Jersey City Tree Protection Guide

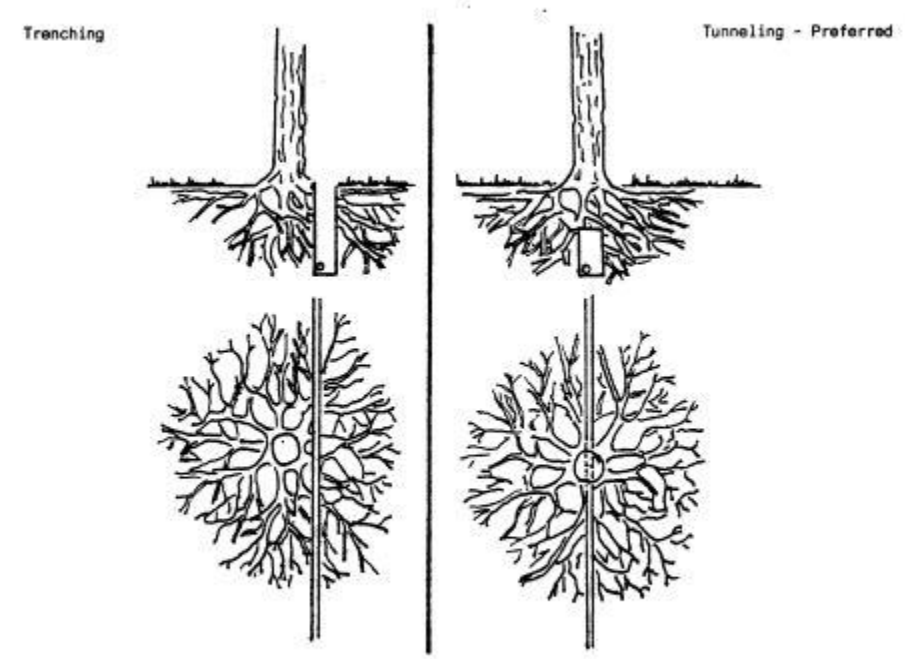
Any and all trees that fall within the jurisdiction of the City are protected by law from any and all damage thereto including but not limited to any incidental damages, damage to the canopy, or damage to the trunk or root zone during and in the course of any and all construction activities, and also the aftermath of any and all construction activities. Any and all construction work performed within 30 feet or within the dripline, whichever is greater, of a city tree must possess a permit issued by the City of Jersey City to avoid unsafe, hazardous and other conditions which may be detrimental or potentially detrimental to any city tree. Contractor is responsible for obtaining all necessary permits to comply with regulations. Please see the Jersey City Forestry Standards for more information.

Roots, construction, and underground work:

Roots are integral to tree health. Larger roots anchor the tree in the ground and function to keep it from falling over or being blown down in storms, while the smaller and finer roots (~1/16" in diameter) called absorbing roots seek out minerals, water and oxygen from to the soil closer to the soil surface, and transport resources up to the canopy. Most of a tree's roots are in the top 18"-24" of soil. Roots also store essential food reserves needed by the tree to produce leaves after dormancy in the spring. Together, the entire root system is crucial to a trees survival. Damage to roots is a major cause of decline, death, or physical failure of trees. Roots can be injured by flooding, drought, soil compaction, soil removal, or being severed. Trees that have been damaged in this way often require removal.

Ways to mitigate root damage while performing underground work near trees:

1. Tunnel instead of trench: tunnel under the Protected Root Zone (PRZ) and resuming trenching beyond it. Stop trenching if roots larger than 2" are encountered. Absolutely do not trench within the dripline of the tree.
    a. Tunnel down 24" to ensure minimal root damage
2. Alter the route of the trench – in order to preserve a healthy tree, trenching may have to go around the PRZ
3. Whenever roots must unavoidably be cut, use a sharp tool and keep the roots covered in moist mulch.

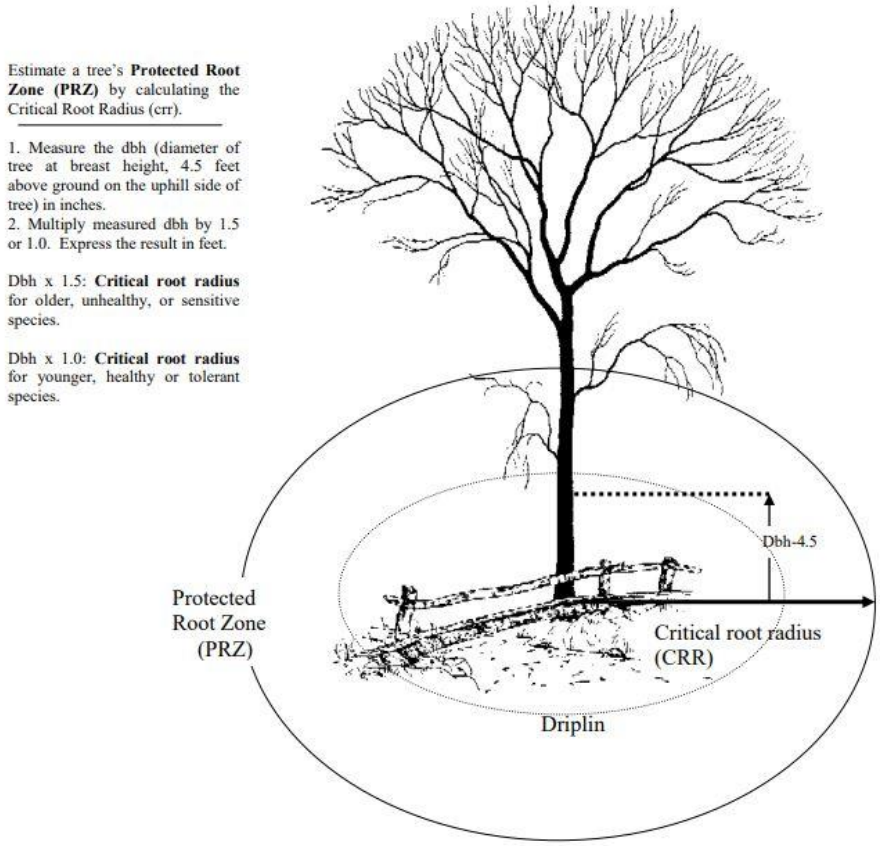


Utilities should be tunneled beneath tree roots. The drawings on the left show trenching that would probably kill the tree. The drawings on the right show how tunneling under the tree will preserve many of the important feeder roots.

Construction work on or around roots above ground:

The contractor shall take extreme care to protect the root systems of the existing trees. To best protect the critical root zone, contractors must adhere to the following guidelines:

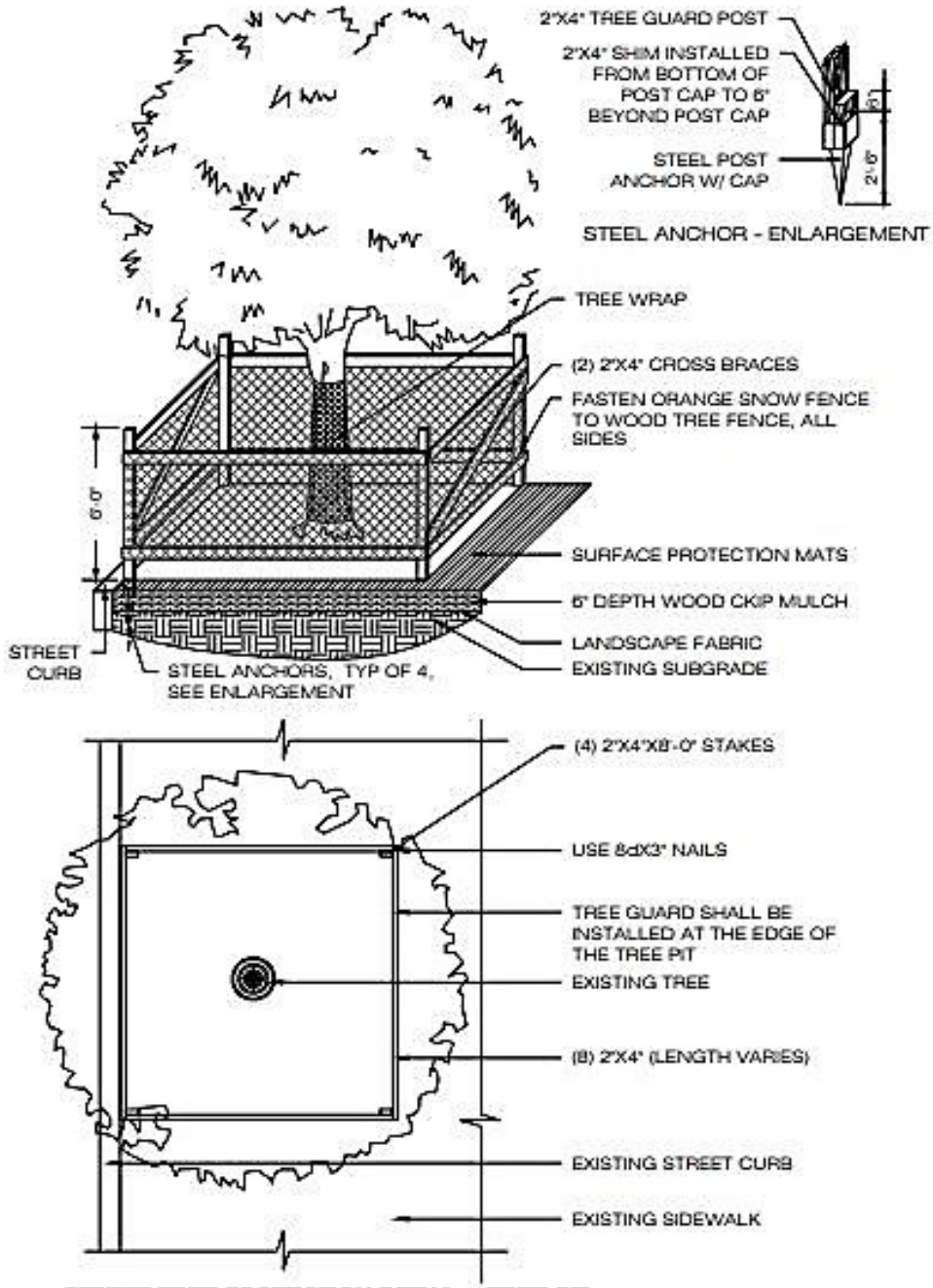
1. **Bulk material, equipment, scaffold footings, or vehicles shall not be stockpiled or parked within the dripline of any tree.** This is done to minimize surface and subsurface root and soil compaction. This applies to all tree driplines within or outside the project limit line. No runoff or spillage of noxious materials while mixing, placing, or storing construction material shall occur within the tree pit or dripline. No ponding, eroding, or excessive wetting caused by dewatering operations shall occur within tree pit.
2. **The contractor shall exercise extreme care in removing concrete or asphalt within the dripline of existing trees.** Pavement should be lifted rather than dragged. Any work within the dripline of a street tree must get approval from the City of Jersey City. The excavation area within the dripline shall be backfilled immediately.
3. **The contractor shall cover exposed roots if exposed for long periods of time.** If roots are to be exposed for a period greater than forty-eight (48)-hours, the exposed area shall be covered with at least six (6)-inches of mulch and maintained moist during the course of construction until the area can be properly backfilled.
4. **Unless otherwise noted it is best to keep existing concrete within tree protection zone as long as possible until removal and reinstallation of new sidewalk.** Concrete should be left intact throughout the demolition and construction process to prevent further soil compaction on existing tree roots. Other work may be specified by a Tree Specialist to be done within a prescribed timeframe. Metal grates are to be removed immediately. Cobblestones are to be removed immediately and the void created is to be amended with soil level to the sidewalk. Pit expansion may be required by a Tree Specialist.



1. *Protecting Trees from Construction Damage- A Homeowners Guide*, Gary R. Johnson, University Of Minnesota Extension Service, Saint Paul, MN, 1999.

Protecting trunks and branches from construction:

To prevent mechanical damage to trunks and branches within construction areas, temporary wooden tree guards shall be installed immediately around each tree within proximity of construction and maintained throughout the course of the entire construction process. Fencing should not be nailed to or otherwise affixed to the tree.



STREET TREE PROTECTION DETAIL - TREE PIT

Preventing damage to branches on trees within a construction zone:

Sometimes branches may need to be pruned to avoid damage to them from construction work or for access of construction equipment and vehicles. Preparatory pruning work shall be performed only when directed by a Tree Specialist. This work shall be performed in accordance with ANSI a300 standards and by a qualified, licensed & insured arborist or tree service company. The contractor is to follow all City permit & work order regulations. The contractor is responsible for scheduling the appointment with a Tree Specialist.

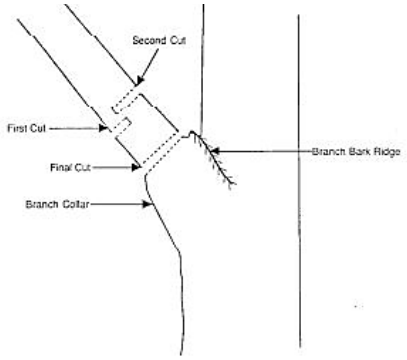


Figure 1 – Removing a large lateral branch requires two preliminary cuts before the final cut

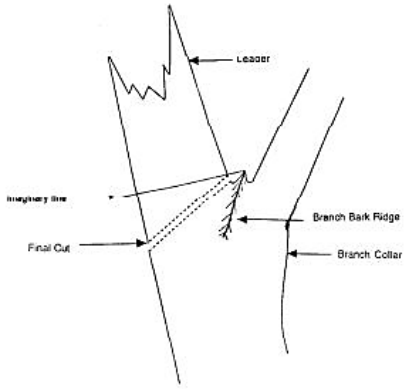


Figure 2 – When cutting back to a lateral, bisect the angle between the branch bark ridge and an imaginary line perpendicular to the leader or the branch being removed

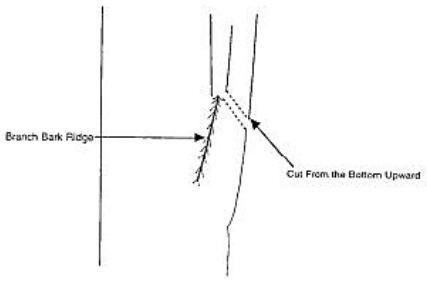


Figure 3 – When removing a branch with a narrow branch attachment, cut from the bottom upward

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Species and their relative tolerances to root disturbance

Common species that are intolerance/sensitive to root severance and/or soil compaction;

- Birch
- Black Cherry
- Linden
- Oak
- Pine

While there are some species of trees that are more commonly sensitive to root damage and compaction, extreme care to not damage the roots should be used by the contractor.

Sources:

1. Jersey City Forestry Standards (2022)
2. Jersey City Forestry Standards (2018)
3. NJDOA Standards for Soil Erosion and Sediment Control in New Jersey May 2012 May: STANDARD FOR TREE PROTECTION DURING CONSTRUCTION
4. The Arbor Day Foundation: Tree City USA Bulletin #35 - How to Protect Trees During Underground Work
5. ANSI A300-1995: American National Standard for Tree Care Operations – Tree, Shrub and Other Woody Plant Maintenance – Standard Practices (Tree Pruning Guidelines)
6. Protecting Trees from Construction Damage- A Homeowners Guide, Gary R. Johnson, University Of Minnesota Extension Service, Saint Paul, MN, 1999