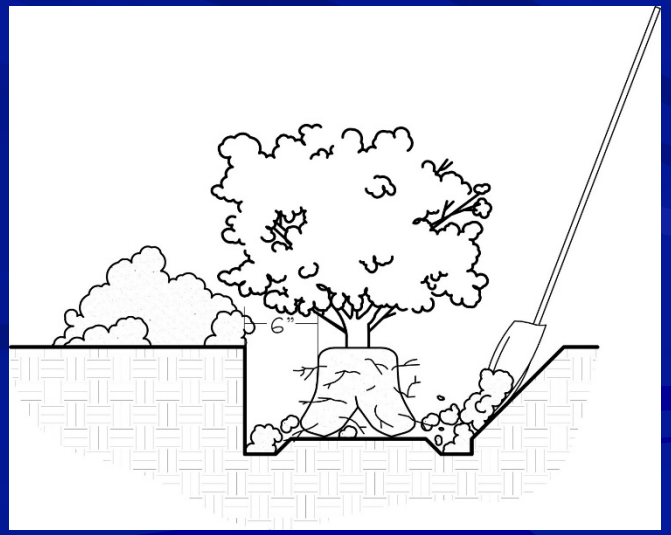


Planting Specifications
Widening the Hole During Backfill









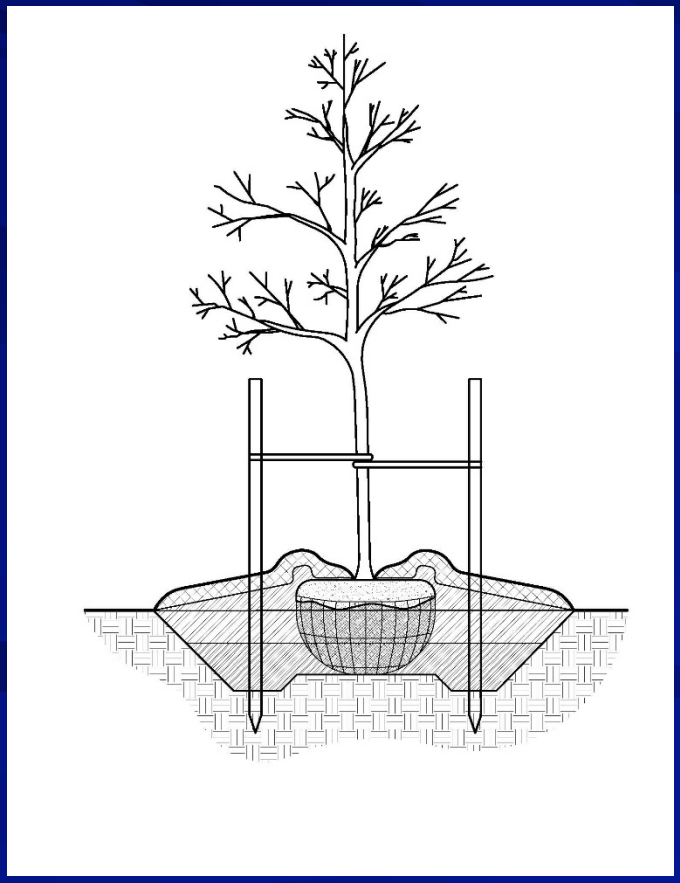
Planting Specifications
Hole

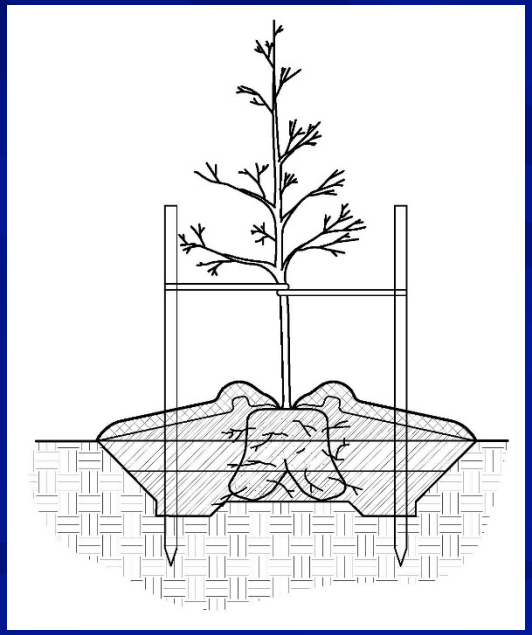
Planting Specifications

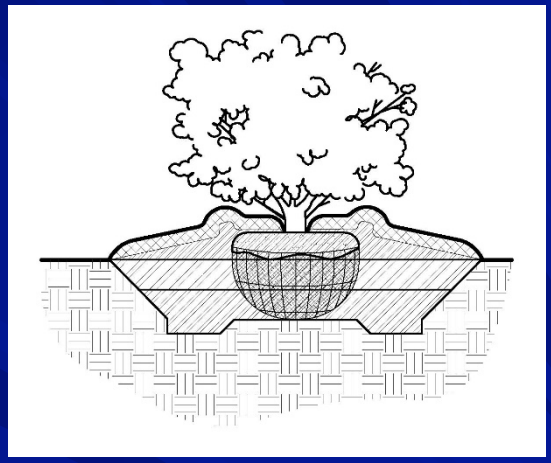
- Depth of Planting Hole
  - As deep as the root mass or soil ball
  - In poorly drained soils, position the root mass/soil ball 1/8 – 1/4 above existing grade
  - Bottom of the hole should be firm/undisturbed

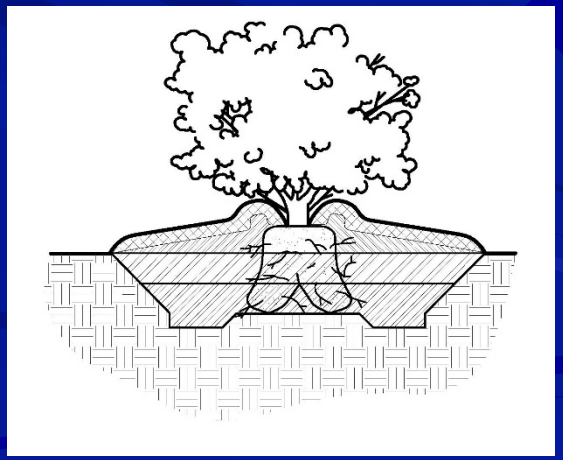
Planting Specifications

- Depth of Planting Hole









Planting Specifications

- Planting Mix

Planting Specifications

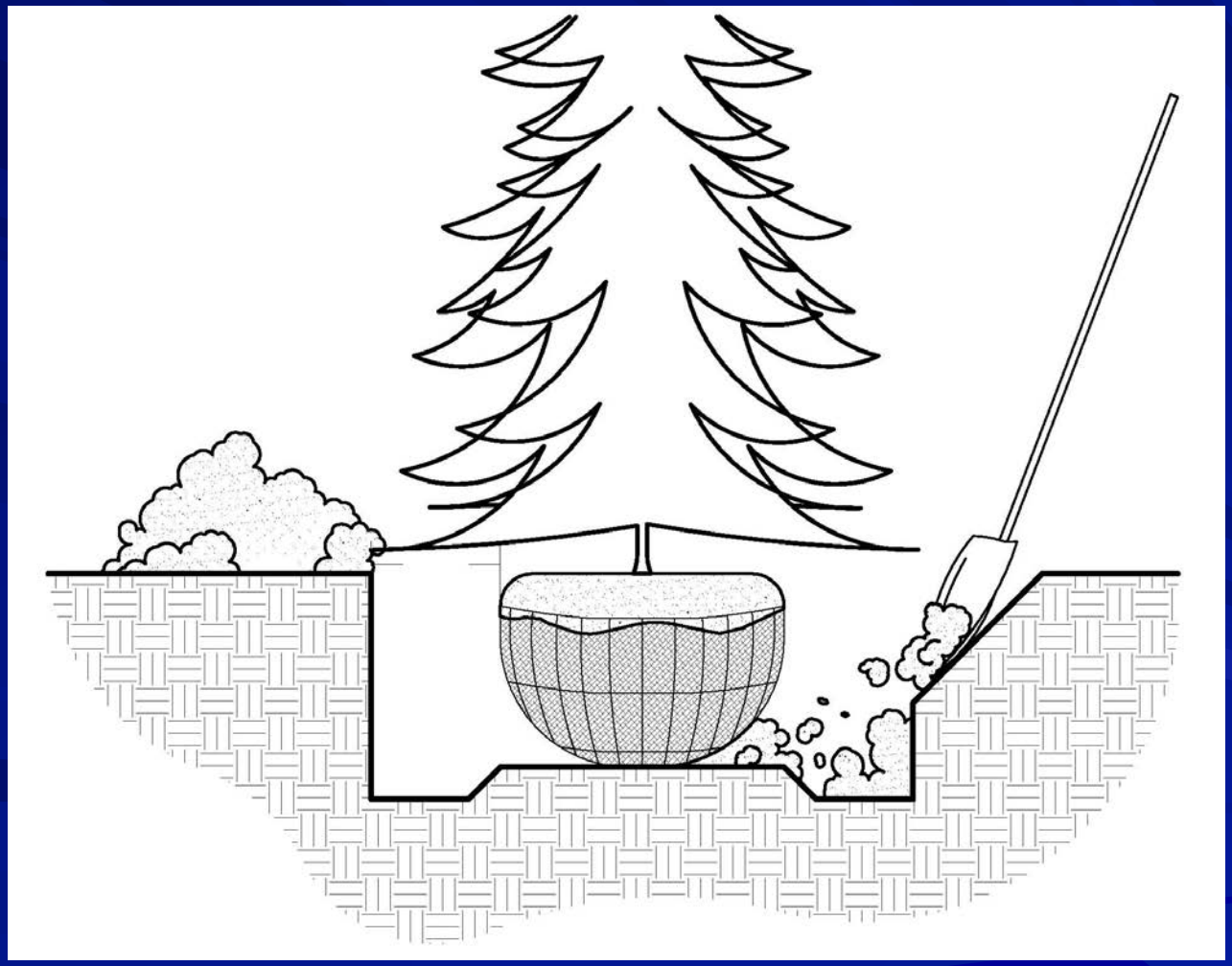
- Planting Mix
- Loam – OK
- Sand – OM
- Clay - OM

Planting Specifications
Hole

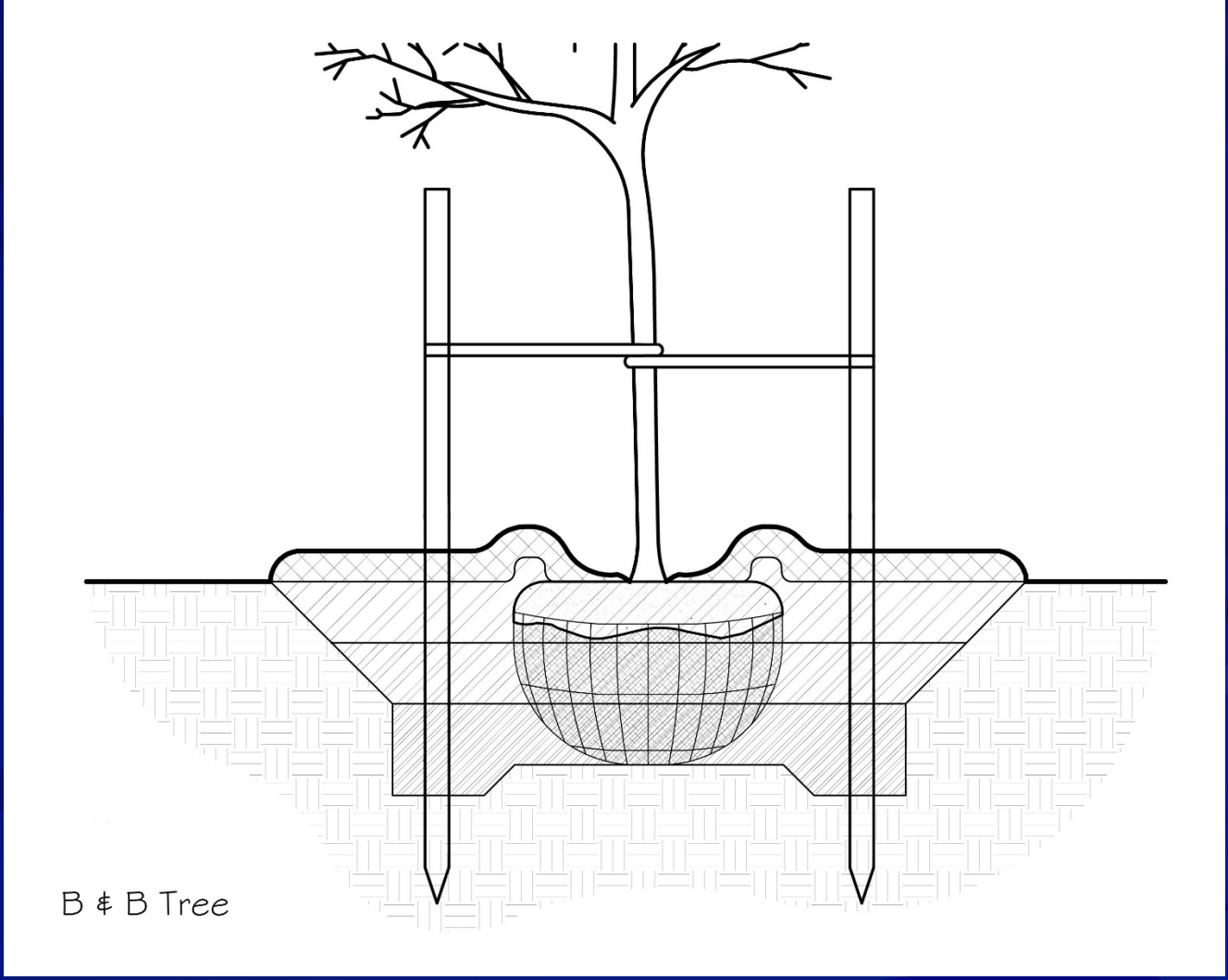
Planting Specifications
Hole

Planting Specifications
Backfill Procedures

Planting Specifications
Backfill in Layers



Planting Specifications
Backfill in Layers



Planting Specifications

Backfill in Layers

Planting Specifications

- Mulch Diameter

Planting Specifications

- Mulch Depth

Planting Specifications

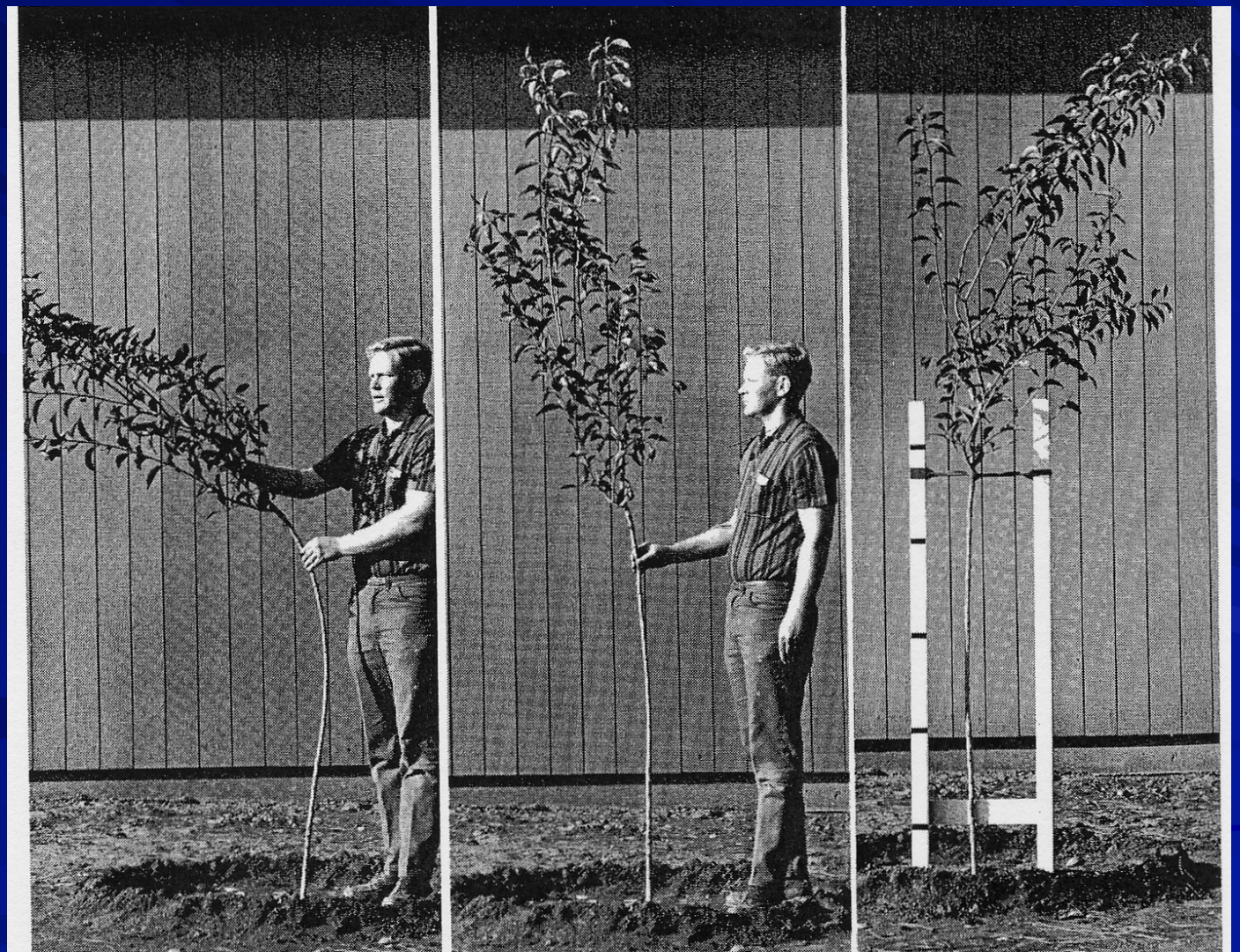
- Mulch

Planting Specifications

- Staking / Guying

Planting Specifications

- Staking / Guying – Harris 1983 Arboriculture



Planting Specifications

- Staking / Guying – Harris 1983 Arboriculture

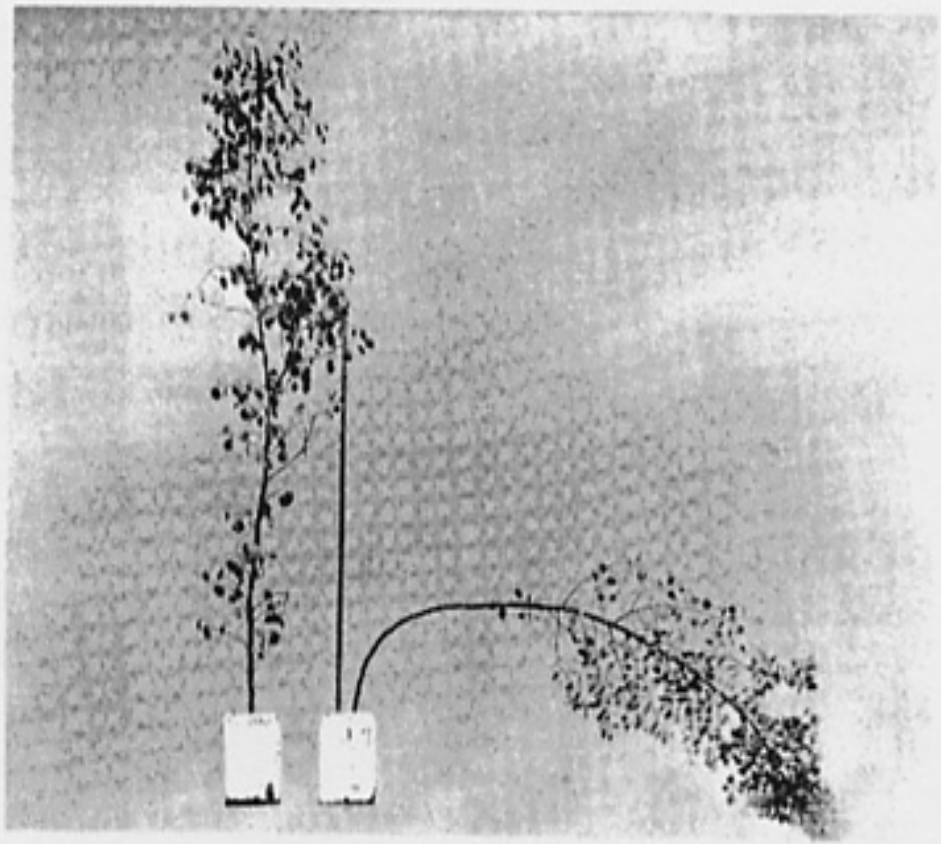


FIGURE 8-10
The cumulative influence of staking is shown by these two silver dollar gum trees grown for 11 months in 20-liter (5-gal) cans. One has grown unstaked with lower laterals on trunk headed back (left tree); the other has been tied to a stake with the lower laterals removed (right tree). The staked tree has been untied from the stake. (Harris, Leiser, and Davis 1976)

Planting Specifications

- Watering - Saucer

Planting Specifications
Watering - Saucer

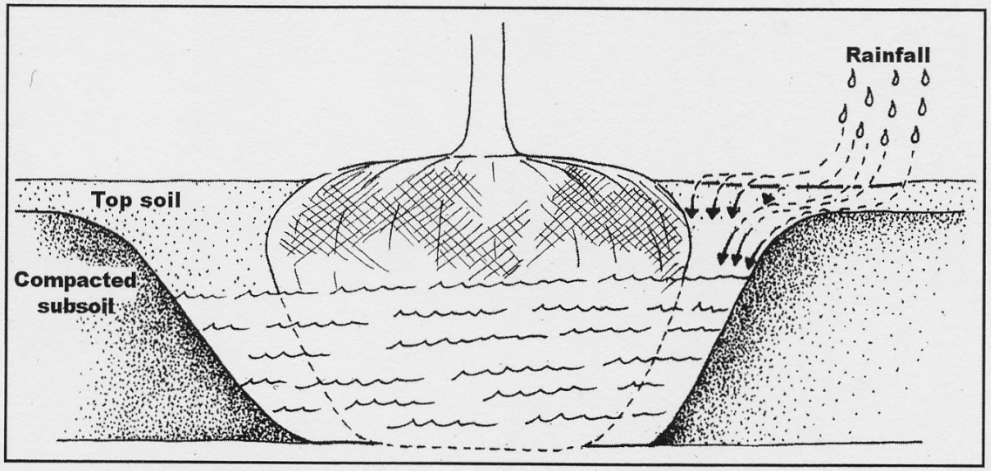
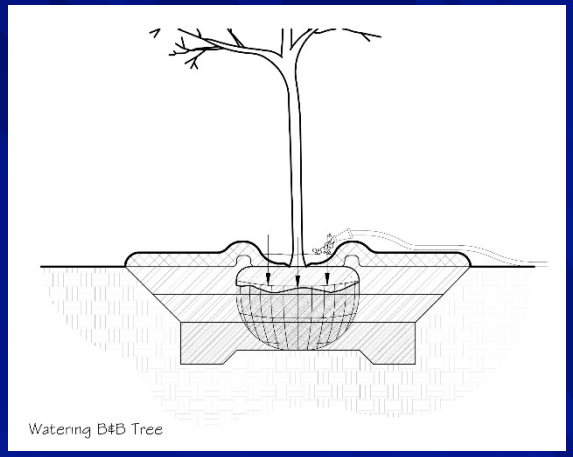
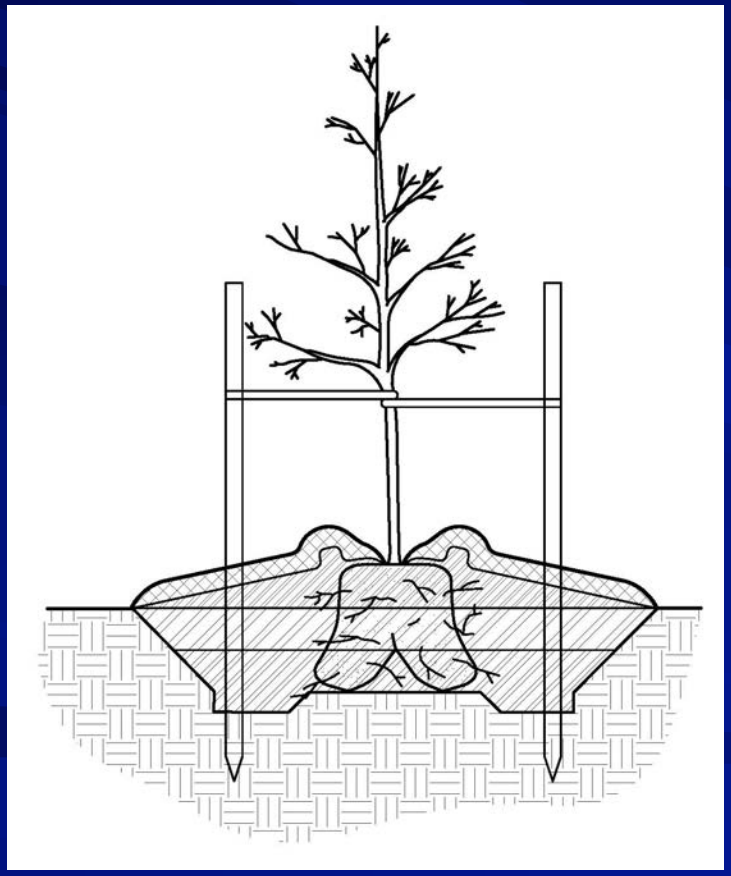
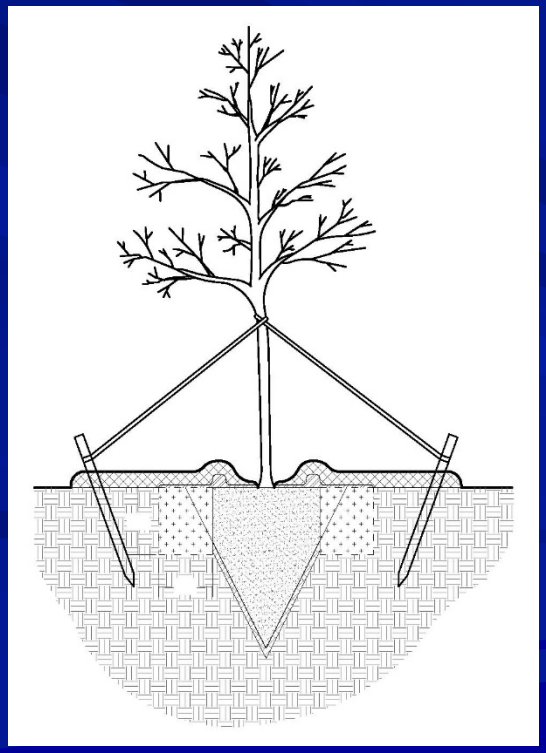


Figure 8. Excess water moves both on the surface and within the permeable surface layers until it finds the lowest point. If the subsoil is compacted and poorly drained, planing holes will fill with water and suffocate the roots.

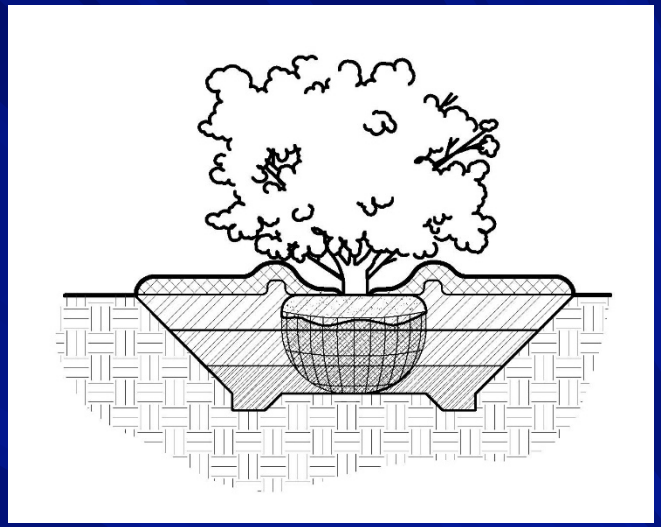
Planting Specifications
Watering - Saucer

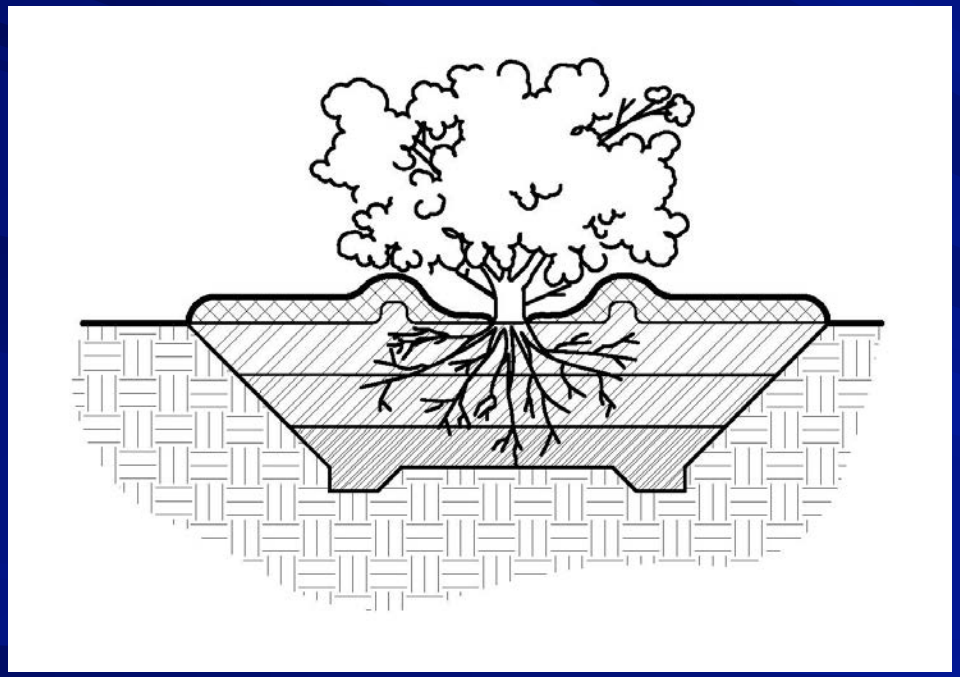


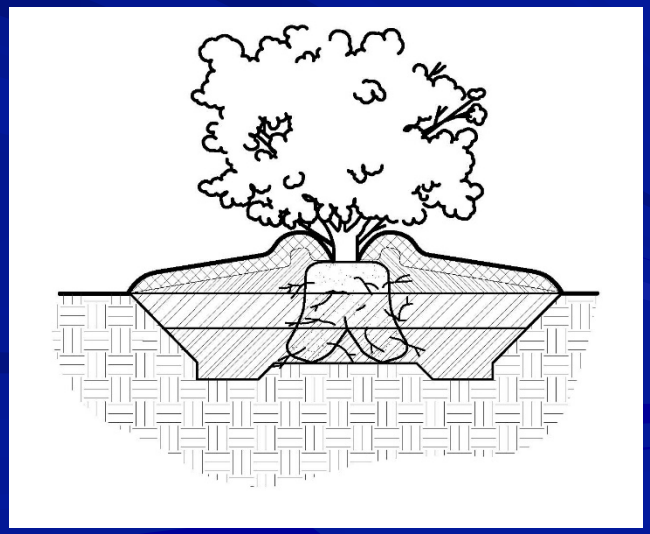




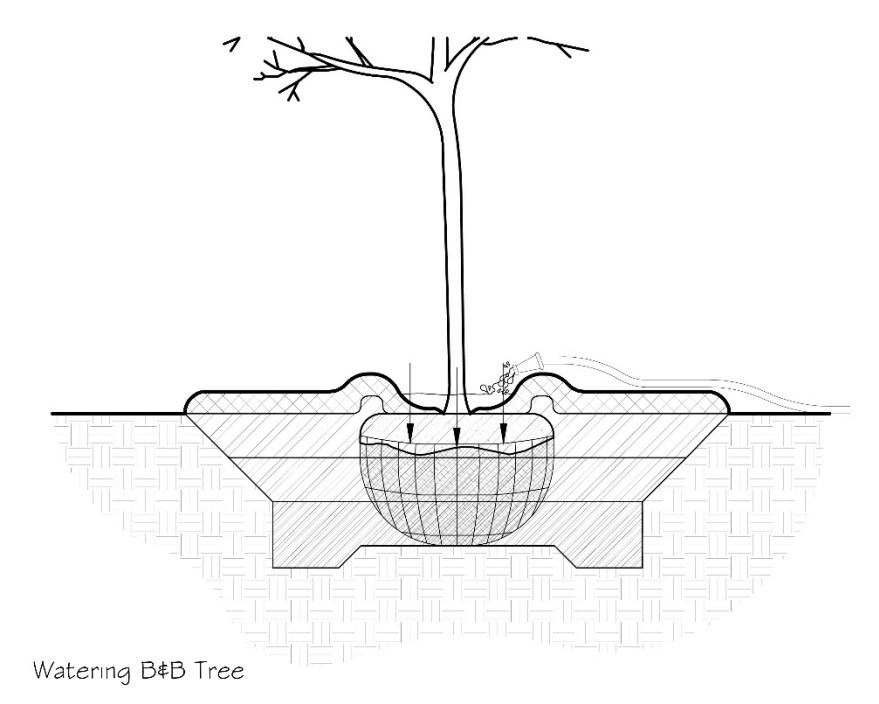
Planting Specifications
Watering - Saucer

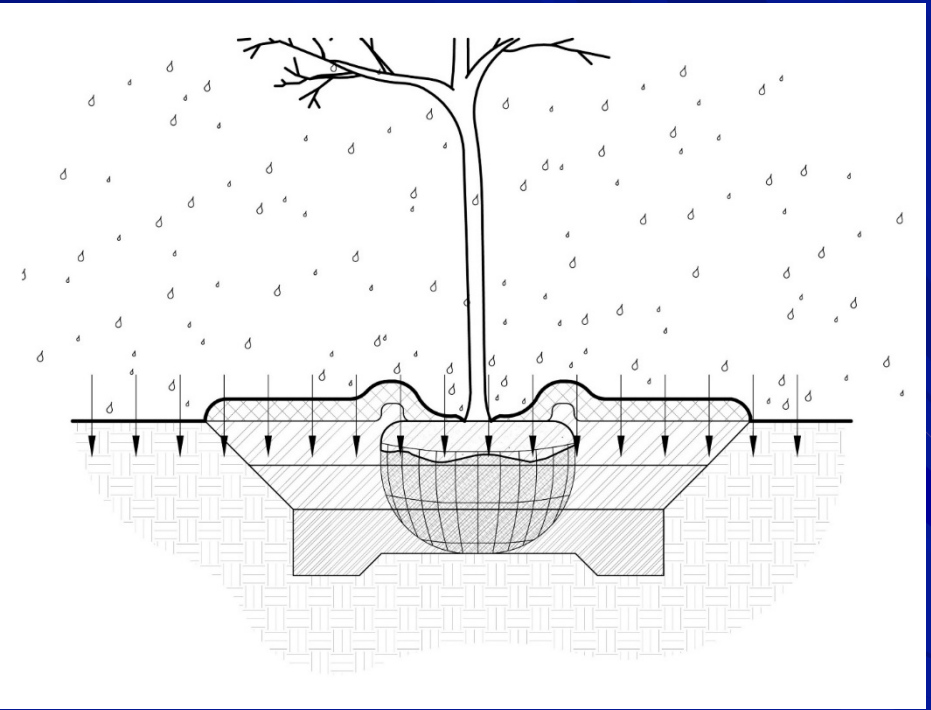






Planting Specifications
Watering





Planting Procedures
Watering

Planting Specifications

- Maintenance
  - Pruning
  - Fertilizer

Planting Specifications

- **Plant – Stock Type**
  - Balled & Burlaped
  - Container
  - Bare-Root
  - Tree Spade

Planting Specifications

- Balled & Burlaped
  - Trunk/Root Collar
  - Soil Ball Moisture

Planting Specifications

- Trunk/Root Collar

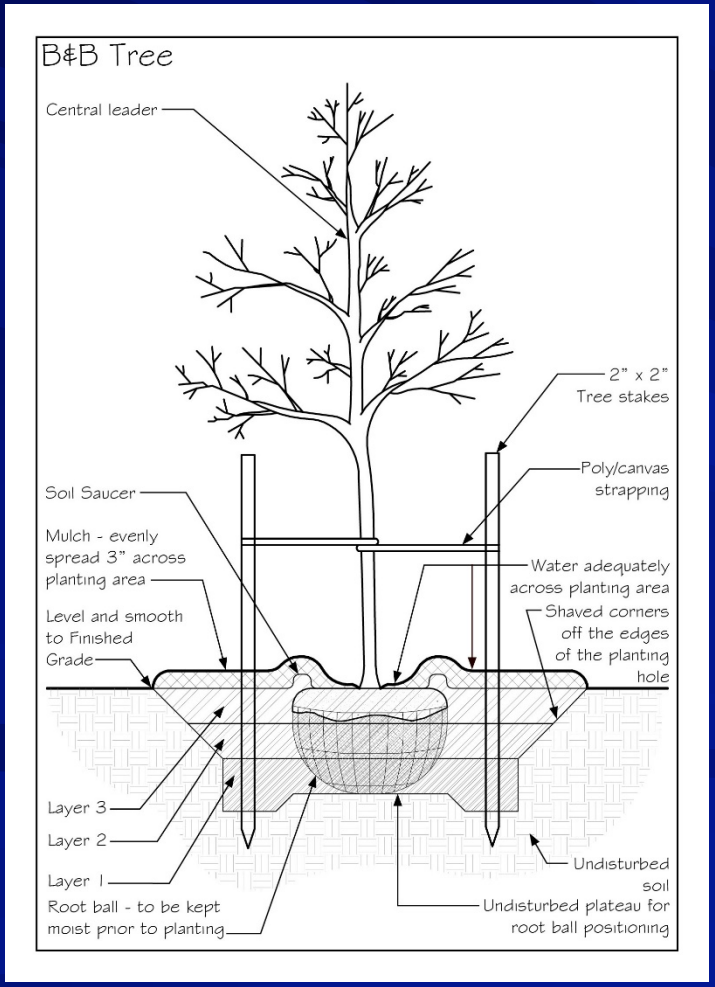
Planting Specifications

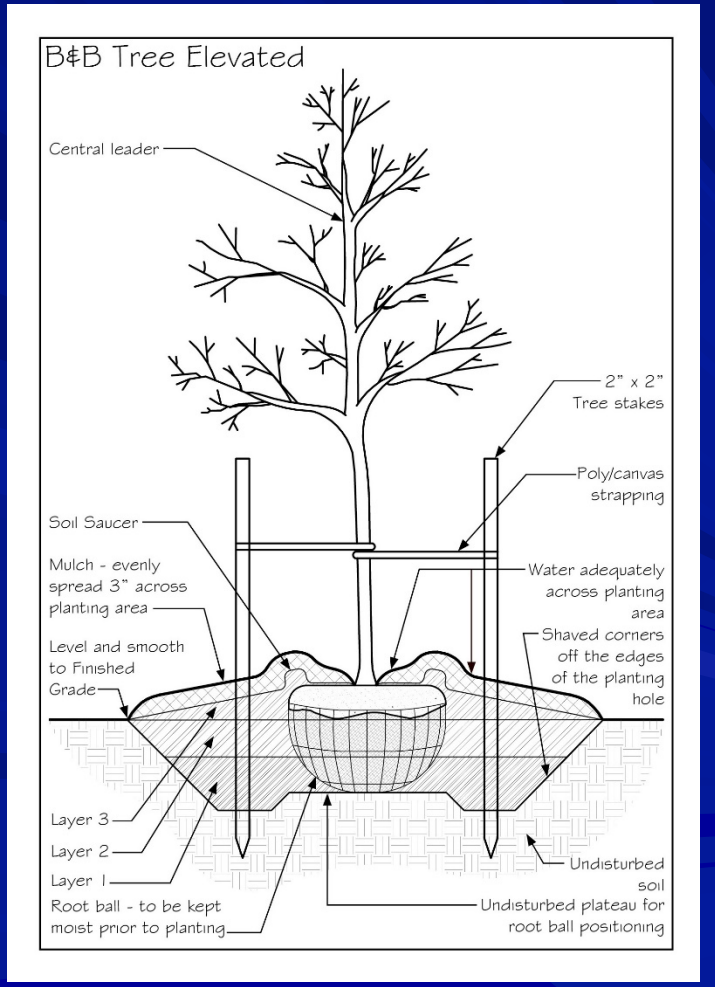
Trunk/Root Collar

Planting Specifications
Soil Ball Moisture

Planting Specifications

- Balled & Burlaped





Planting Specifications
B&B Shrubs

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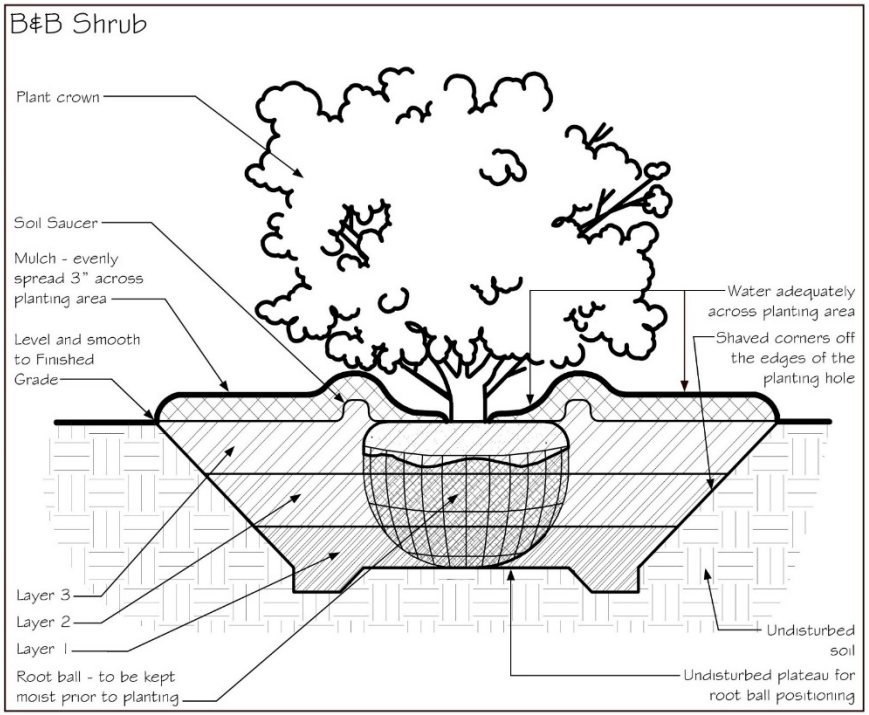
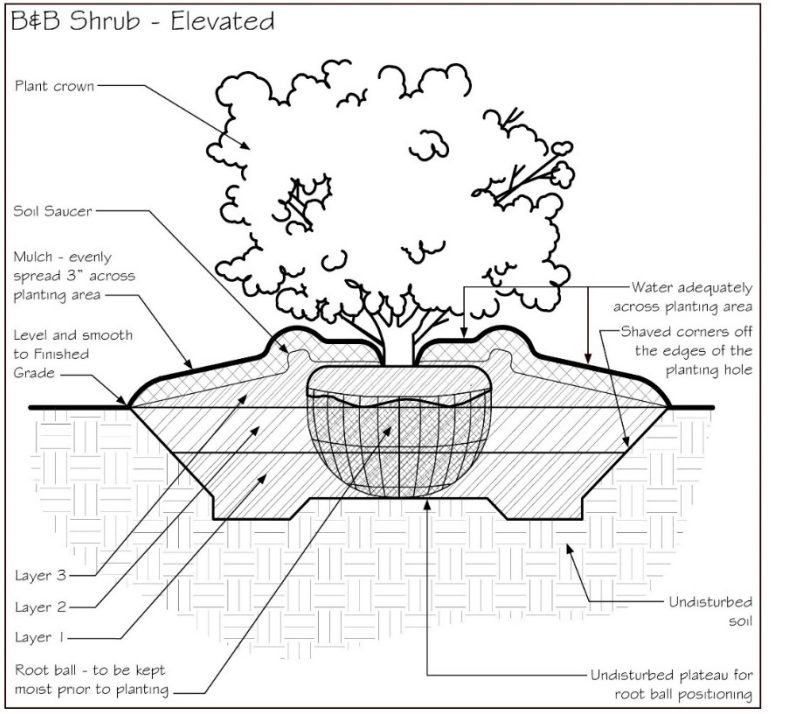




Planting Specifications

Containers

Planting Specifications

- Container
  - Pot Bound Root System
  - Media Moisture Level
  - Root/Backfill Soil Contact

Planting Specifications

Pot Bound Root Systems - Shaved

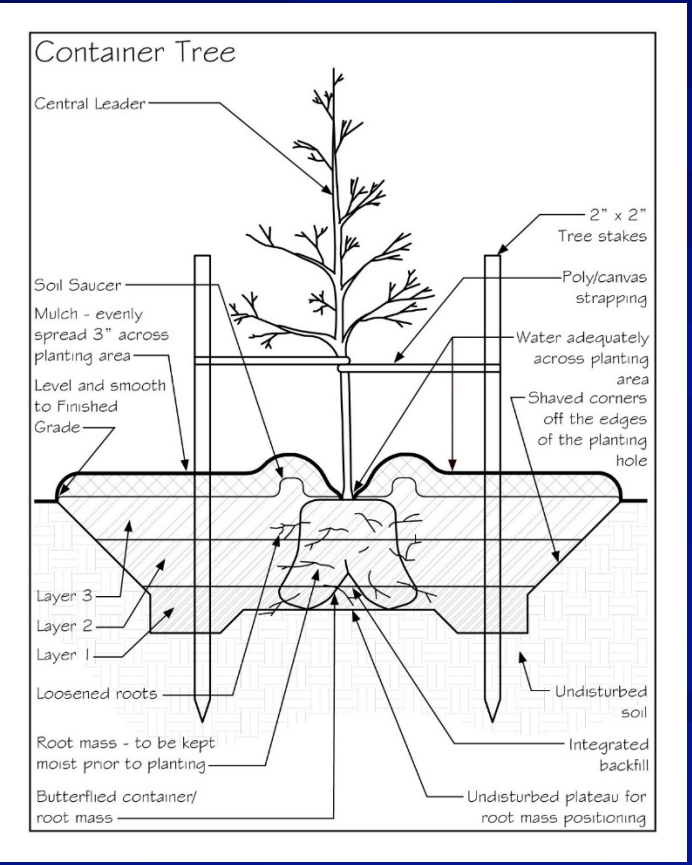
Cregg et al. Another Close Shave.
The Michigan Landscape, July/August 2023

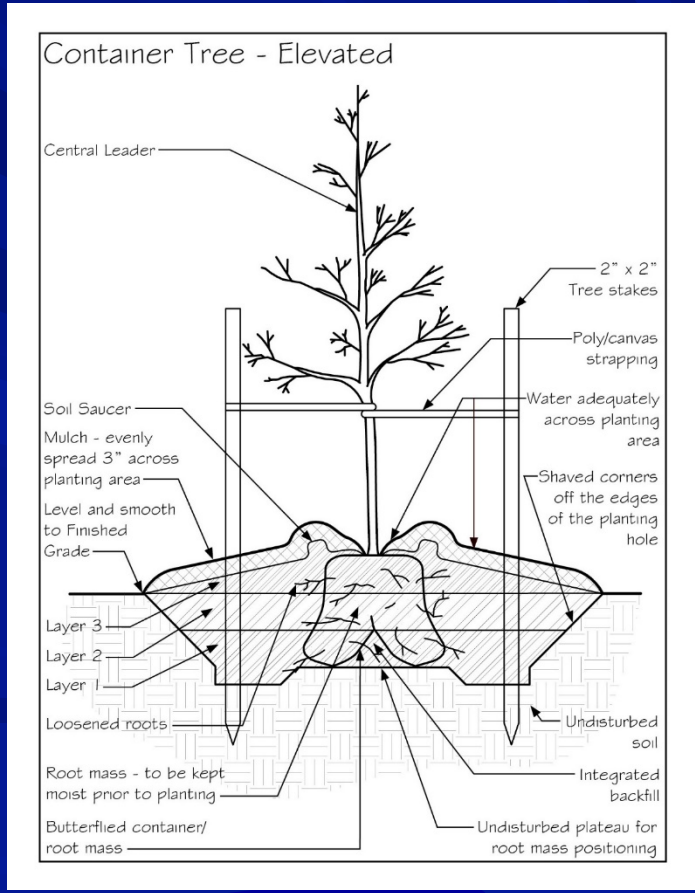
Planting Specifications

Root Growth
Regrowth
Regeneration

Planting Specifications

- Container Tree





Planting Specifications

Pot Bound Root Systems

Planting Specifications

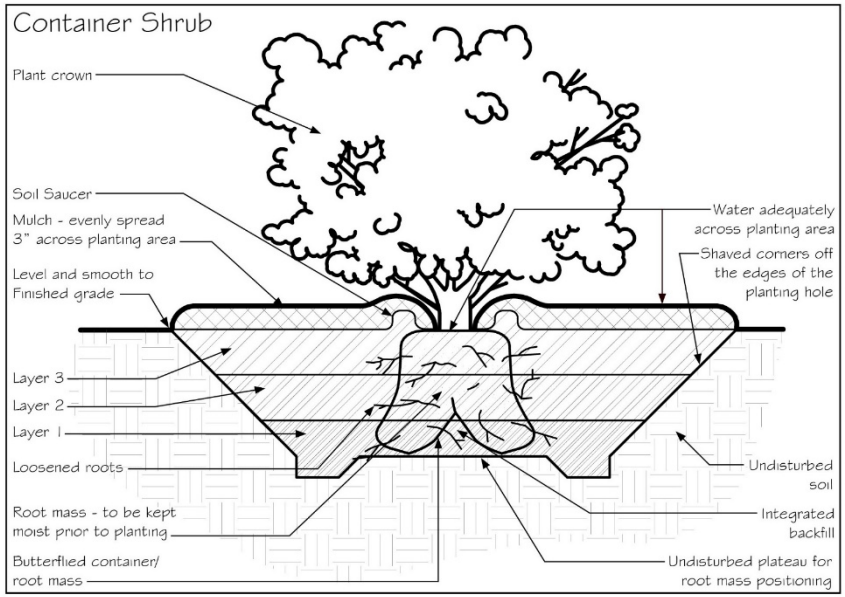
Pot Bound Root Systems

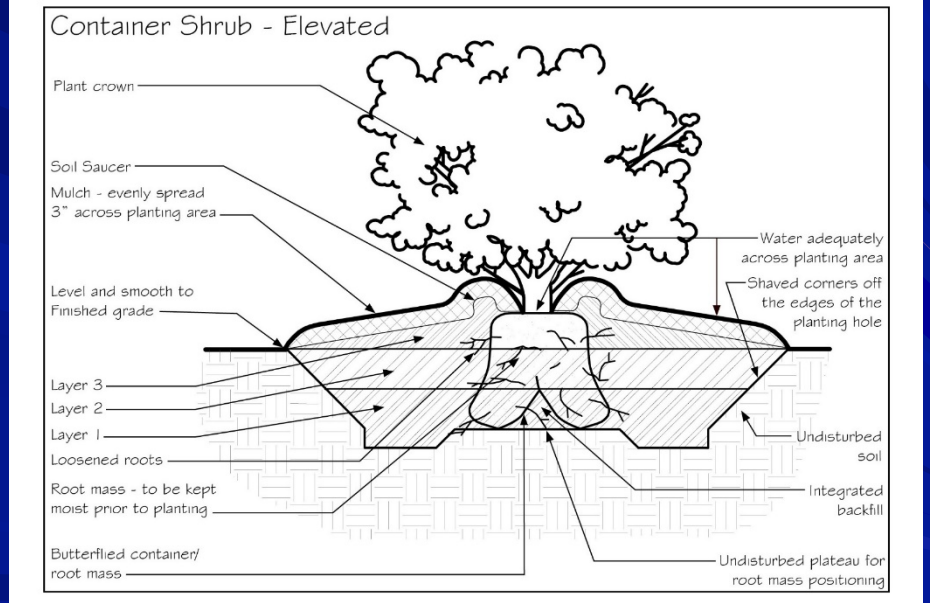
Planting Specifications

Root/Backfill Soil Contact

Planting Specifications

- Container Shrub





Planting Specifications

Bare Root

Planting Specifications

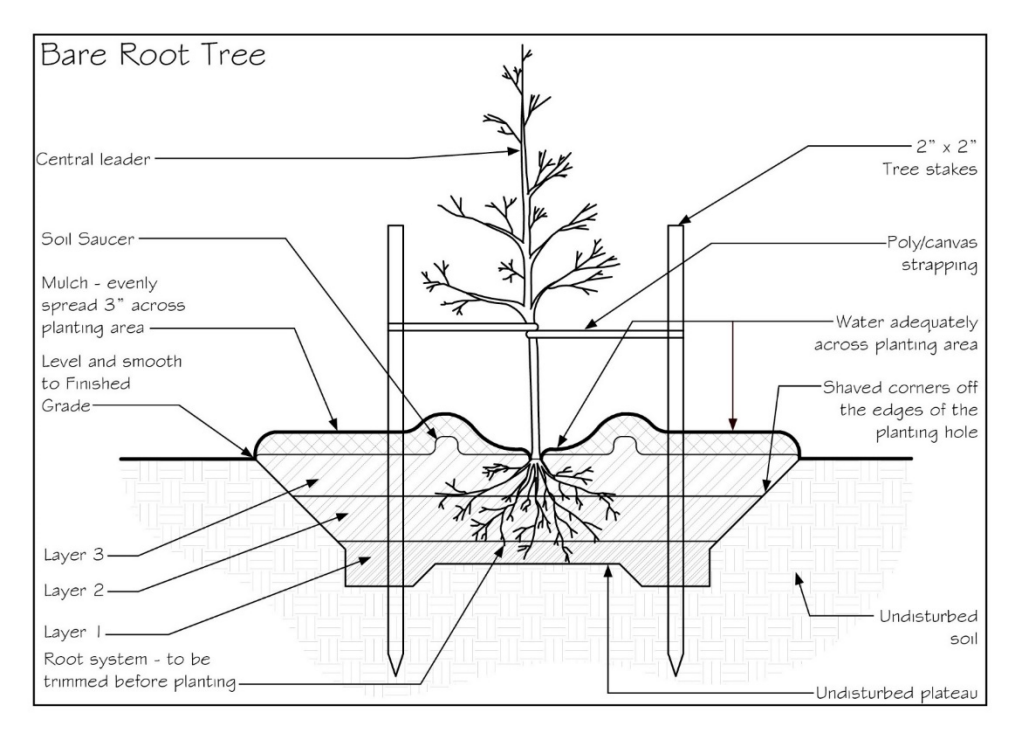
- Bare-Root
  - Damaged Roots – Cut Ends
  - Desiccation
  - Stability in the Hole

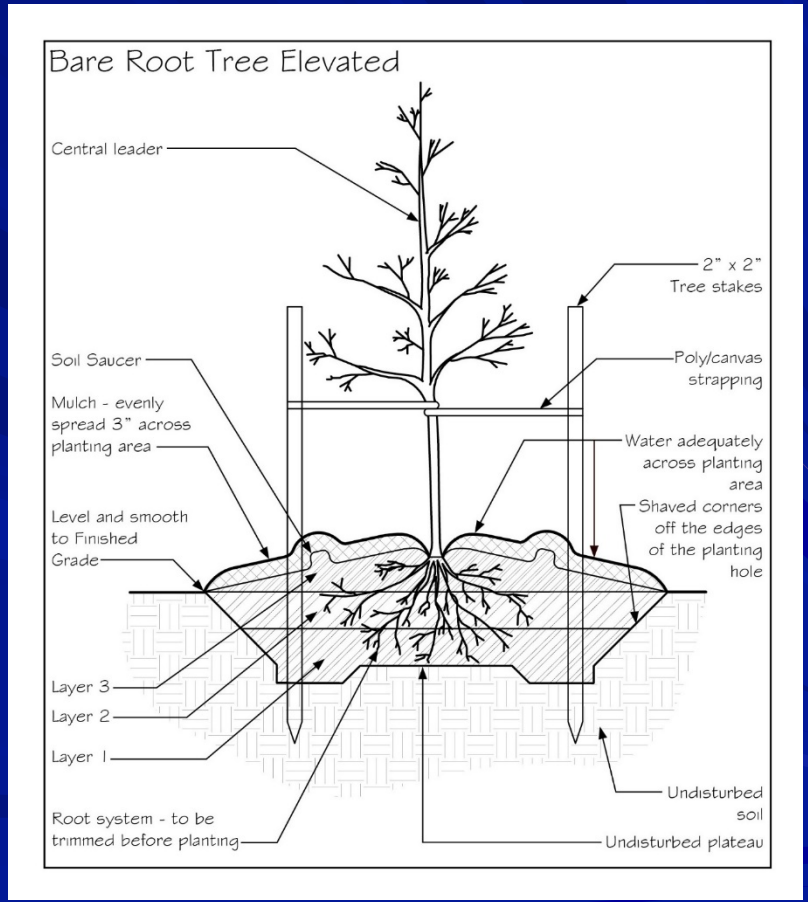
Planting Specifications

Bare Root
Root Growth
Regrowth
Regeneration

Planting Specifications

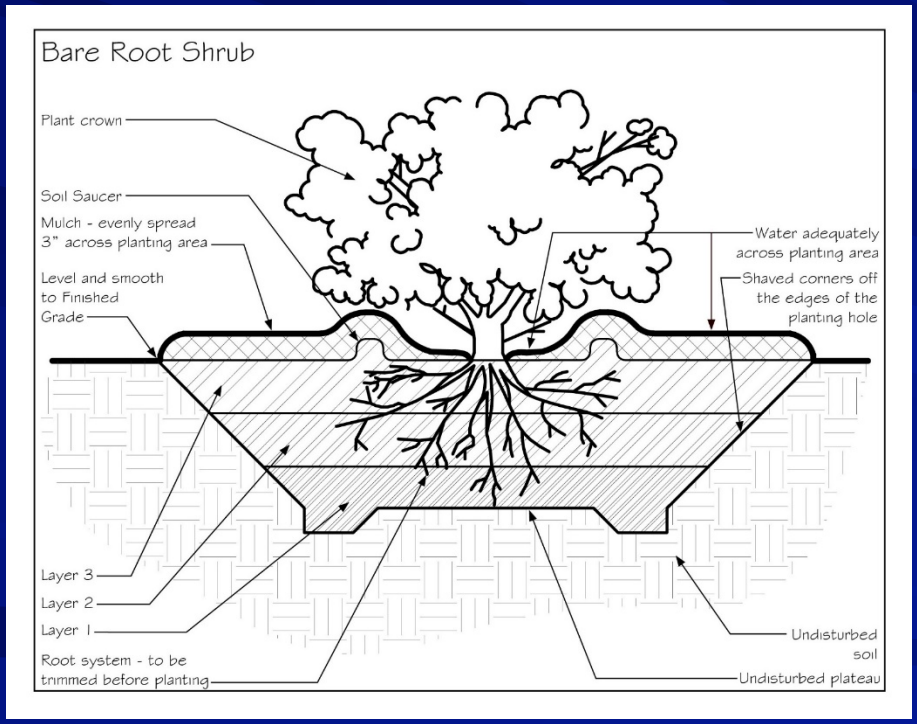
- Bare-Root Tree

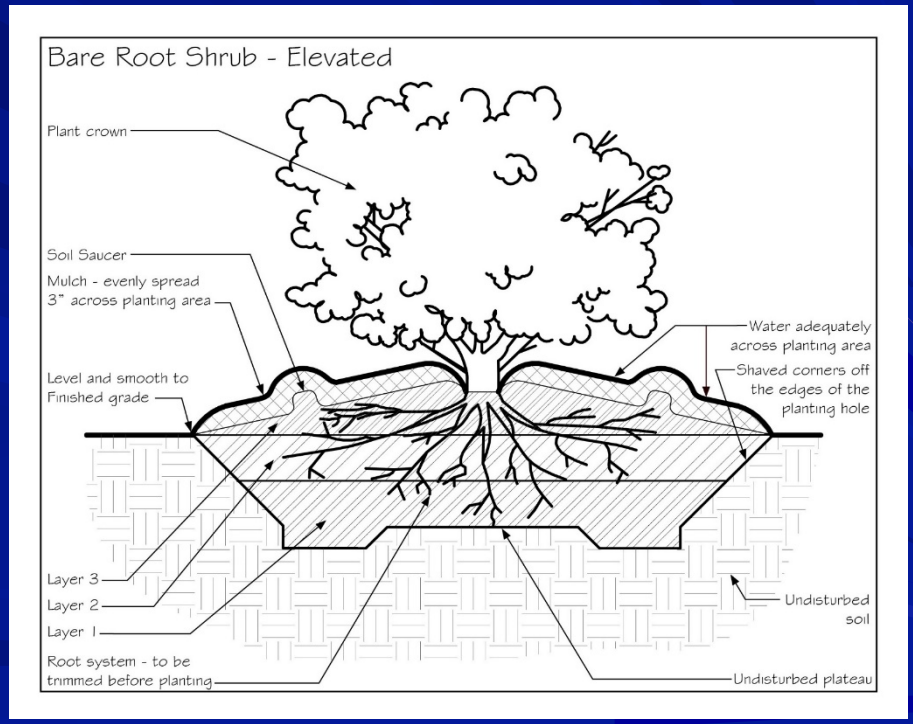




Planting Specifications

- Bare-Root Shrub





Planting Specifications

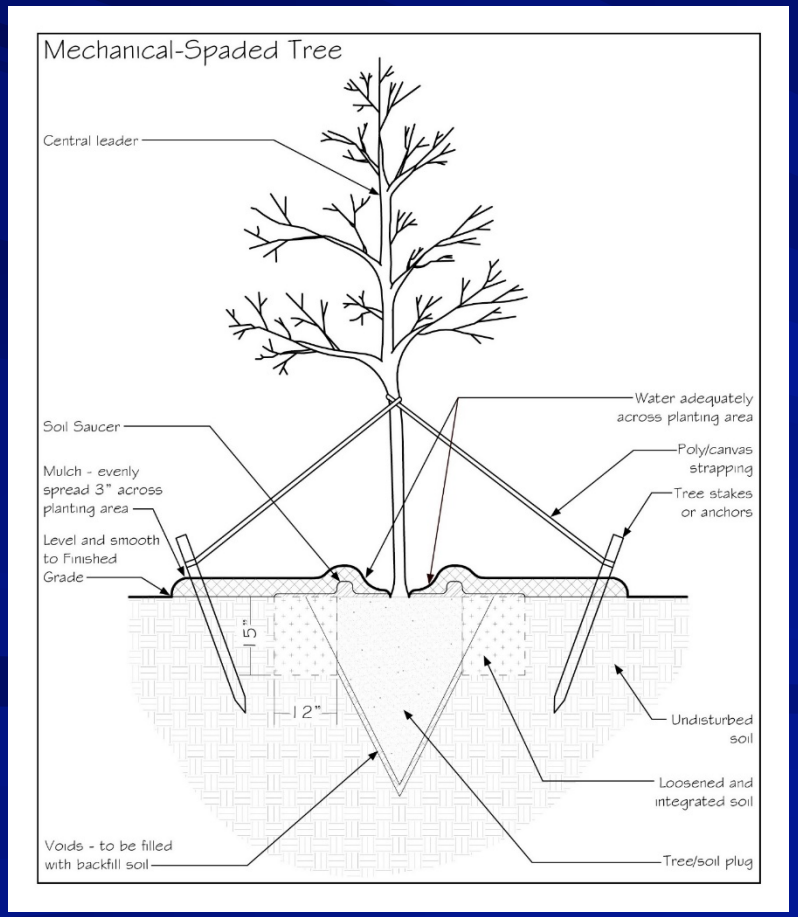
- Mechanical Tree Spade
  - Glazing – Wall & Plug
  - Wall – Plug Gaps
  - Plug Moisture

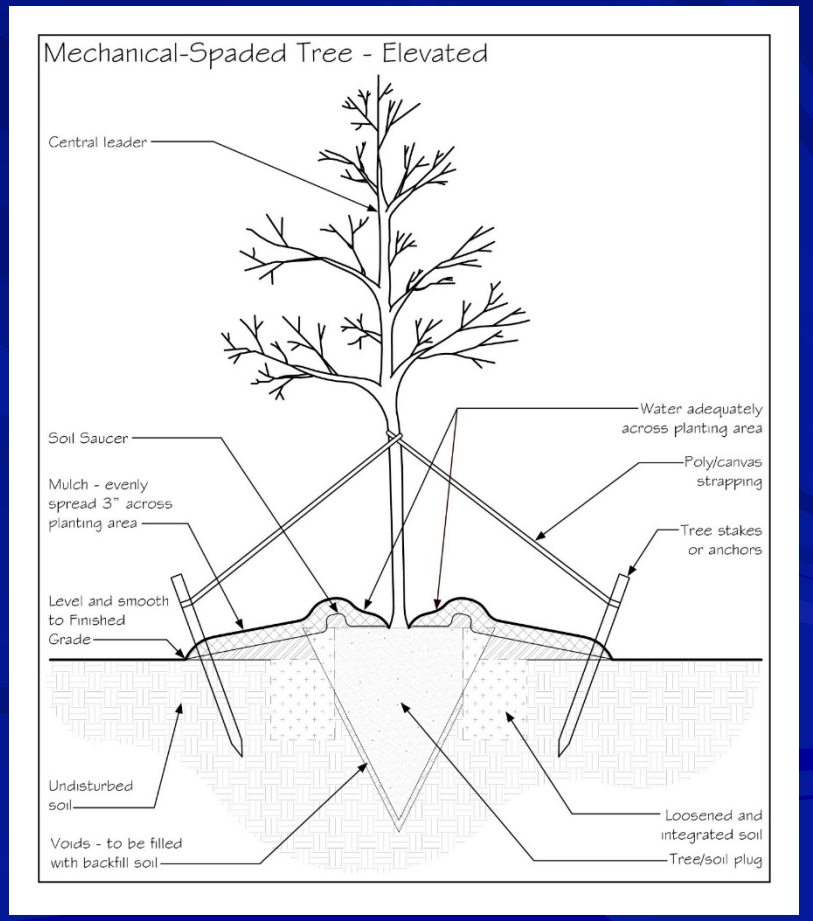
Planting Specifications

Mechanical Tree Spade

Planting Specifications

- Mechanical Tree Spade





Planting Specifications

- Plant – Stock Type
- Planting Procedures – Site Soils/Environmental Conditions
- Management – Cultural Practice

Planting Specifications

- Basic Foundations in Plant and Soil Sciences
- Landscape Design and Development Parameters
- Current Technology and Construction Practice
- Economically and Environmentally Sound

Planting Specification

- Realistic

Planting Specifications

- Graphic Planting Details and Planting Graphics by:

  Kristin and Jonathan Faasse

  https://www.elementsstudio.net