



## **Emerald Parkway Phase 8 Landscape**

■ **Parks & Open Space**  
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### ***Addendum #1*** October 24, 2014

Item #1: Under this cover, please find specification section 02930. It was inadvertently omitted from the contract documents.

Item #2: Cover, Detail 1, Evergreen Planting- The mulch shall be shredded dark hardwood mulch as stated in specification section 02930, not pine needle mulch.

Item #3: Cover, Taxodium distichium (Bald Cypress)- The size was inadvertently omitted. The Bald Cypress shall be eight feet (8').

*End of Addendum #1*

## SECTION 02930 - EXTERIOR PLANTS

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

## 1.2 SUMMARY

- A. Section Includes:
  - 1. Trees.
  - 2. Tree stabilization.

## 1.3 SUBMITTALS

- A. Qualification Data: For qualified landscape Installer.
- B. Planting Schedule: Indicating anticipated planting dates for exterior plants.

## 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful establishment of exterior plants.
- B. Provide quality, size, genus, species, and variety of exterior plants indicated, complying with applicable requirements in ANSI Z60.1, "American Standard for Nursery Stock."
  - 1. Selection of exterior plants purchased under allowances will be made by Landscape Architect, who will tag plants at their place of growth before they are prepared for transplanting.
- C. Tree and Shrub Measurements: Measure according to ANSI Z60.1 with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurements 6 inches above the ground for trees up to 4-inch caliper size, and 12 inches above the ground for larger sizes. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip-to-tip.

## 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Do not prune trees and shrubs before delivery except as approved by Landscape Architect. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to

destroy their natural shape. Provide protective covering of exterior plants during delivery. Do not drop exterior plants during delivery and handling.

- B. Handle planting stock by root ball.
- C. Deliver exterior plants after preparations for planting have been completed and install immediately. If planting is delayed more than six hours after delivery, set exterior plants and trees in shade, protect from weather and mechanical damage, and keep roots moist.
  - 1. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
  - 2. Do not remove container-grown stock from containers before time of planting.
  - 3. Water root systems of exterior plants stored on-site with a fine-mist spray. Water as often as necessary to maintain root systems in a moist condition.

#### 1.6 PROJECT CONDITIONS

- A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.
  - 1. Spring Planting: March 15- June 1
  - 2. Fall Planting: October 15- November 1
- B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting.

#### 1.7 WARRANTY

- A. Special Warranty: Installer's standard form in which Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Death and unsatisfactory growth, except for incidents that are beyond Contractor's control.
    - b. Structural failures including plantings falling or blowing over.
  - 2. Warranty Periods from Date of Substantial Completion:
    - a. Trees: One year.
  - 3. Include the following remedial actions as a minimum:
    - a. Remove dead exterior plants immediately. Replace in the succeeding planting season.
    - b. Replace exterior plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
    - c. A limit of one replacement of each exterior plant will be required except for losses or replacements due to failure to comply with requirements.

## PART 2 - PRODUCTS

### 2.1 TREE MATERIAL

- A. General: Furnish nursery-grown trees complying with ANSI Z60.1, with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.
- B. Provide trees of sizes, grades, and ball or container sizes complying with ANSI Z60.1 for types and form of trees required. Trees of a larger size may be used if acceptable to Landscape Architect, with a proportionate increase in size of roots or balls.
- C. Root-Ball Depth: Furnish trees with root balls measured from top of root ball, which shall begin at root flare according to ANSI Z60.1. Root flare shall be visible before planting.

### 2.2 SHADE AND FLOWERING TREES

- A. Shade Trees: Single-stem trees with straight trunk, well-balanced crown, and intact leader, of height and caliper indicated, complying with ANSI Z60.1 for type of trees required.
  - 1. Provide balled and burlapped, container-grown, or fabric bag-grown trees.
  - 2. Stem Form: Single trunk.
  - 3. Branching Height: One-third to one-half of tree height.
- B. Small Upright Trees: Branched or pruned naturally according to species and type, with relationship of caliper, height, and branching according to ANSI Z60.1; stem form as follows:
  - 1. Stem Form: Single truck or multiple trunks, when specified.
  - 2. Provide balled and burlapped, container-grown, or fabric bag-grown trees.

### 2.3 CONIFEROUS TREES

- A. Form and Size: Normal-quality, well-balanced, coniferous evergreens, of type, height, spread, and shape required, complying with ANSI Z60.1.
- B. Form and Size: Specimen quality as described, symmetrically shaped coniferous evergreens.
  - 1. Provide balled and burlapped, container-grown, or fabric bag-grown trees.

### 2.4 TOPSOIL

- A. Topsoil: ASTM D 5268, pH range of 5.5 to 7, a minimum of 4 percent organic material content; free of stones 1 inch or larger in any dimension and other extraneous materials harmful to plant growth.

## 2.5 INORGANIC SOIL AMENDMENTS

- A. Diatomaceous Earth: Calcined, diatomaceous earth, 90 percent silica, with approximately 140 percent water absorption capacity by weight.

## 2.6 ORGANIC SOIL AMENDMENTS

- A. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch (25-mm) sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

1. Organic Matter Content: 50 to 60 percent of dry weight.
2. Kurtz Brothers compost used as standard. Equals to be approved by Landscape Architect after contract award.

## 2.7 FERTILIZER

- A. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:

1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.

## 2.8 MULCHES

- A. Organic Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of one of the following:

1. Type: Shredded hardwood.
2. Color: Uniform dark tan-beige color range acceptable to Landscape Architect.

## 2.9 TREE STABILIZATION MATERIALS

- A. Stakes and Guys:

1. Upright and Guy Stakes: Rough-sawn, sound, new hardwood, redwood, or pressure-preservative-treated softwood, free of knots, holes, cross grain, and other defects, 2-by-2-inch nominal by length indicated, pointed at one end.

- B. Root-Ball Watering Materials:

1. Gator Bags: Contractor is to provide Gator Bags, or approved equal, for all deciduous and evergreen trees installed as part of this project. The bags shall remain on the trees for one year. At that time the contractor may remove the bags for reuse on other projects.

## 2.10 PLANTING SOIL MIX

- A. Planting Soil Mix: Mix topsoil with the following soil amendments and fertilizers in the following quantities:
  - 1. Ratio of Loose Compost to Topsoil by Volume: 1:3.
  - 2. Weight of Slow-Release Fertilizer per manufacturer's recommendation.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine areas to receive exterior plants for compliance with requirements and conditions affecting installation and performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities, and lawns and existing exterior plants from damage caused by planting operations.
- B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- C. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations, outline areas, adjust locations when requested, and obtain Landscape Architect's acceptance of layout before planting. Make minor adjustments as required.

### 3.3 PLANTING BED ESTABLISHMENT

- A. Loosen subgrade of planting beds to a minimum depth of 6 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
  - 1. Thoroughly blend planting soil mix off-site before spreading or spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil mix.
    - a. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.
  - 2. Spread planting soil mix to a depth of 6 inches but not less than required to meet finish grades after natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.
    - a. Spread approximately one-half the thickness of planting soil mix over loosened subgrade. Mix thoroughly into top 4 inches of subgrade. Spread remainder of planting soil mix.

- B. Finish Grading: Grade planting beds to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.
- C. Before planting, restore planting beds if eroded or otherwise disturbed after finish grading.

### 3.4 EXCAVATION FOR TREES

- A. Pits and Trenches: Excavate circular pits with sides sloped inward. Trim base leaving center area raised slightly to support root ball and assist in drainage. Do not further disturb base. Scarify sides of plant pit smeared or smoothed during excavation.
  - 1. Excavate approximately three times as wide as ball diameter for balled and burlapped, container-grown or fabric bag-grown stock.
  - 2. Excavate at least 12 inches wider than root spread and deep enough to accommodate vertical roots for bare-root stock.
- B. Subsoil removed from excavations may be used as backfill.
- C. Obstructions: Notify Landscape Architect if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.
- D. Drainage: Notify Landscape Architect if subsoil conditions evidence unexpected water seepage or retention in tree or shrub pits.
- E. Fill excavations with water and allow to percolate away before positioning trees and shrubs.

### 3.5 TREE PLANTING

- A. Before planting, verify that root flare is visible at top of root ball according to ANSI Z60.1.
- B. Set balled and burlapped stock plumb and in center of pit or trench with top of root ball flush with to 1 inch above adjacent finish grades.
  - 1. Remove burlap and wire baskets from tops of root balls and partially from top 1/3 sides, but do not remove from under root balls. Remove pallets, if any, before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.
  - 2. Place planting soil mix around root ball in layers, tamping to settle mix and eliminate voids and air pockets. When pit is approximately one-half backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed. Water again after placing and tamping final layer of planting soil mix.
- C. Set container-grown stock plumb and in center of pit or trench with top of root ball flush with to 1 inch above adjacent finish grades.
  - 1. Carefully remove root ball from container without damaging root ball or plant.
  - 2. Place planting soil mix around root ball in layers, tamping to settle mix and eliminate voids and air pockets. When pit is approximately one-half backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed. Water again after placing and tamping final layer of planting soil mix.

- D. Set fabric bag-grown stock plumb and in center of pit or trench with top of root ball flush with to 1 inch above adjacent finish grades.
  - 1. Carefully remove root ball from fabric bag without damaging root ball or plant. Do not use planting stock if root ball is cracked or broken before or during planting operation.
  - 2. Place planting soil mix around root ball in layers, tamping to settle mix and eliminate voids and air pockets. When pit is approximately one-half backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed. Water again after placing and tamping final layer of planting soil mix.
- E. Organic Mulching: Apply 2-3 inch average thickness of organic mulch extending 12 inches beyond edge of planting pit or trench. Do not place mulch within 3 inches of trunks or stems.

### 3.6 TREE AND PRUNING

- A. Remove only dead, dying, or broken branches. Do not prune for shape.

### 3.7 TREE STABILIZATION

- A. Trunk Stabilization: Provide trunk stabilization as follows:
  - 1. Upright Staking and Tying: Stake trees of 2-inch caliper. Stake trees of less than 2-inch caliper only as required to prevent wind tip-out. Use a minimum of 2 stakes of length required to penetrate at least 18 inches below bottom of backfilled excavation and to extend at least 72 inches above grade. Set vertical stakes and space to avoid penetrating root balls or root masses.
- B. Root-Ball Watering Material Placement: Place Gator Bags, or approved equal, and fill with water. Maintain filled bags for a full year from project acceptance date.

### 3.8 PLANTING BED MULCHING

- A. Mulch backfilled surfaces of planting beds and other areas indicated. Provide mulch ring around trees in lawn areas.
  - 1. Organic Mulch: Apply 3-inch average thickness of organic mulch, and finish level with adjacent finish grades. Do not place mulch against plant stems.

### 3.9 PLANT MAINTENANCE

- A. Tree and Shrub Maintenance: Maintain plantings, until project acceptance by watering, weeding, fertilizing, restoring planting saucers, adjusting and repairing stakes and guy supports and root-ball watering materials, and resetting to proper grades or vertical position, as required to establish healthy, viable plantings.

3.10 CLEANUP AND PROTECTION

- A. During planting, keep adjacent paving and construction clean and work area in an orderly condition.
- B. Protect exterior plants from damage due to landscape operations, operations by other contractors and trades, and others. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.

3.11 DISPOSAL

- A. Disposal: Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 02930