

**KANSAS DEPARTMENT OF TRANSPORTATION  
 SPECIAL PROVISION TO THE  
 STANDARD SPECIFICATIONS, 1990 EDITION**

**Section 903. Delete this Section and replace with this:**

**SECTION 903**

**SEEDING**

**903.1 DESCRIPTION**

Prepare the seedbed, provide the seed, and plant at the rate and in the locations designated in the Contract Documents.

**BID ITEMS**

- \* Seed
- \* Seed (Hydro)
- Seeding
- Soil Erosion Mix
- \* Type of Seed

**UNITS**

- Pound (kg)
- Pound (kg)
- Lump Sum
- Pound (kg)

**903.2 MATERIALS**

Provide seeds and nitrogen-fixing bacteria that comply with **SECTION 2100**. Do not change seed or seed mixture without approval of the Environmental Scientist (Bureau of Design, Environmental Services Section).

**903.3 CONSTRUCTION REQUIREMENTS**

**a. Seeding Seasons.** Determine the seeding season using **TABLE 903-1**.

<b>TABLE 903-1: GRASS &amp; WILDFLOWER SEEDING SEASONS</b>	
<b>Type</b>	<b>Season</b>
Cool Season Grasses	February 15 thru April 20 August 15 thru September 30
Warm Season Grasses and Wildflowers	November 15 thru June 1

If cool season grasses are mixed with warm season grasses, seed during the warm season seeding season. When the area to be seeded is less than 1 acre (0.4 ha) (bid item "Seeding" per lump sum), the area shall be seeded during the seeding seasons specified for either cool season grasses or warm season grasses. Plant temporary seeding at any time of the year.

The seeding season may be extended a few days in special situations when only a few acres (ha) of seeding would complete the entire project with approval of the Engineer.

**b. Construction Sequence.** Seed the project during the proper seeding season(s) to protect the finished grading. This may require seeding different parts of the project at different times or seasons. Complete the area once the seeding operations begin in an area.

**c. Preparation of the Seedbed.** Unless shown otherwise in the Contract Documents, seed all disturbed or cultivated areas within the right-of-way and construction easements.

The Grading Contractor will repair eroded areas before the seedbed is prepared.

In urban areas, use a landscape box to level the seedbed. Grade seedbeds to the elevations of abutting sidewalks. Remove rocks and other debris detrimental to mowing with lawn maintenance equipment.

Before seeding, use tillage implements that will penetrate 2 to 3 inches (51 to 76 mm) to prepare a firm, friable and weed-free seedbed. If the use of disks and harrows is impracticable, prepare the seedbed using hand methods.

Prepare seedbeds in developed urban and residential situations to a higher standard using rotary tillers or similar equipment. Tractor mounted equipment is permitted if the area is large enough to facilitate the use of such equipment.

Do not injure trees while preparing the seedbed. If the Engineer designates areas of desirable perennial native grasses to remain, do not till such areas. If areas of annual grasses such as cheat, crabgrass or triple-awn are encountered, destroy such grasses by thorough disking.

Do not till areas if temporary or existing grasses provide stable slopes with no erosion. Seed the permanent grasses into the existing cover using a no-till drill.

**d. Seeding.** In rural areas, use seed drills that comply with **DIVISION 150**. If it is impractical to operate a seed drill, broadcast the seed with a standard manufacture grass seeder.

On lawn areas and small areas in developed urban situations, apply the seed and fertilizer with equipment suitable for the size of the area. Use manually operated drop-seeders, cyclone spreaders or other similar equipment when appropriate. After the seeding, but before mulching, hand rake the seeded lawn areas.

Similar size seeds may be mixed before drilling. The seed company may mix the seeds before delivery, or the Contractor may mix the seeds at the project site. If the seed company mixes the seeds, each bag of mixed seeds must have a tag indicating the quantity (pounds (kg)) of each type seed and the total weight (pounds (kg)) of the bag. If the Contractor mixes the seeds, the Engineer must witness the mixing.

If required, inoculate the seeds according to the directions provided in **SECTION 2100**.

Use a drill for seeding that accommodates the fertilizer, seed sizes and weight of seed by the use of as many compartments as required. Seeds of compatible size and weight may be mixed and placed in the same compartment. Drill seed at the rate and in the locations shown in the Contract Documents. Drills must comply with the specifications in **DIVISION 150**.

Drill the seeds and fertilizer into the prepared seedbed. The maximum depth for drilling grass seeds is ½ inch (13 mm). Unless shown otherwise in the Contract Documents, the

maximum depth for drilling wildflower seeds is  $\frac{1}{8}$  inch (3 mm). If grasses and wildflowers are seeded to the same area, drill the grasses first, then the wildflowers.

After an area is seeded and fertilized, firm the soil using a cultipacker or smooth roller.

**e. Hydroseeding.** On steep slopes or other areas inaccessible with a seed drill or broadcast seeder, a hydro seeder may be used when approved by the Engineer. Apply the seed-fertilizer-water slurry within one hour after the seed is added to the hydroseeder tank. Apply seed evenly over the entire site. Use a fan-type nozzle with approximately 500 gallons of water per acre (1900 L water per 0.4 ha). Add 75 pounds (34 kg) of hydromulch per 500 gallons (1900 L) of water for a visual tracer. After the seeding, but before mulching, hand rake the seeded areas inaccessible by a cultipacker. Immediately apply bonded fiber matrix according to **90M/P-153** (latest revision). Do not apply hydroseed and bonded fiber matrix in one application.

**f. Seeding/Lump Sum.** This item is only used on projects with less than 1 acre (0.4 ha) of seeding.

Prepare the seedbed, seed, fertilize and mulch of all disturbed or cultivated areas within the right-of-way and construction easements according to the Contract Documents.

**g. Soil Erosion Mix.** Prepare a smooth, weed-free and debris-free area, and broadcast or hydro-seed the Soil Erosion Mix seed over the prepared area. Lightly hand rake broadcasted seed before placement of the Erosion Control.

#### **903.4 MEASUREMENT AND PAYMENT**

The Engineer will measure the total quantity for Soil Erosion Mix and each type of pure live seed used by the pound (kg).

The Engineer will measure Seeding by the lump sum. No measurement will be made of the area seeded.

Payment for the various types of "Seed", "Seed (Hydro)", "Seeding" and "Soil Erosion Mix" at the Contract unit prices is full compensation for the specified work.