



## Preparing Large Trees for Transplanting

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Transplanting a large tree is a big investment. However, the reward of having a large tree in the right location makes the effort worthwhile for many people. To ensure survival of large transplants, there are many actions that should be taken prior to and after the move. The basic pre-transplanting actions that can be taken are as follows:

- 1) **Inspection:** Inspect the tree for health and structural defects. There is no value in moving a tree that may have a serious disease or insect infestation. If there is internal decay or very weak branch junctions, the tree may break apart prematurely causing considerable damage to property and loss of tree value. A thorough examination by a qualified arborist is an essential part of the tree selection process.
- 2) **Root Pruning.** If trees can be selected months or years prior to moving, the root system can be pruned inside the future root ball to encourage new root growth within the soil that will be moved. Root ball diameter varies with tree species and climatic conditions, typically root balls are 10 to 12 inches in diameter for each inch of trunk diameter. Larger root balls benefit tree survival especially on "hard-to-move" species such as certain oaks and beech. Trees with small root balls usually require more maintenance after transplanting. During periods of drought, irrigation may be needed after root pruning just as it is after transplanting.
- 3) **Root collar excavation and removal of excess soil.** Soil is frequently moved in nurseries for weed control and to fill holes where other trees have been dug. Sometimes this results in soil being placed over a tree's root system and against the tree trunk. Since root ball depth is a fixed value for a given root ball diameter, removing soil that does not contain tree roots from the top of a root ball can allow preservation of deeper soil that contains more tree roots. The more roots that are moved with a tree, the greater the survival rate. Removing the soil from the top of the root ball is best done with air tools so that root damage is minimized.  
The root collar is the lower portion of the trunk from which the buttress roots emerge. The top portion of the buttress roots should be kept free of soil to prevent soil-borne pathogens from infecting the stem and root collar area. Removing soil in this area is considered a root collar excavation (RCX). When the buttress roots are visible, they can be used as guides for planting depth. Trees should be planted with the top of the buttress roots above final grade.
- 4) **Pruning.** Dead branches, lower branches that will interfere with working under the tree and branches that are not desired for other reasons should be removed prior to digging the tree. Live branches should not be removed unnecessarily since as many leaves as possible will be needed to provide energy to grow new roots after transplanting.
- 5) **Nutrient Management:** Roots grow most quickly in soil with adequate moisture and nutrients. Prior to moving, soil samples from the tree and site that is to receive the tree should be collected and analyzed for nutrient content. If nutrients are deficient they can be added either before or after transplanting. Soils on the site to receive the tree should be augmented with organic matter and have the pH and nutrient levels adjusted as necessary. Treatments should occur over an area of 2 to 5 times the size of the root ball depending on the quality of the soil on the site receiving the tree.