

PART 1 - GENERAL

- 1.1 SECTION INCLUDES
1. Lawn work shall include sodding as indicated on plans and specified herein.
 2. Provide all labor, materials, and equipment necessary to perform the sodding work, complete, as indicated on the Drawings and as specified.

- 1.2 RELATED SECTION
1. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
 1. Section 02111 - Topsoil
 2. Section 02950 - Trees, Shrubs, and Ground Cover

- 1.3 REFERENCES
1. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern.
 1. American Society for Testing and Materials (ASTM): D 1557 Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-lb. (4.54-kg) Rammer and 18-in. (457-mm) Drop.

- 1.4 SUBMITTALS
1. Samples and Product Information: Representative samples or product information of the following materials shall be provided to the Landscape Architect from the supply source being used:
 1. Sod type, growing conditions, and certification.
 2. Fertilizer specifications and guaranteed analysis.
 3. Mulch material components, chemical analysis, and manufacturer.
 4. Tackifier material components and manufacturer.

- 1.5 QUALITY ASSURANCE
1. Contractor's Qualifications
 1. The work of this section shall be performed by a Contractor specializing in sodding, or landscape installations.
 2. The Contractor shall have successfully completed at least 5 installations of this type, size, and complexity in the last four years.

- 1.6 DELIVERY, STORAGE, AND HANDLING
1. Digging
 1. Do not dig sod at the nursery or other approved source until ready to transport sod to the project site or approved storage location.
 2. Before stripping, sod shall be mowed at a uniform height of 2 inches.
 3. Cut sod to specified thickness and to standard width and length.

- 1.7 JOB CONDITIONS
1. Do not install sod on saturated or frozen soil.
 2. Sod installation shall be subject to suitability of the weather and other conditions affecting sod growth.
 3. Planting season may be extended with the written permission of the Landscape Architect.

- 1.8 GUARANTEE
1. Warrant all laws for a period of one year from date of Notice of Substantial Completion, to be at least the quality and conditions as at Final Acceptance. Promptly reseed unacceptable areas during the warranty period as directed by the Landscape Architect.

- 1.9 ACCEPTANCE
1. The Landscape Architect will inspect all work for Substantial Completion upon written request of the Contractor. The request shall be received at least ten calendar days before the anticipated date of inspection.
 2. Acceptance will be based on establishment of a uniform stand of turfgrass, defined as coverage of specified grass at a density of 95 percent coverage, with no bare spots greater than one square foot, free of weeds, undesirable grass species, disease, and insects. For grass varieties selected, allow a minimum of 90 days for establishment of an acceptable stand of grass.

- 2.1 SOIL
1. Sod shall be nursery grown on cultivated mineral agricultural soils. Sod shall have been mowed regularly and carefully otherwise maintained from planting to harvest.
 2. Sod shall be common Bermuds, some as hydromutcher.
 3. Thickness of Cut: Sod shall be cut to the supplier's standard width and length. Maximum allowable deviation from standard widths and lengths shall be plus or minus 1/2 inch on width and plus or minus 5 percent on length. Broken strips and torn or uneven ends will not be accepted.

- 2.2 FERTILIZER
1. Initial Planting Application: Fertilizer shall be a complete fertilizer, part of the elements of which are derived from organic sources. The percentages by weight shall be 1-2-1 (N-P-K), also containing 10 percent to 15 percent sulphur in sulphate form, and trace of iron and zinc.
 2. Post Planting Application: Fertilizer shall be a chemically based complete fertilizer. The percentages by weight shall be 3-1-2 (N-P-K) with 2 percent to 5 percent iron.

- 2.3 CLEANING, REMOVAL, AND REPAIR
1. Paved areas over which hauling operations have been conducted shall be kept clean. Promptly remove materials spilled on pavement.
 2. Upon completion of lawn installation, remove from the site and legally dispose of the following:
 1. Surplus subgrade material.
 2. Stone and foreign matter.

- 2.4 WATERING
1. Provide an adequate supply of water at the site prior to and during transplanting of the sod.

- 2.5 SOIL MIXES
1. Tree pit back fill shall be 75% finely chopped native soil and 25% Living Earth Tech, organic soil for tree planting.
 2. Top dress with 1 inch organic matter.

- 2.6 ANTI-DESICCANT
1. Antidesiccant shall be an emulsion specifically manufactured for plant protection which provides a protective film over plant surfaces which is permeable only to water transpiration. Antidesiccant shall be delivered in manufacturer's sealed containers and shall contain manufacturer's printed instructions for use.

- 2.7 EDGING
1. Steel edging shall be Ryerson Steel Landscaping Edging, manufactured by Ryerson, an Inland Steel Company, Chicago, IL 60680, or an approved equal. Steel edging shall be shop fabricated 1/8 inch thick x 4 inches deep, galvanizing steel, primed and painted green. Edging shall be furnished in 20 ft. lengths.
 2. Steel edging shall have slotted holes for staking steel edging every 30 inches o.c.
 3. Steel stakes shall be 16 inches long, tapered.

- 2.8 VEGETATION REMOVAL
1. Strip existing grass and weeds, including root, from all bed areas, leaving the soil surface one inch below finished grade.

- 2.9 PLANTING
1. Excavation
 1. Rocks and other underground obstructions shall be removed to a depth necessary to permit proper planting according to plans and specifications. If underground utilities or other structural obstructions are encountered, alternate planting locations will be determined by the Landscape Architect.
 2. Plant pits shall be dug only by methods approved by the Landscape Architect.
 1. Planting pits shall be round, wide, with rough vertical sides and flat bottoms, and sized in accordance with outlines and dimensions shown on the drawings. The sides of the hole shall be rough and jagged and never slick.
 2. If rotating augers or other mechanical diggers are used to excavate holes, the vertical sides of the pits shall be scarified, fractured, or otherwise broken down to eliminate impervious surfaces.
 3. Loosen or scarify in the bottom of all plant pits to a depth of 4 inches. Excavated material that is not conducive to plant growth will not be used for backfill in any planter or planting pit and shall be removed.
 4. All planting pits suspected of having inadequate drainage shall be tested by filling the pit with water. Drainage time in each pit shall be observed and if, in the opinion of the Landscape Architect, the water does not drain off within 24 hours, the substrate will be drilled and shattered to a minimum depth of 3 feet below the bottom of the pit. The planting pit will be retested; if adequate drainage does not occur, drains will be installed as specified by the Landscape Architect. If drains are required, the cost for additional work shall be negotiated with the Owner.

- 3.0 MULCHING
1. Mulching shall take place within 48 hours after planting.
 2. Mulch plant beds and tree and shrub planting pits to a uniform depth of 3 inches.
 3. Mulch shall be kept out of the crowns of shrubs, away from tree trunks, and off buildings, sidewalks, light standards, and other structures.

- 3.1 GUYING AND STAKING
1. Guying and staking operations shall be completed as shown on the drawing details immediately after planting.
 2. Stakes and guys shall be removed at the end of guarantee period, and no less than five days prior to final inspection.

- 3.2 CLEANUP AND PROTECTION
1. Excess and waste material shall be removed daily.
 2. When planting in an area has been completed, the area shall be cleared of all debris, soil piles, and containers.
 3. At least one paved pedestrian access route and one paved vehicular access route to each building shall be kept clean at all times. Other paving shall be cleaned when work in adjacent areas is completed.

- 3.3 PROTECTION
1. Protect landscape work and materials from damage due to landscape operations, operations by other Contractors, trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged landscape work as directed.

- 3.4 END OF SECTION

- 3.5 STORAGE
1. Unless specific authorization is obtained from the Landscape Architect, plants shall not remain on the site of work longer than three days prior to being planted.
 2. Plants that are not planted immediately shall be protected as follows:
 1. Root balls shall be kept moist and their solidity carefully preserved.
 2. Plants shall not be allowed to dry out or freeze.
 3. Both the duration and method of storage of plant materials shall be subject to the approval of the Landscape Architect.

- 3.6 HANDLING OF PLANT MATERIALS
1. Exercise care in handling plant materials to avoid damage or stress.

- 3.7 REJECTION OF MATERIALS
1. Evidence of inadequate protection following digging, carelessness while in transit, or improper handling or storage, shall be cause for rejection.
 2. Upon arrival at the temporary storage location or site of the work, plants shall be inspected for proper shipping procedures. Should the roots be dried out, large branches be broken, balls of earth broken or loosened, or areas of bark be torn, the Landscape Architect will reject the injured plant.
 3. When a plant has been rejected, remove it from the area of the work and replace it with one of the required size and quality.

- 3.8 ACCEPTANCE
1. The Landscape Architect will inspect all work for Substantial Completion upon written notice of completion. The request shall be received at least ten calendar days before the anticipated date of inspection.
 2. Acceptance of plant material by the Landscape Architect will be for general conformance to specified size, character, and quality, and shall not diminish responsibility for full conformance to the Contract Documents.
 3. Upon completion and reinspection of all repairs or renewals necessary in the judgment of the Landscape Architect, the Landscape Architect will recommend to the Owner that acceptance of the work of this Section be given.

- 3.9 MAINTENANCE
1. Maintain plant material until the completion of guarantee period and Final Acceptance of work, as described in Part 3 of this section.

- 3.10 GUARANTEE
1. Plants shall be guaranteed for a period of one year after the date of Acceptance by the Owner.
 1. When the work is accepted in parts, the guarantee periods shall extend from each of the partial acceptances to the terminal date of the last guarantee period. Thus, all guarantee periods terminate at one time.
 2. Plants shall be healthy, free of pests and disease, and in flourishing condition at the end of the guarantee period. Plants shall be free of dead and dying branches and branch tips, and shall bear foliage of normal density, size, and color. Plants, including trees, which have partially died so that the shape, size or symmetry has been damaged, shall be considered subject to replacement.
 3. Replace dead plants and all plants not in a vigorous, thriving condition, as determined by the Landscape Architect during and at the end of the guarantee period, without cost to the Owner, as soon as weather conditions permit and within the specified planting period.
 1. Replacements shall closely match adjacent specimens of the same species.
 2. Replacements shall be subject to all requirements stated in this Specification.
 3. Make all necessary repairs due to plant replacements. Such repairs shall be done at no extra cost to the Owner.
 4. The guarantee of all replacement plants shall extend for an additional one year period from the date of their acceptance after replacement. In the event that a replacement plant is not acceptable during or at the end of the said extended guarantee period, the Owner may elect one more replacement or credit for each item.
 4. At the end of the guarantee period, and no less than five days prior to final inspection, staking and guying materials, and tree wrap and ties shall be removed from the site.

- 3.11 FINAL INSPECTION AND FINAL ACCEPTANCE
1. At the end of the guarantee period, the Landscape Architect will, upon written notice of and of guarantee period inspect the work for Final Acceptance. Request shall be received at least ten calendar days before the anticipated date for Final Inspection.
 2. Upon completion and reinspection of full repairs or replacements necessary in the judgment of the Landscape Architect at the time, the Landscape Architect will recommend to the Owner that Final Acceptance of the Work of this Section be given.

PART 1 - GENERAL

- 1.1 SUMMARY
1. Work Includes:
 1. Plant materials, installation, soil treatments, and maintenance operations through the one year warranty period of all trees, shrubs, ground covers, annuals, perennials and vines as indicated on drawings and specified herein.

- 1.2 SUBMITTALS
1. Samples and Product Information: Representative samples or product information of the following materials shall be provided to the Landscape Architect from the supply source being used:
 1. Plant Material: Samples or photos with growers name, location, and phone number may be requested in lieu of inspection at the nursery.
 2. Mulch: 1 pound sample and product information.
 3. Organic Matter: 1 pound sample and product information.
 4. Fertilizer: Product information and analysis.

- 1.3 QUALITY ASSURANCE
1. The Contractor shall be a company specializing in landscape installation.
 2. The Contractor shall have successfully completed at least 5 installations of this type, size, and complexity in the last four years.

- 1.4 DELIVERY, STORAGE, AND HANDLING
1. Digging Plant Material
 1. Plants shall not be dug at the nursery or approved source until the Contractor is ready to transport them from their original locations to the site of the work or acceptable storage location.

- 1.5 TRANSPORTATION OF PLANT MATERIAL
1. Plants transported to the project in open vehicles shall be covered with tarpaulins or other suitable covers securely fastened to the body of the vehicle to prevent overheating of the plants.
 2. Plants shall be kept moist, fresh, and protected at all times. Such protection shall encompass the entire period during which the plants are in transit, being handled, or are in temporary storage.
 3. The roots of borer-infested stock shall be protected from drying out with wet straw or other suitable material while in transit.
 4. Unless otherwise authorized by the Landscape Architect, notify the Landscape Architect at least five working days in advance of the anticipated delivery date of any plant material. A legible copy of the bill of lading, showing the quantities, kinds, and sizes of materials included for each shipment shall be furnished to the Landscape Architect.

- 1.6 STORAGE
1. Unless specific authorization is obtained from the Landscape Architect, plants shall not remain on the site of work longer than three days prior to being planted.
 2. Plants that are not planted immediately shall be protected as follows:
 1. Root balls shall be kept moist and their solidity carefully preserved.
 2. Plants shall not be allowed to dry out or freeze.
 3. Both the duration and method of storage of plant materials shall be subject to the approval of the Landscape Architect.

- 1.7 HANDLING OF PLANT MATERIALS
1. Exercise care in handling plant materials to avoid damage or stress.

- 1.8 REJECTION OF MATERIALS
1. Evidence of inadequate protection following digging, carelessness while in transit, or improper handling or storage, shall be cause for rejection.
 2. Upon arrival at the temporary storage location or site of the work, plants shall be inspected for proper shipping procedures. Should the roots be dried out, large branches be broken, balls of earth broken or loosened, or areas of bark be torn, the Landscape Architect will reject the injured plant.
 3. When a plant has been rejected, remove it from the area of the work and replace it with one of the required size and quality.

- 1.9 ACCEPTANCE
1. The Landscape Architect will inspect all work for Substantial Completion upon written notice of completion. The request shall be received at least ten calendar days before the anticipated date of inspection.
 2. Acceptance of plant material by the Landscape Architect will be for general conformance to specified size, character, and quality, and shall not diminish responsibility for full conformance to the Contract Documents.
 3. Upon completion and reinspection of all repairs or renewals necessary in the judgment of the Landscape Architect, the Landscape Architect will recommend to the Owner that acceptance of the work of this Section be given.

- 1.10 MAINTENANCE
1. Maintain plant material until the completion of guarantee period and Final Acceptance of work, as described in Part 3 of this section.

- 1.11 GUARANTEE
1. Plants shall be guaranteed for a period of one year after the date of Acceptance by the Owner.
 1. When the work is accepted in parts, the guarantee periods shall extend from each of the partial acceptances to the terminal date of the last guarantee period. Thus, all guarantee periods terminate at one time.
 2. Plants shall be healthy, free of pests and disease, and in flourishing condition at the end of the guarantee period. Plants shall be free of dead and dying branches and branch tips, and shall bear foliage of normal density, size, and color. Plants, including trees, which have partially died so that the shape, size or symmetry has been damaged, shall be considered subject to replacement.
 3. Replace dead plants and all plants not in a vigorous, thriving condition, as determined by the Landscape Architect during and at the end of the guarantee period, without cost to the Owner, as soon as weather conditions permit and within the specified planting period.
 1. Replacements shall closely match adjacent specimens of the same species.
 2. Replacements shall be subject to all requirements stated in this Specification.
 3. Make all necessary repairs due to plant replacements. Such repairs shall be done at no extra cost to the Owner.
 4. The guarantee of all replacement plants shall extend for an additional one year period from the date of their acceptance after replacement. In the event that a replacement plant is not acceptable during or at the end of the said extended guarantee period, the Owner may elect one more replacement or credit for each item.
 4. At the end of the guarantee period, and no less than five days prior to final inspection, staking and guying materials, and tree wrap and ties shall be removed from the site.

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2.1 MATERIALS

- 2.2 PLANT MATERIALS
1. Name and Variety: Provide plant materials true to name and variety described in "Hortus Third," Cornell University, 1976, or by cultivars generally accepted in the trade.
 2. All plant material shall be No. 1 grade nursery stock grown in accordance with good horticultural practices. Plants shall be free of disease, insects, eggs, larvae, and defects such as knots, sunscald, injuries, abrasions, or discoloration. They shall be sound, healthy and vigorous, of uniform growth, typical of the species and variety, well-developed, free from irregularities, with the minimum quality conforming to American Standard for Nursery Stock.
 3. Plants indicated as specimen shall be exceptionally heavy, symmetrical, and lightly knit, cultured, to be unquestionably superior in form, branching, compactness, and symmetry.
 4. The minimum acceptable sizes of all plants shall be measured before pruning and with branches in normal position. Unless otherwise designated on the plant list, all plant dimensions shall conform to those listed in ANSI Z60.1, American Standard for Nursery Stock.
 5. Branching point is the distance above ground where balanced branching occurs or where a dimension in trunk appears to form the head of the tree.

- 2.3 SOIL MIXES
1. Tree pit back fill shall be 75% finely chopped native soil and 25% Living Earth Tech, organic soil for tree planting.
 2. Top dress with 1 inch organic matter.

- 2.4 ANTI-DESICCANT
1. Antidesiccant shall be an emulsion specifically manufactured for plant protection which provides a protective film over plant surfaces which is permeable only to water transpiration. Antidesiccant shall be delivered in manufacturer's sealed containers and shall contain manufacturer's printed instructions for use.

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 3. Steel stakes shall be 16 inches long, tapered.

- 2.6 VEGETATION REMOVAL
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- 2.7 PLANTING
1. Excavation
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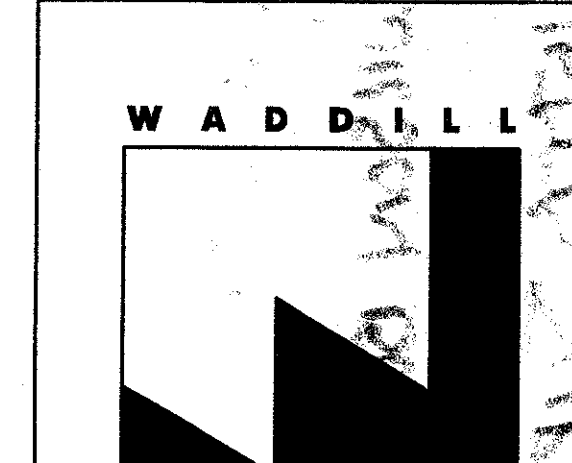
- 2.8 MULCHING
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- 2.9 GUYING AND STAKING
1. Guying and staking operations shall be completed as shown on the drawing details immediately after planting.
 2. Stakes and guys shall be removed at the end of guarantee period, and no less than five days prior to final inspection.

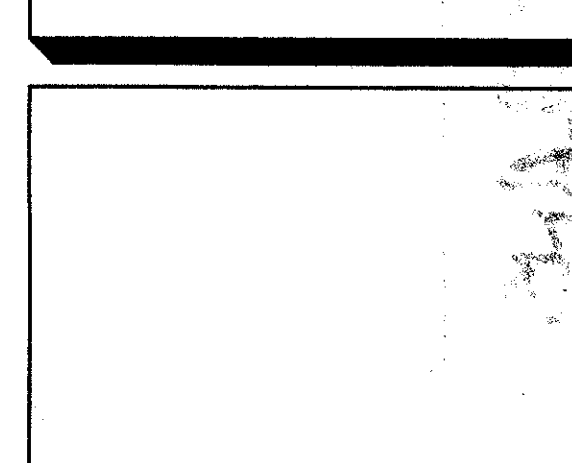
- 2.10 CLEANUP AND PROTECTION
1. Excess and waste material shall be removed daily.
 2. When planting in an area has been completed, the area shall be cleared of all debris, soil piles, and containers.
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- 2.11 PROTECTION
1. Protect landscape work and materials from damage due to landscape operations, operations by other Contractors, trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged landscape work as directed.

- 2.12 END OF SECTION



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Revisions

Drawing Title
Landscape Notes

Sheet of
C6 56
Sheets