



8 Landscaping and Tree Work

8.1 General

- A. This Section specifies requirements for other utilities or work on City owned property that was not previously covered in the above sections.
- B. Notification shall be provided to Tree Warden during the planning and specification development of projects where tree protection may be required. The Tree Warden may require that a City-approved certified arborist oversee construction activities related to tree protection.
- C. A pre-construction meeting with the Tree Warden shall be conducted at least two weeks prior to construction to review tree protection procedures.
- D. A written guarantee shall be provided to the City that trees planted in the City will thrive for a minimum of two (2) years.

8.2 Trees

- A. All tree work shall be completed in accordance with the requirements of the Tree Warden and/or planning board as appropriate.
- B. When specifying trees to be planted on or near the roadways in the City, specifications shall identify species and cultivar. The more disease resistant cultivars shall be recommended.
- C. Trees shall be tagged with identification as to location of origin, species, and cultivar. Notification shall be provided to the Tree Warden to provide time for inspection and verification of tree species and cultivar.
- D. When planted, an area around the trees shall be mulched for a minimum of 3 feet from the tree or twice the size of the root ball, whichever is greater. The area immediately around the tree trunk (within 2 inches of the trunk) shall remain un-mulched.
 - 1. The planting hole shall be at least 2 times the width of the rootball, up to 5 times the rootball.
 - 2. Burlap, twine, and wire baskets shall be entirely removed after planting.
 - 3. Place the tree in the hole at both the appropriate upright angle and depth.
 - 4. Replace the soil so that there is no excessive coverage to roots or contact above the root flare at the stem.
 - 5. Add a two- to three-inch layer of mulch, not contacting the bark of the tree.
 - 6. Immediately water the tree, with a plan for regular follow-up watering.
 - 7. Provide a final quality-control check, where depth of the structural roots is verified, with the use of a chaining pin or other measuring implement.
- E. Tree protection shall include the following.
 - 1. Tree protection shall be provided for each tree within the work area.
 - 2. The tree protection zone shall extend out from the center of the trunk to a radius of 1.5 feet per inch of DBH (DBH = diameter of trunk at 4.5 feet above ground).
 - 3. Primary tree protection shall include 2" x 4" boards in 8-foot lengths vertically strapped around the trunk, at a maximum of 8 inches apart, on center. No penetration of the tree trunk shall be allowed except as approved by a certified arborist or the Tree Warden.



4. Secondary tree protection shall include fencing around the tree protection zone.
 5. No storage of any materials or equipment shall be allowed within the tree protection zone.
 6. No parking shall be allowed within the tree protection zone.
 7. No roots greater than 2 inches shall be cut during construction activities.
 8. Any pruning of tree limbs shall be done under the direction of a certified arborist.
 9. During excavation, major roots as determined by the Tree Warden shall be exposed using an air spade and flagged for protection.
 10. Vertical mulching shall be required if soil compaction levels exceeds 75% or more than 3 passes by heavy equipment are expected.
 11. If travel is required within the tree protection area, a layer of at least 6 inches of wood chips, mulch, or other matting as approved by the Tree Warden shall be laid down to protect the roots. The matting shall be removed and the area restored to pre-construction conditions upon completion of the work.
 12. For construction where trees roots may be damaged, only root pruning methods may be used for removal. The Tree Warden shall be notified and a plan submitted to the Tree Warden for approval.
 13. Curb cuts should not be closer than five (5) feet from the trunk of any adjacent tree.
- F. Trees that, in the judgment of the Engineer or the Tree Warden, have been irreparably damaged by the Contractor shall be replaced in kind and in size, or with a quantity of 2-inch caliper replacement trees (the quantity of which shall be determined by the Engineer) such that the cumulative caliper of the replacement trees will be up to the equivalent diameter of the lost tree at breast height. Cost of removal of a destroyed tree, including roots and stumps, as well as the cost of replacement trees, shall be paid for by the Contractor.
- G. A written guarantee shall be provided to the City that trees planted in the City as per the contract will thrive for a minimum of two (2) years. The guarantee shall include replacement of trees that the Tree Warden has determined are not thriving. Replacements shall be required to have the same guarantees as the original trees.

8.3 Loam and Seed

- A. Loam Borrow shall conform to MassDOT Standard Spec. M1.05.0 or shall be the product of a commercial sand and gravel processing facility. It shall be uncontaminated by saltwater, foreign matter, or substances harmful to plant growth. The acidity range of the Loam Borrow shall be pH 5.5 to 7.0.
- B. Fertilizer shall be of a 10-6-4 composition.
- C. Seed composition shall be 60% Red Fescue, 20% Red Top, 20% Kentucky Blue. Seed shall be of the previous year's crop and in no case shall the weed seed content exceed 1% by weight.
- D. The loam shall be 6 inches thick. Fertilizer shall be applied to the loam at a rate of 0.2 pounds per square yard and worked into the seed bed with an application of lime, if needed to achieve the required pH range. As soon as the seed is sown, it shall be covered with a thin layer of loam, rolled and watered.
- E. Areas shall be seeded at the rate of 3.6 pounds per 100 square yards. Grass shall grow to a satisfactory cover before being accepted by the City.



- F. In locations where erosion is possible, erosion controls shall be in place until the vegetation has substantially rooted. Erosion, gullies and other damage will need to be reseeded as necessary until an adequate growth of grass is achieved