# General

## Section includes

* + 1. Relocating shrubs and trees that are to be preserved.

## Definitions

* + 1. “Preliminary Acceptance” shall be given to all plant material showing well developed foliage, healthy growth and bud formation at the time of completion inspection. This acceptance shall include mulch, tree supports, wooden stakes and the planting mixture.
		2. “Final Acceptance” shall be given to all plant material meeting conditions specified for Preliminary Acceptance, at one year after Preliminary Acceptance has been granted.

## Related requirements

* + 1. Canadian Standards for Nursery Stock, latest edition, published by the Canadian Nursery Landscape Association.

## Administrative requirements

* + 1. Coordination:
			1. Coordinate with other work having a direct bearing on work of this section.
		2. Scheduling
			1. Perform transplanting during suitable periods with respect to weather conditions and locally accepted practice, as determined by the Consultant. Plant only under conditions that are conducive to the health and best physical condition of plant material.
			2. Provide the Consultant with plant relocation schedule.
			3. Re-plant trees and shrubs immediately after being excavated.

## Quality assurance

* + 1. Firm performing work of this Section shall have at least 3 years’ experience in performing work of similar scope, and shall be a member in good standing of Landscape Ontario for a minimum of 3 years.
		2. Lead staff of the firm performing the work of this Section shall have proven experience and either a degree or diploma in horticulture, landscaping or similar discipline from a recognized university or college.

## Warranty

* + 1. Provide a labour, equipment and material warranty on all work and plant materials for a period of one year from “Preliminary Acceptance”.
		2. Transplanted plants will be considered healthy when they are:
			1. Structurally sound.
			2. Well furnished with living foliage.
			3. Normal colour.
			4. Showing adequate annual growth and formation of buds.
			5. Free from blight of any description.
		3. An end of warranty period inspection will be conducted by Consultant.
		4. Plants shall be in a healthy growing condition throughout the warranty period.
		5. Replacements plants shall be of same size and species as specified with a new warranty of one (1) year commencing on date of replacement.
		6. As soon as possible, consistent with the allowable planting season, replace, at no cost to the Owner, all plants that have died during the plant warranty period.
		7. Complete replacement planting within one week of notification.
		8. Remove and dispose of dead plant material replaced under warranty.
		9. Replacement of materials broken or damaged due to circumstances beyond the Contractor's control after planting shall not be an obligation under this warranty.
		10. The Consultant shall have the right to extend Contractor's warranty responsibilities for an additional one (1) year period if, at the end of the initial warranty period, leaf development and growth is not sufficient to ensure future survival.

# Products

## Topsoil

* + 1. Fertile, friable, sandy natural loam material with a pH of 6.0 to 7.5 and containing not less than 5% organic material.
		2. Free of roots, vegetation or other debris that prevents proper placement, and free of stones and clods over 20 mm in any dimension.
		3. Imported topsoil meeting the requirements of this specification shall be screened prior to delivery to the site.
		4. Native topsoil is acceptable provided it meets or is augmented to meet the quality standards specified in this Section.

## Fertilizer

* + 1. Complete commercial slow release fertilizer with a maximum 35% water soluble nitrogen with the following percentages by weight of nitrogen, phosphorus, and potassium, in that order: 10-10-10, or as determined by soil tests.

## Mulch

* + 1. Shredded bark not exceeding 80 mm in length. Consultant to approve the mulching material prior to its application.

## Ties

* + 1. Biodegradable material such as folded burlap, stapled to stake with fence staples or roofing nails.

## Wooden stakes

* + 1. For tree supports, use new wooden stakes 50 mm x 50 mm x 2400 mm long. Steel T-bars will not be permitted.
		2. For securing straw bales, use any wooden stakes (recommended size 25 mm x 50 mm, minimum 1200 mm long).

## Planting mixture

* + 1. Planting mixture shall contain 6 parts topsoil, 2 parts well-rotted cow or horse manure.

# Execution

## Protection

* + 1. Examine route of work to determine location and size of existing trees and shrubs to remain.
		2. Mark shrubs and trees to remain.
		3. Protect trees with slats around trunks and erect snow fencing around drip line.
		4. Store trees and shrubs, which cannot be planted immediately in a satisfactory manner.
		5. Protect trees from damage and drying out from time of digging until planting.

## Preparation

* + 1. Location of trees:
			1. Stake out all tree and shrub locations and obtain the Consultant's approval before excavating.
			2. Cooperate with the Consultant where minor adjustments to such locations are necessary. The proposed new location of trees and plants shown on Contract Drawings is approximate only and may require adjustment due to site conditions.
			3. Be responsible for locating all underground utilities and services prior to digging.
		2. Scarify subgrade of planting beds and sides and bottom of tree pits to a depth of 150 mm.

## Installation

* + 1. Plants and trees:
			1. Plant during suitable weather conditions, according to locally accepted practice and with the Contract Administrator's approval. Set plumb in the centre of the pit and at the same relation to grade as originally shown, after settlement has taken place.
			2. Plant trees and shrubs vertically and faced to give best appearance in relation to structures, roads, and walks.
			3. Excavate planting holes in planting areas.
			4. Ensure that hole is wider and deeper than rootball, allowing at least 150 mm of planting mixture under each plant.
			5. Set plants so that their roots lie in their natural position.
			6. Constantly tamp planting mixture around rootball to eliminate air pockets.
			7. When two thirds of depth of planting pit has been backfilled, fill remaining space with water.
			8. After water has penetrated into soil, backfill to finish grade leaving a shallow saucer directly over the rootball, and slightly smaller in diameter than the excavation.
			9. Apply fertilizer at a rate of 10 kg/100 m2.
			10. Water trees and planting beds thoroughly immediately after planting.
			11. Ensure that the top of the rootball is 150 mm above surrounding grade.
		2. Tree support:
			1. After planting, stake all trees with biodegradable ties and two wooden stakes. Fasten ties with roofing nails or equivalent.
			2. Keep ties taut at all times without subjecting tree to undue strain.
		3. Pruning:
			1. Prune only as necessary to remove dead and broken branches and to compensate for the loss of roots as a result of digging operations.
			2. Preserve the natural form and character of plants and do not remove small twigs along tree trunks.
			3. Perform pruning in accordance with good arboricultural practices.
			4. Use only sharp, clean tools and make cuts flush without leaving stubs.
			5. Trace back to living tissue all cuts, bruises, and scars on the bark.
		4. Mulching:
			1. Obtain the Consultant’s approval of transplanted plants before mulching material is applied.
			2. Loosen soil in planting beds and pits and remove all debris and weeds.
			3. Spread mulch to minimum thickness of 100 mm.
			4. Mulch material susceptible to blowing must be moistened and mixed with small amount of topsoil before applying.
			5. When mulch is applied in the fall, place immediately after planting. When mulch is applied in spring, wait until soil has warmed up.

## Interim maintenance

* + 1. Perform interim maintenance of relocated plant material immediately following planting and continue such maintenance until Preliminary Acceptance has been granted. Such maintenance shall be considered part of the installation work.
		2. Interim maintenance shall include:
			1. Pruning, watering, fertilizing, cultivating, weeding, mulching, tightening and repairing of supports, resetting plants to proper grades or upright position, restoration of planting saucer and furnishing and application of such sprays as are necessary to keep plants free of insects;
			2. Keeping soil within confines of planting saucer around trees, and keeping planting beds shallowly cultivated and free of weeds; and
			3. Adding commercial fertilizer 10-10-10 at the rate of 10 kg/100 m2 according to the manufacturer's instructions at the end of the interim maintenance period.

## Maintenance after Completion

* + 1. Provide maintenance of all transplanted plants from installation until end of plant warranty period as defined in this Section.
		2. Owner will conduct periodic inspections during this period and advise Contractor of any unsatisfactory plant growth and bedding conditions.
		3. Advise the Consultant in advance when any maintenance operation is to be undertaken.
		4. Provide all procedures consistent with good horticultural practices to ensure normal, vigorous and healthy growth of transplanted plants.
		5. Maintenance to include:
			1. Adequate watering sufficient to saturate root system.
			2. Provide winter protection based on the geographic location, hardiness and site conditions (e.g. burlapping, wrapping, mulching, protection from salt spray, etc.).
			3. Fertilizing in the Spring or Fall.
			4. Cultivation and weeding of planting area and tree pit.
			5. Applying herbicides for weed control in accordance with manufacturer's written instructions. Remedy damage resulting from use of herbicides.
			6. Disease and insect pest control. Remedy damage from use of insecticides.
			7. Pruning, including removal of dead or broken branches, and treatment of pruned areas or other wounds.
			8. Maintaining wrapping, guys, turnbuckles and stakes. Adjust turnbuckles to keep guy wires tight. Repair or replace accessories when required.
			9. Replacement of mulch.
		6. Restore the site to original conditions from damage arising out of maintenance operations.
		7. Immediately replace all dead or dying plants during the warranty period as required by Consultant. Replacement of plants only at the end of the plant warranty period will not be acceptable.
		8. Remove all staking, wrapping and supports at end of plant warranty period.

End of section