# SECTION 329300X PLANT INSTALLATION

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| **Include MAA Landscaping References “Approved Species List” and “Approved Installation Methods” in the Contract Documents when using this specification.** |

**PART 1 – GENERAL**

**1.1 GENERAL.** This item provides specifications for plant materials to be used for landscaping activities. All activities shall conform to the standards described in this specification and occur at locations clearly indicated by site plans or as directed by the MAA Engineer.

**PART 2 – PRODUCTS**

**2.1 PLANTS.**

1. **SPECIES.** Preferred species that appear in the attached Reference, “Approved
Species List,” shall be used unless otherwise approved by the MAA Engineer. The authority for all plant names shall be the current printing of *Hortus Third[[1]](#footnote-1)*. Representative samples of every shipment of plant materials shall be labeled as to genus, species, and specified size.
2. **HEALTH.** All plants, unless otherwise specifically permitted, shall conform to the standards of the current edition of *American Standard for Nursery Stock[[2]](#footnote-2)* as approved by the American Standards Institute, Inc. All plants, unless otherwise specifically permitted, shall be nursery grown and shall have been grown within plant hardiness zones 5, 6, 7, or the Virginia portion of zone 8A as recorded in the current edition of *USDA* *Plant Hardiness Zone Map[[3]](#footnote-3)*, prepared by the U.S. National Arboretum, Agricultural Research Service, U.S. Department of Agriculture. All plant materials shall have normal, well developed branches and a vigorous root system. They shall be healthy plants free from physical defects, plant diseases, and insect pests. Plant materials grown in fields or blocks that show evidence of containing any parts of Johnson grass (*Sorgum halepense*), Canada thistle (*Cirsium arvense*), or Phragmites (*Phragmites australis*) will not be accepted. Shade and flowering trees shall be symmetrically balanced. Major branches shall not have V-shaped crotches capable of causing structural weakness. Trunks shall be free of unhealed branch removal wounds greater than 1 inch (25 mm) in diameter. Shade trees shall have a single main trunk. Trunks shall be free of branches below the following heights:
* 1-1/2 to 2-1/2 inch (40- to 65-mm) caliper trees = 5 feet (1.5 meter) height
* 3-inch (75 mm)-caliper and greater trees = 6 feet (1.8 meter) height.
1. **INSPECTION AND TESTING.**  The initial inspection for conformance with these specifications will be made at the nursery, holding area, or job site. The condition of all plant material will be subject to reinspection for the life of the Contract. Inspection and tagging of plant material with a MAA seal prior to digging will occur at the discretion of the MAA Engineer. Material arriving with broken seals (if tagging is required), broken or loose root balls, mechanical damage, insufficient protection and/or shriveled or undeveloped roots will not be accepted. All container grown plants shall be well rooted, vigorous, and established in the size pot specified, shall have well balanced tops for the pot size, and shall not be root bound. All plant materials shall be declared and certified free from disease and insects of any kind as required by law for the necessary interstate or interdistrict transportation.
2. **SUBSTITUTION OF PLANT MATERIALS.** No substitutions shall be made without the permission of the MAA Office of Facilities Planning. In cases where plant materials are not available at the time of planting, the Contractor shall submit, in writing, evidence that the plants are unavailable. If necessary, MAA will determine suitable substitutions.
3. **FERTILIZER.** Fertilizer, if necessary, shall be standard commercial fertilizer and shall meet the requirements of applicable state and federal laws as well as standards set forth by the Association of Official Agricultural Chemists.
4. **SOIL AMENDMENTS.** Soil amendments shall be commercial grade and shall meet the requirements of applicable state and federal laws as well as standards set forth by the Association of Official Agricultural Chemists.
5. **WATER.** All water used shall be obtained from fresh water sources and shall be free from injurious chemicals and other toxic substances harmful to plant life. Brackish water shall not be used at any time. The Contractor shall identify all sources of water to the Engineer at least two weeks prior to use. The Engineer may take samples of the water at the source or from the tank at any time and submit the samples to a laboratory to identify chemical and saline content. The Contractor shall not use any water from any source that is disapproved by the Engineer following such tests.

**PART 3 – EXECUTION**

**3.1 GENERAL.** This section provides approved methods for installation of plant material and includes specifications for soil preparation, fertilization, installation, and post-installation care. Prior to beginning any planting activities, a planting design prepared by a landscape architect or a qualified official shall be submitted to and approved by the MAA Office of Facilities Planning on behalf of the MAA Engineer. The planting design shall be to scale and clearly show the species to be planted, locations of individual plants, size of individual plants, and spacing requirements. The MAA Office of Facilities Planning shall approve deviations from an approved design. The approved planting design shall be kept on site during all working hours.

**3.2 PREPARATION OF GROUND SURFACES.** Areas designated for planting shall be properly prepared before plant installation occurs. The soil of a properly prepared planting bed shall be loose and friable to a minimum depth of 1 foot (30.5 cm), laboratory tested, and properly amended based on laboratory recommendations. The soil of a properly prepared planting bed shall be free of any stones larger than 1 inch in diameter, sticks, stumps, and/or other debris that may interfere with plant installation, growth of plant material, and subsequent maintenance of planted areas. The soil of a properly prepared planting bed shall be properly graded to conform with the required lines, grades, and cross sections as shown on the planting design plan.

1. **TOPSOIL.** Topsoil, if necessary, shall conform to the standards and be incorporated with existing soils according to procedures described in Section 329115X - “TOPSOIL” prior to laboratory analysis of soil and subsequent addition of any necessary soil amendments.
2. **FERTILIZER.**  Fertilizer, if necessary, shall be applied at concentrations and rates suggested by the soil testing laboratory based on results of soil analysis. Fertilizer, unless otherwise specified, shall be added by hand on a plant-by-plant basis. Unless specifically required, lime shall not be added to areas to be planted.
3. **SOIL AMENDMENTS.** Soil amendments shall be added according to recommendations made by the laboratory based on analytical results. These recommendations shall be provided to and approved by the MAA Engineer prior to amendment of any soil.

**3.3 OBTAINING PLANT MATERIAL.** Plant material shall be free from all pests and diseases and conform to the standards described in Part 2 – “PRODUCTS.”

1. **NURSERY STOCK PLANTS.** Nursery stock plants shall be obtained from a nursery certified by the Associated Landscape Contractors of America.
2. **TRANSPLANTED PLANTS.** Plants approved for transplanting shall be vigorous and free from all pest infestations and/or diseases. Potential plant materials for transplanting shall be inspected by a Licensed Arborist and subsequently approved by the MAA Engineer. Plants approved for transplanting shall be dug up, cared for, and transported according to the standards of the Associated Landscape Contractors of America.

**3.4 PLACEMENT OF PLANT MATERIALS.** Prior to installation of plant material, the site design shall be reviewed, and individual plants shall be placed at locations on the prepared bed as indicated by the site design. Once the design layout has been marked on the prepared bed, the Contractor shall determine if the proposed sizes and spacing of plants are reasonable. Alterations to the landscape design shall be performed by a qualified Landscape Architect and approved by the MAA Office of Facilities Planning on behalf of the MAA Engineer. The planted bed shall be graded to the specifications indicated by the site design.

**3.5 INSTALLATION OF PLANT MATERIAL.**  All plant material shall be installed in satisfactorily prepared beds according to the methods detailed in *Landscape Specification Guidelines* published by the Associated Landscape Contractors of America. Portions of these guidelines relevant to digging, backfilling, and securing of plant materials are included in the attached Reference, “Approved Installation Methods.”

If circumstances exist that delay installation of plant material, the Contractor shall provide adequate care required to maintain the plants in a healthy condition until installation can be performed. Such care may include watering, protection from excessive sun and wind exposure, and protection from damage by wildlife. Plants must be stored in a location that does not cause an increased risk of wildlife strike hazards and is approved by the MAA Engineer (plant material must not be stored near aircraft operation areas or approach/departure paths). Materials that deteriorate beyond the potential for recovery shall not be installed. It will be the Contractor’s responsibility to replace these items at no additional cost to MAA.

**3.6 POST INSTALLATION.** After installation of all plant materials to a bed, subsequent activities such as seeding, sodding, or mulching shall be conducted as indicated by the site design. Methods for completion of these activities shall conform to the standards set forth in Section 329201X “Seeding,” Section 329202X “Sodding,” and Section 329203X “Mulching.”

**3.7 MAINTENANCE.** Maintenance of installed plant material includes watering, weed and pest control, health inspections, and replacements as needed.

**PART 4 – METHOD OF MEASUREMENT**

**4.1** This item will be measured on a per plant basis.

**PART 5 – BASIS OF PAYMENT**

**5.1** This item will be paid for on a per plant basis.

Payment will be made under

Item 329300X.1 Planting

# END OF SECTION 329300X

1. Staff of the L.H. Bailey Hortorium, Cornell University, 1976. *Hortus Third; A Concise Dictionary of Plants Cultivated in the United States and Canada*. Barnes and Noble, Inc. New York, New York. [↑](#footnote-ref-1)
2. American Nursery and Landscape Association, 1990. *American Standard for Nursery Stock*. [↑](#footnote-ref-2)
3. US National Arboretum, Agricultural Research Service, US Department of Agriculture, 1990. *USDA Plant Hardiness Zone Map*. [↑](#footnote-ref-3)