

SECTION 1005
PLANTING

1005.1 GENERAL:

1005.1.1 SCOPE: Work under this section consists of the planting of trees, shrubs, and groundcovers, including the furnishing of all labor, equipment, and materials and performing all work in connection therewith in accordance with the plans and specifications, or as authorized by the ENGINEER.

1005.1.2 The scientific and common names used for the plants called for on the drawings are generally in conformity with the approved names given in Standardized Plant Names, 1942 Edition published by the American Joint Committee on Horticultural Nomenclature. The names of varieties not included therein are generally in conformity with the names accepted in the nursery trade.

1005.2 REFERENCES:

1005.2.1 U.S.A. Standard for Nursery Stock, published by Committee on Horticultural Standards of the American Association of Nurserymen, Inc.

1005.2.2 Standardized Plant Names, published by the American Joint Committee on Horticultural Nomenclature.

1005.3 MATERIALS:

1005.3.1 PLANT MATERIALS: A complete list of plants, including a schedule of quantities, sizes and other requirements is shown on the plans. In the event that discrepancies occur between quantities of plants and the planting plan, the plant quantities indicated on the planting plan shall govern.

1005.3.2 PLANT MATERIAL SUBSTITUTION:

1005.3.2.1 Plant material substitutions shall not be made without the written approval of the ENGINEER. The use of materials differing in kind, quality, or size from that specified will be allowed only after the ENGINEER is convinced that all means of obtaining the specified materials have been exhausted. At the time bids are submitted, the CONTRACTOR is assumed to have located the materials necessary to complete the job as specified. All requests for substitutions must be submitted no later than five days prior to the opening of bids.

1005.3.2.2 Plant material quality, size, and condition shall be in accordance with U.S.A. Standard for Nursery Stock, latest edition, as published by the Committee on Horticultural Standards of the American Association of Nurserymen, Inc., the plans and the following requirements:

1005.3.2.2.1 All plants shall be typical of their species or variety. All plants shall have normal, well developed branches vigorous root systems. They shall be and sound, healthy, vigorous, free from defects, disfiguring knots, abrasions of the bark, sunscald injuries, plant and diseases, insect eggs, bores, and all other forms of infections.

1005.3.2.2.2 Unless otherwise stated on the plans or approved by ENGINEER, all plants shall be nursery grown and shall be tagged with nursery labels indicating species and variety.

1005.3.2.2.3 Container grown plant material shall have been established in its delivery container for not less than six months, but for not more than two years. Any rootbound material will not be accepted.

1005.3.2.2.4 Balled and burlapped plant material shall have a solid ball of earth of minimum specified size and held in place securely by burlap and a stout twine or rope. Broken or loose balls will be rejected.

1005.3.2.2.5 Unless specifically noted on the plans, all trees shall have a single trunk that is straight and free of "dog-legs," "crooks," "y-crotches," or other disfiguring shapes. The central leader of all trees shall not have been pruned. Trees with double leaders are not acceptable.

1005.3.2.2.6 All plant material shall have a uniform shape around its complete indicated in the schedule of plants circumference. Plant material with irregular branching patterns or with branching patterns more highly developed on one side than on other sides shall not be acceptable.

1005.3.2.2.7 The ENGINEER shall inspect all plant material at the CONTRACTOR'S yard prior to delivery to the job site. All materials shall then be inspected at the job site prior to planting and after planting.

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1005.3.2.2.8 At the option of the CONTRACTOR the ENGINEER will inspect plant material at a wholesale nursery of the CONTRACTOR'S choice prior to delivery of materials to the CONTRACTOR'S yard. However, at no additional expense to the OWNER, the CONTRACTOR shall be responsible for all travel expenses incurred by the ENGINEER for any travel outside the area.

1005.3.2.2.9 The ENGINEER shall be the judge of the quality and acceptability of all plant materials. All rejected material shall be immediately removed from the site and replaced with acceptable material at no additional cost to OWNER.

1005.3.3 PLANTING SOIL MIXTURES:

Specification for complete planting backfill. Planting soil mixture shall be a premixed, homogeneous soil. It will consist of sand and organic matter and meet performance characteristics outlined below.

Sand, 60% by volume of clean masonry sand with a sieve analysis of:

sieve size % passing

3/8" 100%

#4 93-99%

#8 82-88%

#16 73-79%

#30 55-61%

#50 24-30%

#100 6-12%

#200 7-2%

Organic Matter, 40% by volume of compost material specified as follows:

Compost, or mulch, shall be a combination organic carbon sources such as straw, hay, bark, sawdust or wood shavings and nitrogen sources such as manure, blood meal, or chemical fertilizers. Nitrogen sources must be added prior to composting. It is recommended this mixture be aerobically composted at temperatures between 120 F and 160 F for a period of not less than 100 days. Weed seeds are to be destroyed during composting and urea and ammonia form nitrogen ratio shall be as listed below. Finished compost is to be screened to provide less than 2% remaining on a 1/2" screen. Carbon to Nitrogen Ratio of organic matter shall be less than 50 parts carbon to one part nitrogen.

1005.3.3.1 The complete PLANTING SOIL MIXTURE shall have the following characteristics:

Calcium to magnesium ratios shall not exceed 20 parts calcium to one part magnesium.

Potash (Potassium)(K) shall be present at a rate of at least 200 parts per million of exchangeable potassium.

Salinity (EGXK) not to exceed 2 AMHOS/CM Nitrate nitrogen (NO₃-N) shall be present at a rate of at least 30 parts per million.

Phosphorus as measured by the Olson sodium bicarbonate measurement method shall be at greater than 25 parts per million.

Ph of the planting soil mixture shall be between 6.5 and 7.5. Organic matter by weight (by simple combustion) shall be more than 5%

Available moisture capacity in the one third to 15 bar tension shall be greater than 15%.

TKN₂ or Total Kjeldahl Nitrogen shall be 250 ppm or greater. NH₄ shall be 25 ppm or less.

1005.3.3.2 The ENGINEER reserves the right to adjust the above characteristics and waive all irregularities.

1005.3.3.3 The PLANTING SOIL MIXTURE shall be tested by the CONTRACTOR at an approved soils testing laboratory. Test results shall be submitted to and approved by the ENGINEER prior to delivery of the planting soil mixture. Test Results shall list the as tested qualities of the above characteristics and any recommendations the testing Lab has.

The OWNER will also test the final product as delivered or installed to verify the mixture matches the listed characteristics and the submitted soils report.

1005.3.3.4 Each Delivery shall have a load ticket. The load ticket shall list:

Source of Mixture.

Approximate volume of load.

Date of delivery or loading.

Typed name of individual representing the source.

Inked original signature of individual representing the source.

Area of site product delivered to.

Tickets shall be collected and provided to the ENGINEER.

1005.304 MULCH: Bark mulch shall be fresh, shredded mixture of 1/2"-5" pieces of wood, cambium and bark nuggets from coniferous trees.

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1005.4 PLANTING OPERATIONS:

1005.4.1 Planting operations as specified herein shall begin only when other work including placing of topsoil to finished grade has progressed sufficiently to permit planting and shall be performed only during favorable weather conditions in accordance with accepted practice.

1005.4.2 In anyone day, only those plant materials intended to be planted that day shall be delivered to the project site, unless otherwise approved by ENGINEER. All plant materials shall be located where shown on the plans except when adjustments due to field conditions are required. The location of all trees and shrubs shall be staked by the CONTRACTOR before making any excavations, and locations shall be inspected by the ENGINEER prior to installation. All plants shall be placed as specified except for minor adjustments made necessary by underground obstructions or other unforeseen causes.

1005.4.2.1 All balled and burlapped plant materials shall be planted between March 1 and June 1.

1005.4.3 PLANTING: All planting and backfilling shall be performed in accordance with accepted nursery practice, the plans, and the following requirements:

1005.4.3.1 Prepare all planting pits and planting beds as shown on the plans. Set all plants plumb and straight unless otherwise indicated on plans and in the center of pit such that the top root ball sits flush with finish grade. No filling will be permitted around trunks or stems.

1005.4.3.2 Backfill for planting pits shall consist of the planting soil mixture as specified in these specifications. The plant shall be positioned in the hole and backfilled no more than halfway up the root ball. The backfilling shall be completed, and material tamped. When pit is nearly filled, water thoroughly and allow water to soak away. If settling of the backfill occurs after watering, add more backfill to bring to finish grade.

1005.5 MULCHING: Unless shown on the plans or specified otherwise, after completion of planting operations, a 4 inch thick layer of mulch shall be applied to all planting beds.

1005.6 MAINTENANCE AND PROTECTION:

Maintenance and protecting of trees, shrubs, and groundcover shall begin immediately following the last operation of installation for each plant and shall continue through the duration of the maintenance period specified for turf. If the project does not include turf, the trees, shrubs and groundcover shall be maintained for a period of 30 days after substantial completion. Maintenance shall include watering, weeding, cultivating, removal of dead material and debris, resetting of trees to upright positions, restoration of earth basins, and such other operations as may be necessary for the health of the planted stock and the general appearance of the landscaped areas. Protection shall include care of the planted stock from damages resulting from trespass, erosion (including watering), weather, vandalism, disease and the like.

1005.6.1 PRUNING: The CONTRACTOR shall not prune any plant material except under the specific direction of the ENGINEER.

1005.6.2 WATER: The CONTRACTOR shall be responsible for the cost of water during the installation and maintenance of plant material until final acceptance.

1005.7 GUARANTEE:

All plant materials shall be guaranteed to be in a live, healthy, and normal growing condition following the date of acceptance by the ENGINEER through 12 months or one growing season whichever comes first. A growing season shall be defined as May 15 through September 15. Such plant materials that are dead or in an unhealthy, impaired growth condition, shall be replaced by the CONTRACTOR within 10 days after the end of the guarantee period.

1005.8 INSPECTIONS:

1005.8.1 The following inspections shall be the minimum required inspections during the course of construction. Additional inspections shall be made at any time at the discretion of the ENGINEER.

1005.8.2 It shall be the responsibility of the CONTRACTOR to notify the ENGINEER, in writing, 48 hours in advance of each required inspection.

1005.8.3 The sequence of required inspections shall not be changed from the sequence listed below. The CONTRACTOR shall not proceed with work of the next sequence without written approval of the work of the previous sequence. Payment will not be approved for items which have not been inspected and approved in writing.

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1005.8.3.1 Inspect plant material at CONTRACTOR'S yard prior to delivery to job site.

1005.8.3.2 Inspect staked locations of material prior to planting.

1005.8.3.3 Inspect material at the job site prior to and during planting.

1005.8.3.4 Inspect at end of maintenance period.

1005.8.3.5 Final inspection of the project and acceptance.

1005.8.3.6 Inspect at end of growing season or 12 months, whichever comes first.

1005.9 MEASUREMENT AND PAYMENT:

1005.9.1 MEASUREMENT: The measurement shall be made per each size of a particular species of tree, shrub and/or ground cover plant.

1005.9.2 PAYMENT: Payment shall be made at the contract unit price for each size of a particular species of plant as specified in the bid proposal or approved by the ENGINEER, which shall include all materials, equipment and labor required in furnishing and planting the landscape plants.