# GENERAL

## RELATED DOCUMENTS

### Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section.

##### See Section 007300 “Supplementary Conditions”, if included, for requirements relating to interpretation of the drawings and specifications.

##### See Section 012100 “Allowances”, if included, for use of allowances and what may and may not be included in them.

## SUMMARY OF WORK

### Work shall include all labor, materials, and equipment necessary to completely furnish and install the Turf and Grasses as indicated on the plans and as herein specified.

### This section includes the following:

##### Seeding

##### Sodding

##### Turf renovation

### Related Sections: The following Sections may contain requirements that relate to this Section:

#### Division 31 Section “Erosion and Sediment Control Systems” for erosion control materials

#### Division 31 Section “Site Clearing” for topsoil stripping and stockpiling

#### Division 31 Section “Earthwork” for excavation, filling and backfilling, and rough grading

#### Division 32 Section “Planting Irrigation” for turf irrigation

#### Division 32 Section “Plant Material” for border edgings

#### Division 33 Section “Subdrainage Systems” for subsurface drainage

## SUBMITTALS

### Product Data: For each type of product indicated.

##### Pesticides and Herbicides: Include product label and manufacturer’s application instruction specific to this project.

### Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture stating the botanical and common name, percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Included year of production and date of packaging.

##### Certification of each seed mixture for turf grass sod and seed. Include identification of source, name and telephone number of supplier.

### Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of manicured turf grass and native meadow grass during a calendar year. Submit before expiration of required initial maintenance periods.

### Qualification Data: For qualified landscape installer.

### Material Test Reports: For existing native surface topsoil, existing in-place surface soil and imported or manufactured topsoil.

### Product Certificates: For fertilizers from manufacturer.

## QUALITY ASSURANCE

### Installer Qualifications: A qualified landscape Installer whose work has resulted in successful turf establishment.

##### Professional Membership: Installer shall be a member in good standing of either the Professional Landcare Network or the American Nursery and Landscape Association

##### Experience: Five (5) years’ experience in turf installation

##### Installer’s Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project Site when work is in progress

##### Pesticide Applicator: State licensed, commercial.

* + 1. Pre-installation Conference: Before installing the turf, conduct conference atProject site with Landscape Architect, UNL Campus Landscape Architect, UNL Landscape Services and UNL Project Manager. Notify participants at least 2 working days in advance of meeting.
		2. Post-installation Conference: After installing the turf, conduct a conference at Project site with Landscape Architect, UNL Campus Landscape Architect, UNL Landscape Services and UNL Project Manager for acceptance of work by the owner. Acceptance of turf shall be signed off by UNL Campus Landscape Architect before maintenance responsibilities are assumed by the owner.

## DELIVERY, STORAGE AND HANDLING

### Seed and Other Packaged Materials: Deliver packaged materials in original, unopened container showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws, as applicable.

### Sod: Harvest, deliver, store, and handle sod according to requirements included in this specification. Deliver Sod in time for planting within 24 hours of harvesting. Protect sod from breakage and drying.

### Bulk Materials:

##### Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.

##### Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge or soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.

##### Accompany each delivery or bulk fertilizer and soil amendments with appropriate certificates.

## PROJECT CONDITIONS

### Proceed with and complete seeding work as rapidly as portions of site become available, working within planting restrictions.

### Protect existing utilities, paving, plant material, and other facilities from damage caused by seeding operations.

### Perform seeding work only after planting and other work affecting ground surface has been completed.

### Restrict pedestrian, bicycle, vehicular and other traffic from lawn areas until grass is established. Erect signs and barriers as required.

### Provide hose and lawn watering equipment as required.

### Planting Restrictions: Plant during one of the following periods.

##### Spring Planting: May 15-June 30 for cool and warm season grasses.

##### Fall planting: September 1-October 15 for cool season grasses only and dormant planting is to be November 1-December 15.

##### Any planting outside of these date restrictions shall be approved by UNL Campus Landscape Architect.

##### Weather Limitations: The actual planting shall be performed during those times in this season which are normal for such work as determined by weather conditions, and accepted practice in the locality. No work shall be performed when the ground is frozen, wet or otherwise un-tillable or when even distribution of materials cannot be obtained.

## MAINTENANCE SERVICE

#### Initial Turf Maintenance Service: Provide full maintenance by skilled employees of landscape installer. Maintain as required in Part 3. Begin maintenance immediately after each area is planted and continue for a minimum of 3 months or until turf is accepted by owner.

# PRODUCTS

## SEED

### Grass Seed: Fresh, clean, dry and new crop complying with AOSA’s “Journal of Seed Technology; Rules for Testing Seeds” for purity and germination tolerances. Provide seed mixture composed of grass species, proportions and minimum percentages of purity and germination. Noxious weed seed free.

### Seed Mixture types: RTF Fescue or SuperTurf II. Type to be approved by UNL Campus Landscape Architect.

## TURFGRASS SOD

### Turfgrass Sod: Approved, complying with “Specifications for Turfgrass Sod Materials” in TPI’s “Guideline Specifications to Turfgrass Sodding.” Furnish viable sod of uniform density, color and texture, strongly rooted, and capable of vigorous growth and development when planted.

### Sod Mixture types: RTF Fescue or SuperTurf II. Type to be approved by UNL Campus Landscape Architect.

## FERTILIZERS

### Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast-and slow-release nitrogen, 50 percent derived from natural organic sources or urea formaldehyde, phosphorous, and potassium in the following composition:

##### Composition: 1 lb/1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.

##### Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.

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

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

##### Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil report from a qualified soil-testing laboratory.

## MULCHES

### On all seeded areas utilize DS75 North American erosion-control mat or similar.

## PESTICIDES

### General: Pesticide, registered and approved by EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.

### Pre-Emergent Herbicide (Selective and Non-Selective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer

### Post-Emergent Herbicide (Selective and Non-Selective): Effective for controlling weed growth that has already germinated.

## WATER

### Water: Free of substance harmful to seed growth. Hoses or other methods of transportation furnished by Contractor.

# EXECUTION

## EXAMINATION

### Examine areas to receive turf for compliance with requirements and other conditions affecting performance.

###### Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a proposed turf area.

###### Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.

###### Suspend soil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.

###### Uniformly moisten excessively dry soil that is not workable and which is too dusty.

### Proceed with installation only after unsatisfactory conditions have been corrected.

### If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by UNL Campus Landscape Architect and replace with new planting soil.

## PREPARATION

### Protect existing structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.

##### Protect grade stakes set by others until directed to remove them.

### Install 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.

## TURF AREA PREPARATION

### Limit turf subgrade preparation to proposed turf areas.

### Newly Graded Subgrades: Scarify subgrade to a minimum depth of 18 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.

### Unchanged Subgrades: If turf is to be placed in areas unaltered or undisturbed by excavating, grading, or surface-soil stripping operations, prepare surface soil as follows:

##### Remove existing grass, vegetation, and turf. Do not mix into surface soil.

##### Loosen surface soil to a depth of at least 6 inches. Apply soil amendments and fertilizers according to planting soil mix proportions and mix thoroughly into top 4 inches of soil. Till soil to a homogeneous mixture of fine texture.

##### Remove stones larger than 1 inch in any dimension and sticks, roots, trash, and other extraneous matter.

##### Legally dispose of waste material, including grass, vegetation, and turf, off Owner's property.

### Finish Grading: Grade turf areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit finish grading to areas that can be covered in the immediate future.

### Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

### Before seeding or sodding, obtain UNL Campus Landscape Architect's acceptance of finish grading; restore proposed turf areas if eroded or otherwise disturbed after finish grading.

### Finish grade adjacent to hardscape shall be left down 1” or approximately 1” so that top of sod root zone is flush with adjacent surfaces.

## SEEDING

### Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.

##### Do not use wet seed or seed that is moldy or otherwise damaged.

##### Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.

### Sow seed at a total rate 10 lb/1000 sq. ft.

### Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.

### Protect seeded areas with DS75 North American erosion-control mat or similar, install and anchor according to manufacturer's written instructions.

## SODDING

### Lay sod within 24 hours of harvesting. Do not lay sod if dormant or if ground is frozen or muddy.

### Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to subgrade or sod during installation. Tamp and roll lightly to ensure contact with subgrade, eliminate air pockets, and form a smooth surface. Sod root area not to be exposed next to walks and curbs. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.

##### Lay sod across angle of slopes exceeding 1:3.

##### Anchor sod on slopes exceeding 1:4 with wood pegs or steel staples spaced as recommended by sod manufacturer but not less than 2 anchors per sod strip to prevent slippage.

### Saturate sod with fine water spray within two hours of planting. During first week after planting, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches below sod.

## TURF MAINTENANCE

### Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.

##### Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.

##### In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.

##### Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.

### Watering: Install and maintain temporary piping, hoses, and turf-watering equipment to convey water from sources and to keep turf uniformly moist to a depth of 3.5 inches.

##### Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.

##### Water turf with fine spray at a minimum rate of 2 inch per week unless rainfall precipitation is adequate.

### Mow manicured turf grasses as soon as top growth is tall enough to cut. Repeat mowing to maintain a min 2.5 inch to 3 inch height without cutting more than 1/3 of grass height. Remove no more than 1/3 of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height: 3.5”

## SATISFACTORY TURF

### Turf installations shall meet the following criteria as determined by UNL Campus Landscape Architect:

##### Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 5 by 5 inches.

##### Satisfactory Sodded Turf: At end of maintenance period, a healthy, well-rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.

### Use specified materials to reestablish turf that does not comply with requirements and continue maintenance until turf is satisfactory.

## PESTICIDE APPLICATION

### Apply pesticides and other chemical products and biological control agents in accordance with requirements of authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.

### Post-Emergent Herbicides (Selective and Non-Selective): Apply only as necessary to treat already-germinated weeds and in accordance with manufacturer's written recommendations.

## CLEANUP AND PROTECTION

### Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

### Erect temporary fencing or barricades and warning signs as required to protect newly seeded or sodded areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.

### Remove nondegradable erosion-control measures after grass establishment period.

### END OF SECTION 329200