

**SECTION 02905  
SODDING**

**PART 1 GENERAL**

**1.01 - Section Includes**

- A. Finish Grading
- B. Preparation of Sod Bed
- C. Sod Installation
- D. Watering
- E. Maintenance
- F. Clean-Up
- G. Acceptance

**1.02 - Description Of Work**

- A. This section shall include preparation of the sod bed, furnishing and installing sod, watering, and maintenance for completed sodded areas as specified in contract documents.
- B. Provide sodded lawn on areas disturbed by construction unless otherwise specified or shown on plans or as designated by the Engineer.

**1.03 - Protection Of Property**

Protect existing conditions at the site against damage including the following:

- A. Take precautions to insure that equipment, vehicles, and planting operations do not disturb or damage existing grades, walls, drives, pavement, utilities, plants, lawns, irrigation systems, and other facilities.
- B. Verify locations and depths of all underground utilities prior to excavation and report conflicts with grade or sod operations.
- C. Any damage to existing trees or shrubs, including branches, and root systems to remain and protect shall be repaired and/or pruned by an approved, experienced tree surgeon or arborist.
- D. Repair, replace, and/or return to original condition any damaged item, without additional compensation.

**1.04 - Submittals**

- A. Submit sod growers certification of grass species and location of sources.
- B. Submit certification of the fertilizer analysis.
- C. Submit written maintenance instructions to Engineer recommending procedures for maintenance of sodded lawns, prior to final acceptance of sodded lawns.

**1.05 - Quality Assurance**

All materials described and specified herein as delivered to the project site shall be subject to inspection and approval by the Engineer, or the Engineer may inspect materials at source of supply. This inspection does not waive the right to reject any material after it has been delivered to the site and/or installed.

**1.06 - Delivery, Handling, And Storage**

- A. Sod shall be harvested, delivered, and transplanted within a period of 24 hours unless the Engineer approves a suitable preservation method prior to delivery.
- B. Do not harvest or transport sod when moisture content may adversely affect sod survival.
- C. Protect sod that cannot be placed immediately on delivery from sun, wind, dehydration, and rain prior to installation.
- D. Sod showing visible signs of heating or dehydration will be rejected.
- E. Do not tear, stretch, or drop sod during handling and installation.
- F. Deliver fertilizer to site in original, unopened, and non-damaged containers, each bearing manufacturer's guaranteed analysis.

- G. Store packaged materials off ground and protect from moisture and deterioration.

**1.07 - Scheduling**

- A. Notify Engineer at least two days prior to start of sodding operations.
- B. Perform sod installation after planting and other work affecting ground surface has been completed, or as approved by Engineer.

**1.08 - Warranty**

- A. The warranty is to guarantee completed sodding operations providing a uniformly dense, live, and healthy stand of grass, free of weeds and undesirable grasses, debris, and free of eroded areas, bare spots, diseases, and insects at the end of one year following the minimum maintenance period.
- B. Contractor to replace as originally specified areas which have failed to survive, as often as required, to establish the sodded lawn area until accepted; at no additional compensation.
- C. Repair and replace to original condition all damages to property resultant from the sodding operation and all damages as a result from the remedying of these defects, without additional compensation.

**PART 2 PRODUCTS**

**2.01 - Sod**

- A. Sod shall be a well-established, well-rooted, healthy nursery-grown sod blend of improved Kentucky Bluegrass, no less than 18 months old, with a uniform color, leaf texture, density, and varieties consisting of a minimum of three cultivars selected from the following list.
- B. Permitted Kentucky Bluegrass Cultivars (Certified varieties):

Absolute	Blue Chip	Eclipse	Midnight	Quantrum
America	Blue Moon	Glade	Nublue	Ram I
Apex	Dellwood	Liberty	NuGlade	Rugby II
Award	Dragon	Meret	Nustar	
- C. Sod shall meet the standards of the American Sod Producers Association.
- D. Sod grown in peat bedded soil is not acceptable.
- E. Sod shall be free of objectionable grasses and broadleaf weeds; sod shall be considered free of such weeds if less than 2 such plants are found per 100 square feet of area. Sod shall be free from roots of trees or shrubs, stones, thatch, and other objectionable materials. Sod shall be free of nematodes and soil born insects and free of disease.
- F. Mow at height of 2 inches prior to cutting.
- G. Sod to be machine cut at uniform soil thickness; minimum thickness 1 inch. Thickness measurement shall exclude top growth. Sod shall be cut with a sod machine in strips of uniform width and lengths with ends square.

**2.02 - Fertilizer**

Fertilizer shall comply with the rules of the Iowa Department of Agriculture and as follows:

- A. The grade of fertilizer will be identified according to the percent nitrogen (N), percent of available phosphoric acid (P<sub>2</sub>O<sub>5</sub>), and percent water soluble potassium (K<sub>2</sub>O), in that order, and approval will be based on that identification.
- B. All fertilizer shall be furnished from an established fertilizer dealer. The fertilizer supplier shall provide a guaranteed percentage analysis on each container with the proper scale weight records.
- C. Fertilizer shall be of a type that can be uniformly distributed by the application equipment. Fertilizer may be furnished in a dry (granular) or liquid form.
- D. When applied dry, the fertilizer shall be a granular, non-burning chemically combined product composed of not less than 50% organic slow acting, guaranteed analysis professional fertilizer. Granular or pellet form shall be uniform in composition, dry, and free flowing without caking or other damage not suitable for use.
- E. When applied in a liquid form, fertilizer may be chemically combined or may be furnished as separate ingredients.

- F. Upon request of the Contracting Authority, the Contractor shall provide a test of the fertilizer for conformance with the required analysis at no additional compensation; a tolerance of 1.0 percentage point plus or minus will be considered substantial compliance.

### 2.03 - Stakes

- A. Softwood Stakes:  $\frac{3}{4}$ -inch diameter and 8 inch long, or
- B. Steel, T-shaped pins with 4-inch head and 8-inch leg.

### 2.04 - Water

- A. Water shall be free of substance harmful to sod growth.
- B. Contractor to provide water, equipment, methods of transportation, water tanker, hoses, sprinklers, and the application of water.

## PART 3 EXECUTION

### 3.01 - Finish Grading

Grading Tolerances: Prior to the sodding subcontractor beginning sodding operations, the Contractor shall grade areas adjacent to building lines to drain away from structures and to prevent ponding. Finish surfaces free from irregular surface change, and as in conformance with the grading plan as follows:

- A. Lawn or unpaved areas near buildings, parking areas and sidewalks:  $\pm 0.10'$ .
- B. Lawn or unpaved areas away from buildings, parking areas and sidewalks:  $\pm 0.25'$ .

### 3.02 - Preparation Of Sod Bed

- A. Limit preparation to areas, which will be immediately sodded.
- B. Where weed growth has developed, remove all weeds and weed debris. Weed growth removal process to be approved by Engineer, without additional compensation.
- C. Contractor shall shape and fine grade to remove washes or gullies, water pockets, and irregularities to a smooth, firm, and even surface true to grade and cross-section.
- D. Rototill and cultivate sod bed to a minimum 3-inch depth to a fine and mellow condition. Clear the top 3 inches of soil lumps, stones over  $\frac{3}{4}$  inch, and foreign material using hand labor as required.

### 3.03 - Sod Installation

- A. Sod shall not be installed between the dates of June 15 to August 15, unless authorized by Engineer.
- B. Do not lay sod on frozen soil or when frost is anticipated within 24 hours.
- C. Do not lay dormant or frozen sod.
- D. Dampen dry soil prior to sodding. Sod shall be moist when placed.
- E. Sod shall be carefully placed in rows or strips evenly, with longest joint parallel to the finished contours and at right angles to the centerline of ditches and channels. On slopes, sodding shall begin at the bottom and progress upward.
- F. Minimize traffic on newly laid sod during installation. Provide plank or wood sheets as may be required to protect sod already laid, without extra compensation during sodding operations.
- G. Lay each strip with tightly fitted joints against each other without voids. Do not overlap edges. Joints at the ends of sod strips shall be staggered with adjacent strips of sod.
- H. Finish sod edges at walks, curbs, planting, mulch edges, and other vertical surface by cutting neatly and fitting tightly to edge and line.
- I. Lay sod mat approximately 1 inch below finished height of walks, pavement, curbs, etc., measured from top of soil. Any sod not conforming to this requirement will be removed, the subgrade adjusted, and the sod re-laid.
- J. Where new sod joins existing lawns, cut straight and neatly into existing lawn and level subgrade to allow height to match.
- K. Stake sod on grades exceeding 4:1 and in drainage channels. Stake each roll at minimum two-foot intervals to prevent movement under rainfall conditions.

- L. Soil shall be firmed or healed in along the edges of the sodded areas.
- M. Roll sod that has been lightly watered with small mechanical or hand roller to sufficiently set or heal sod into soil and remove lumps. Roll as required to firm and level the sodded areas.

**3.04 - Watering**

- A. Natural precipitation meeting the requirements of B through D below may substitute for part or all of this requirement.
- B. Not more than 1 hour shall elapse between the laying and initial watering of the sod. The second, third and fourth waterings shall be at 4-day intervals. The fifth and sixth waterings shall be at weekly intervals.
- C. Initial watering shall provide a thoroughly wet sod and sod bed.
- D. All waterings shall be sufficient to saturate thoroughly the sod, sodbed and adjacent disturbed areas to a depth of approximately 4 inches. Each watering may require a maximum of 100 gallons of water per square, subject to local weather conditions, at the discretion of the Engineer. Apply water uniformly and consistently on all sodded areas to prevent damage to sod and existing or recently planted trees and shrubs. Each watering shall provide necessary saturation without runoff.

**3.05 - Maintenance**

- A. Begin maintenance immediately following installation of sod and continue for a period until sodded areas are established with sod knitted in place. Maintenance period shall be a minimum of 30 days.
- B. Maintenance of sodded areas shall include watering, and replacement and installation of sod as originally specified for sodded areas failing to survive. Mowing shall be by others.

**3.06 - Clean-Up**

- A. Perform cleaning during installation of work and upon completion.
- B. Remove from site all excess materials, debris, and equipment.
- C. Hose down and/or broom clean all paved surfaces.
- D. Repair any damage resulting from sodding operations.

**3.07 - Acceptance**

- A. Sod acceptance shall be based on the following criteria:
  - 1. All requirements for the completed installation and maintenance have been provided
  - 2. Sodded areas are healthy
  - 3. Even-colored viable lawn is established
  - 4. Free of weeds, undesirable grass species, disease, and insects
  - 5. Sod is "knit down" to the soil so that it cannot be pulled up
  - 6. Sodded areas are without scattered bare spots, dead or dormant sod
  - 7. Clean-up operations are completed.
- B. Replacement sod work shall be reinspected in accordance with A. above before acceptance.

**END OF SECTION 02905**