

**SECTION 02910
PLANTS**

PART 1 GENERAL

1.01 - Section Includes

Scope – Furnish all materials, labor and equipment necessary to complete the Work specified in this Section. Generally, the scope of Work included herein is the installation and maintenance of plant materials.

1.02 - Permits and Fees

Obtain any necessary permits for this Section of Work and pay any fees required for the permits.

1.03 - Delivery, Handling and Temporary Storage

- A. Whenever practical, plant material shall be planted on the day of delivery; in the event this is not possible, protect that stock not planted.
- B. Plant material that cannot be planted immediately on delivery shall be kept in the shade, well protected with soil, wet moss or other acceptable material and shall be kept well watered.
- C. Plants shall not be bound with wire or rope at any time so as to damage the bark or break branches.
- D. Plants shall be lifted and handled from the bottom of the ball only.
- E. Plants moved with a ball will not be accepted if the ball is cracked, loose or broken before or during planting operations.
- F. Deliver fertilizer to Site in original, unopened containers, each bearing manufacturer's guaranteed analysis.
- G. Store packaged materials off ground and protect from moisture.

1.04 - Site Disturbances

- A. Take precautions to insure that equipment and vehicles do not disturb or damage existing Site grading, walks, drives, utilities, plants, etc.
- B. Replace and/or return to original condition any damage caused by Contractor's negligence at no cost to Owner.

1.05 - Inspection and Approval

- A. All materials described and specified herein shall be subject to inspection and approval by the Engineer.
- B. Materials may be inspected by the Engineer at source of supply.
- C. This inspection does not waive the right to reject any material after it has been delivered to the Site and/or installed.
- D. All plant material shall be grown in the Midwest in zones 3 to 5. Proof (bill of sale, inventory list, nursery location, etc.) shall be provided upon request by the Owner or Engineer.

1.06 - Guarantee and Replacement

- A. Guarantee plants for the duration of one full year after they are initially accepted as defined herein. Plants shall be alive and in good, healthy and flourishing condition of growth at the end of the guarantee period.
- B. At the end of the guarantee period, final inspection will be made by the Engineer upon written notice requesting such inspection; submit to the Owner and the Engineer at least 10 days prior to the anticipated date of inspection.
- C. Any plant, required under this Contract, that is dead or not in a vigorous, thriving condition, as determined by Engineer, shall be removed from the Site; these and any missing plants, due to the Landscape Contractor's negligence, shall be replaced as soon as conditions permit, but during the normal planting season.
- D. In case of any questions regarding the condition and satisfactory establishment of a rejected plant, the Landscape Contractor may elect to allow such plant to remain through another

complete growing season. If at that time the rejected plant is found to be dead, in an unhealthy or badly impaired condition, it shall be replaced.

- E. Replace plants that are observed to be dead or in a badly impaired condition after initial acceptance at no cost to the Owner once during or at the end of the guarantee period.
- F. One replacement after initial acceptance shall constitute fulfillment of Contractor's guarantee for the particular plant replaced.
- G. All replacements shall be plants of the same kind and size as specified in the plant list. They shall be furnished and planted as specified herein.
- H. Make all necessary repairs to grades, lawns and paving required because of plant replacements. Such repairs shall be done at no extra cost to the Owner.
- I. Plants shall be replaced, guyed or staked, mulched, wrapped, fertilized, pruned and restored to original condition at no cost to Owner.

PART 2 MATERIALS AND PRODUCTS

2.01 - Plant Materials

- A. Plant Schedule: A list of plant materials is scheduled on the planting plan. In the event of any discrepancy between this schedule and the plan drawings showing the plants, the plan drawings shall govern.
- B. Certification of inspection of plant materials required by Federal, State or other governmental agencies to accompany all shipments shall be furnished to the Engineer.
- C. Nomenclature: The names of plants required under this Contract conform to those given in "Standardized Plant Names," latest edition, prepared by the American Joint Committee on Horticultural Nomenclature. Names of varieties not included therein conform generally with names accepted in the nursery trade.
- D. Standards: All plant materials, methods, etc., shall conform to the Standards of the American Association of Nurserymen, Inc. as contained in their current publication "American Standard for Nursery Stock," ANSI Z60.1. In the event there is a discrepancy between these standards and this Specification, the most restrictive requirement shall govern.
- E. Labeling: All plants shall be true to name and legibly tagged as to name and size.
- F. Species and Variety: All plants shall be true to name as specified. Plants approved as true to name at time of initial acceptance that, during the guarantee period, exhibit characteristics indicating they are not true to name shall be replaced at no cost to the Owner.
- G. Availability: The Contractor shall have investigated the sources of supply and satisfied himself that he can supply the listed plants in the size, variety and quality listed and specified before submitting his Bid. Failure to take this precaution will not relieve the Contractor from his responsibility for furnishing and installing all plant materials in strict accordance with the Contract Documents without additional cost to the Owner.
- H. Quality
 - 1. Plants shall have a habit of growth that is typical for their species and as indicated on the Plant Schedule.
 - 2. All plants shall be sound, healthy, vigorous and free from insect pests, plant diseases and injuries.
 - 3. One sided plants or plants taken from tightly planted nursery rows will be rejected.
 - 4. All plant materials shall be of the highest quality.
- I. Size and Form
 - 1. All plants shall equal or exceed measurements specified in the Plant Schedule, which are minimum acceptable sizes.
 - 2. Plants shall be measured before pruning with the branches in normal position. Height and spread specified refers to main body of plant and not from the tip to tip of branches or roots.
 - 3. Caliper of trees 4" and less shall be taken 6" above ground level. Trees with caliper greater than 4" shall be measured one foot above ground level.

J. Balled and Burlapped Plants

1. Plants designated as "B&B" shall be balled and burlapped. They shall be dug with firm, natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant.
2. Balls shall be firmly wrapped with burlap or similar material and bound with twine, cord, or wire mesh.
3. Where necessary to prevent breaking or cracking of the ball during the process of planting, the ball may be secured to a platform. Broken or loose balls will not be accepted.
4. A container grown plant will be accepted provided it meets specified sizes and complies with the code of standards currently recommended by the American Association of Nurserymen, Inc. in "American Standard for Nursery Stock" (ANSI Z60.1-1990). A machine moved plant will also be acceptable providing it meets specified sizes and complies with the code of standards currently recommended by the American Association of Nurserymen, Inc. in the "American Standard for Nursery Stock" (ANSI Z60.1-1990).

K. Machine-moved Plants

Plants indicated as "B&B" in the plant schedule may be moved with a Commercial tree spade or tree mover, with approval of the Engineer. The plant shall be moved with earth and in a dormant condition.

2.02 - Planting Soil

Soil excavated from planting pits that is similar in nature to topsoil on Site and is determined to be suitable for planting soil shall be used. Suitable soil shall be loose, friable, earth free of clods, stones greater than two inches, and other non-native materials.

2.03 - Mulch

- A. Wood chip mulch shall be locally obtained, a product of hardwood tree trunks, limbs or stumps, consistent and free of any large chunks, twigs, leaves, etc.
- B. Submit sample to Engineer for approval before installation.

2.04 - Materials for Staking, Guying and Protection

- A. Stakes shall be steel fence posts, installed in undisturbed soil. Stakes shall be green vinyl coated or painted black with a rust inhibiting paint; all stakes to be the same.
- B. Hose to encase wire or cable for fastening trees shall be new green or black, two-ply, one half-inch (1/2") diameter reinforced rubber garden hose. All hose shall be uniform color.
- C. Where staking is required, No. 9 gauge, pliable, galvanized wire shall be used.
- D. Where guying is required, three steel auger-type screw anchors shall be used.
- E. Wrapping materials shall be brown, heavy crinkly crepe tree wrapping paper, 5-10 inches in width. Secure with suitable cord; tape or glue are unacceptable.

PART 3 EXECUTION

3.01 - Dates

- A. Planting shall commence at the earliest possible date Site conditions permit.
- B. Planting Season
 1. Deciduous trees and shrubs: September 15 to November 15 and April 1 to June 1.
 2. Evergreen Trees and Shrubs: August 15 to October 15 and April 1 to June 1.
 3. At the option and on the full responsibility of the Contractor, planting operations may be conducted under unseasonable conditions without additional compensation.

3.02 - Preparation

- A. Stake out on the ground the locations of all plants and obtain approval of the Engineer before excavation is begun.
- B. Relocate incorrectly located plants at no expense to the Owner.

3.03 - Excavation

- A. Excavate the plant pit, centered at the location stake, cylindrical in shape with vertical sides and flat or saucer-shaped bottom.
- B. Planting soil for backfilling shall be kept separate from excavated sub-soil, if sub-soil is unsuitable.
- C. Excavate the plant pit large enough to provide for at least 6 inches of planting soil backfill around and beneath the root system.
- D. Where surface or sub-surface conditions prevent digging a plant pit to specified dimensions, obtain approval from Engineer to modify location of pit dimensions.
- E. Contractor shall verify location of underground utilities prior to excavation. Damage caused by installation of landscape materials shall be repaired at the Contractor's expense.

3.04 - Planting

- A. Groundcover
 1. Cultivate groundcover areas 6" deep and grade smooth immediately before planting groundcover plants.
 2. Plant groundcover to within one foot of trunk of tree or shrub planted within the area.
- B. Balled and Burlapped Plants
 1. Center of root ball in the plant pit resting on 6" of planting soil well tamped.
 2. Backfill the plant hole with excavated soil placed in layers around the root ball.
 3. Carefully tamp each layer in place in a manner to avoid injury to roots or ball or disturbing position of plant.
 4. When approximately two-thirds of the plant hole has been backfilled, fill the hole with water and allow the soil to settle around the roots.
 5. Top of root ball shall be level with the surrounding grade and a saucer shall be formed as shown in the planting details.
 6. Place wood chip mulch in the planting saucer as indicated in the details.
 7. Cut cord or wire securing burlap at base of tree.
- C. Machine-moved Plants
 1. Plants shall be installed straight; broken or loose root balls will not be accepted.
 2. Do not fill above original planted depth.
 3. All plants shall have a saucer formed as shown on the planting detail; however, all plants on a significant slope shall have the saucer formed as a dam or shoulder on the downhill side to catch and hold water and avoid erosion.

3.05 - Water

Water required for plant maintenance will be furnished by the Contractor. All necessary hose, equipment, attachments and accessories for watering will be supplied by the Contractor.

3.06 - Staking and Guying

Staking and guying as required by the Engineer, with space permitting.

- A. Stake deciduous trees with a trunk caliper of 2" – 3". Place two stakes in an east-west direction opposite each other. Refer to planting detail.
- B. Anchor and guy evergreen trees over eight feet (8') in height and deciduous trees with a trunk caliper more than 3". Space the earth anchors equally around each tree; each guy shall be attached to the tree trunk at a point about two-thirds the height of the tree. Refer to planting detail drawing on landscape plan.
- C. All guying materials may be salvaged by the Contractor 12-18 months after installation.

3.07 - Wrapping

- A. In the Fall, the first year after planting, wrap trunks of all deciduous trees with tree wrapping paper spirally from ground line to bottom branches.
- B. All wrapping shall be neat and snug; materials shall be held in place by a suitable cord.
- C. All wrapping shall be removed from the trees the following Spring.

3.08 - Pruning and Repair

- A. Just prior to inspection for initial acceptance, prune all trees and repair any injuries.
- B. The amount of pruning shall be limited to the minimum necessary to remove dead or injured twigs and branches.
- C. Pruning shall be done in such a manner as not to change the natural habit or shape of the plant.
- D. All cuts shall be made flush, leaving no stubs.
- E. On all cuts over $\frac{3}{4}$ " in diameter and bruises or scars on the bark, trace the injured cambium back to living tissue and remove; smooth and shape wounds so as not to retain water.

3.09 - Clean-up

- A. Remove any soil, peat or similar material that has been brought onto paved areas by planting operations promptly, keeping those areas clean at all times.
- B. Upon completion of the planting, all excess soil and stones resulting from the planting operation, shall be removed from the Site.
- C. Remove all debris, resulting from planting operations, from the Site.

3.10 - Initial Inspection and Acceptance

- A. Initial inspection of the planting to determine completion of Contract Work, exclusive of possible replacement of plants, will be made by Engineer upon completion of the Work.
- B. Submit written notice requesting such inspection at least five days prior to the anticipated date.
- C. After inspection, the Contractor will be notified in writing by the Owner of initial acceptance of the Work inspected, exclusive of the possible replacement of plants subject to guarantee or if there are any deficiencies, of the requirement for completion of the Work.
- D. Maintain areas not acceptable as specified until corrections are completed and re-inspection is conducted.
- E. Upon written request, inspection and initial acceptance of a major portion of the plantings may be granted if a significant time delay (60-90 days) is encountered, through no fault of the Landscape Contractor in completing the plantings.
- F. All plants shall be in a live and healthy condition at the time of initial acceptance.
- G. Replacement of dead or rejected plants before initial acceptance shall not be considered a part of the guarantee and replacement requirement of this section.

3.11 - Thirty Day Maintenance Period

- A. The term of the maintenance period shall be 30 calendar days following initial acceptance of the total landscape installation unless otherwise specified.
- B. Work not included: Work in connection with damages due to storm, flood, freezing, vandalism, or other acts over which the Contractor has no control.
- C. Additional Work and services may be negotiated; however, they are subject to prior authorization by the Owner.
- D. Maintenance shall include all Work necessary to deliver to the Owner properly installed and healthy plant material. Supply all equipment required.
- E. Maintenance by the Contractor shall begin immediately following installation of plant material and shall include: watering, weeding, cultivating, mulching, removal of dead material, resetting plants to proper grades or upright position and restoration of the planting saucer, and other necessary operations.
- F. Maintenance by Owner shall begin immediately following the 30-day maintenance period.

3.12 - Final Acceptance

- A. One-week prior to the completion of the thirty-day maintenance period, the Contractor shall notify Engineer in writing.
- B. During this inspection, the punch list from the initial acceptance will be checked. Landscape materials will be inspected for proper installation and maintenance in accordance with the Drawings and Specifications. Items needing correction shall be corrected prior to the completion of the maintenance period, or else the maintenance period will be extended until this is done.
- C. Contractor shall provide a detailed maintenance recommendation to the Owner, with a copy to the Engineer, prior to final acceptance. Maintenance by the Owner in accordance with this recommendation does not affect the Contractor's obligation to the guarantee.
- D. If reasonable questions are raised concerning a specific plant rejected during final inspection, the Contractor and the Engineer may agree to allow the plant to remain through one additional growing season. If, at that time, in the opinion of the Engineer, the plant in question continues to be unsatisfactory, it shall be replaced.
- E. All replacements shall be guyed or staked, mulched, pruned and watered as specified for installation.
- F. Final acceptance by the Owner shall be in writing, on a letter initialed by the Contractor and the Engineer.

END OF SECTION 02910