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**Construction Specification**

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PART 1 - GENERAL

1.01 DESCRIPTION

- A. General: Provide soil preparation in accordance with the contract documents.
- B. Related Work Specified Elsewhere:
  - 1. Finish Grading.
  - 2. Lawns.
  - 3. Trees, Shrubs, Vines, and Groundcovers.

1.02 PROJECT/SITE CONDITIONS

- A. Review the Owner's existing soils analysis and soils boring data.

1.03 EXAMINATION OF SITE AND DOCUMENTS

- A. By submitting a bid, the Contractor affirms that he has carefully examined the site and all conditions affecting work under this Section. No claim for additional costs will be allowed because of lack of full knowledge of existing conditions.
- B. Plans, specifications, surveys, measurements, other documents and dimensions under which the work is to be performed are believed to be correct; but the Contractor shall have examined them for himself during the Bidding period, as no additional compensation will be made for errors or inaccuracies that may be found therein.

1.04 SEQUENCING AND SCHEDULING

- A. Do not install on-structure drainage materials or soil mix prior to acceptance of waterproofing and sprinkler irrigation in other sections.

1.05 SUBMITTALS TO CIVIL ENGINEER

- A. Product Data: Manufacturer's current catalog cuts and specifications of the following:
  - 1. Fertilizer.
  - 2. Approved organic amendment.
  - 3. Peat moss.
  - 4. Potting soil.
- B. Quality Control Submittals:
  - 1. Soils Test Lab:
    - a. Soils Testing Laboratories:
      - 1. To be approved by the Owner.
      - 2. Lab must be capable of providing field observation and testing services as well as experience in landscape soils.
  - 2. Test Reports:
    - a. Organic Amendments: Test for physical and chemical properties.
    - b. Imported Topsoil: Agricultural suitability tests.
    - c. Stockpiled on Site Natural Topsoil.
      - 1. Agricultural suitability tests.
    - d. Off-Site Imported Topsoil.
      - 1. Agricultural suitability tests.
    - e. On-Site Earth Subsoil in Planted Areas:
      - 1. Agricultural suitability tests.
      - 2. Certificates: Contractor certifying strict compliance with accepted soil mixes and amendments, including rate of application.

1.06 FIELD QUALITY CONTROL

- A. Tests: Right is reserved to take soil mixes and prepared soil for testing for conformity to Specifications.
- B. Rejected Materials: The contractor shall pay cost of testing of materials not meeting specifications.

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PART 2 - PRODUCTS

2.01 MATERIALS

A. Stockpiled on Site Native Topsoil:

1. Quantity: The approximate quantity of on site stockpiled native soil will not be known until demolition and excavation for parking lots and building pads have been completed.
2. Topsoil shall have been stockpiled on the site under Site Earthwork section. Provide agricultural suitability test.
3. Amend topsoil per recommendation of soil test for the trees, shrubs, groundcover and perennials as noted on the drawings and for the lawns.

B. Off-Site Imported Topsoil:

1. Composition: Fertile, friable, well-drained soil, of uniform quality, free of stones over 1 in. diameter, sticks, oils, chemicals, plaster, concrete and other deleterious materials.
2. Analysis: Obtain an agricultural suitability analysis of the proposed topsoil from an approved Soils Testing Laboratory.
3. Test Results: Request soils laboratory to send one (1) copy of test results direct to the Landscape Architect.
  - a. Imported topsoil shall be amended per soils test report for the trees, shrubs, groundcovers, and perennials, as noted on the drawings and for the lawns.
4. Samples: The Landscape Architect reserves the right to take samples of the imported topsoil delivered to the site for conformance to the Specifications.
5. Rejected Topsoil: Immediately remove rejected topsoil off the site at Contractor's expense.

2.02 AMENDED TOPSOIL

A. Soil Amendments: incorporate thoroughly with top six (6) in. of lawn and planting areas per 1,000 square feet:

6 cu. yd. Approved Organic Amendment  
30 lbs. 6-20-20 Commercial Fertilizer  
50 lbs. Dolomite Lime  
10 lbs. Iron Sulfate

Intent: The above amendments and quantities are approximate and are for bidding purposes only following an on-site topsoil analysis by Soils and Plant Laboratory, composition of amendments may change. Contract price will be adjusted accordingly.

B. Organic Amendments:

1. Type: As recommended by the soil's laboratory.

2.03 BACKFILL MIX

A. Backfill mix shall be composed of approved topsoils amended and fertilized per the recommendations of the soil's laboratory.

2.04 COMMERCIAL FERTILIZERS

A. Controlled Release Fertilizer:

1. Type: Osmocote 17-6-12 plus minors.

2.05 SUPPLEMENTAL CHEMICAL COMPONENTS:

- A. The following but not limited to chemical components may or may not be used depending on the outcome of the soil's agricultural suitability test.
- B. Dolomite Lime: Agricultural grade mineral soil conditioner containing 35% minimum magnesium carbonate and 49% minimum calcium carbonate, 100% passing #65 sieve. "Kaiser Dolomite 65 AG" as manufactured by Kaiser, Inc. Mineral Products Department, or equal.
- C. Iron Sulfate (Ferric or Ferrous): Supplied by a commercial fertilizer supplier, containing 20% Fe as ferrous sulfate.
- D. Single Superphosphate: Commercial product containing 20% to 25% available phosphoric acid.
- E. Potassium Nitrate: Commercial product: 13-0-44.
- F. Calcium Nitrate: Agricultural grade containing 15-1/2% nitrogen.

2.06 WATER

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- A. Water: Clean, fresh and potable. Furnished and paid for by Contractor. Transport as required.

2.07 POTTING SOIL

- A. Well Drained: High organic soil approved by landscape architects.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Soil Moisture Content: Do not work soil when moisture content is so great that excessive compaction will occur, nor when it is so dry that dust will form in air or that clods will not break readily. Apply water, if necessary, to bring soil to optimum moisture content for tilling and planting. Maintain within 2 percent above or below optimum moisture content at all times during the work.
- B. Clearing of Debris: Clear all planting areas of stones 2 in. diameter and larger, weeds, debris and other extraneous materials prior to amending existing soil and prior to spreading topsoil.
- C. Preparation of Areas to Receive Topsoil:
  - 1. Verifications: Verify that subgrades for installation of topsoil have been established.
  - 2. Depth: Verify that subgrades are 6 in. minimum below finished grades, +/- 1 in., allowing for topsoil and soil amendments.
  - 3. Cultivation: Cross rip to 8" depth subgrade in planting areas prior to spreading topsoil.

3.02 INSTALLATION OF AMENDED TOPSOIL

- A. Installation of Amended Topsoil:
  - 1. Spreading of Topsoil:
    - a. Preparation: Do not commence spreading of topsoil prior to acceptance of soil preparation. Do not place topsoil under muddy or frozen conditions.
    - b. Topsoil Depth: Minimum depth of 6 in. after natural settlement and light rolling conforming to finished grades shown on Drawings.
    - c. Installation of Topsoil:
      - 1. Install where shown on the Drawings.
      - 2. Place in 2 lifts of 3" per lift.
      - 3. First lift to be thoroughly mixed with subsoil by rototill, disc, or crossripping.
      - 4. Second lift to be placed on first and rototilled with amendments required by soils lab.

3.03 PREPARATION OF BACKFILL MIX

- A. Backfill mix shall be composed of approved topsoils amended and fertilized per the recommendations of the soil's reports.

3.04 PREPARATION OF AMENDED TOPSOIL

- A. Amend the topsoil as specified Part 2.02A materials - amended topsoil preparation.

3.05 APPLICATION OF PRE-EMERGENT HERBICIDE

- A. Apply pre-emergent weed control to all areas to receive woody, non-lawn ornamental planting after incorporating soil amendments.
- B. Apply strictly according to manufacturer's current printed specifications.

3.06 INSTALLATION OF BACKFILL MIX

- A. Install where shown on the drawings and details and as specified under the Trees, Shrubs, Vines and Groundcover Section.

END OF SECTION