



SECTION 802

MULCHING

802.1 Description. This work shall consist of the application of a mulch covering of the type specified in the contract. All seeded areas except shoulders shall be mulched. Disturbed areas outside of authorized construction limits shall be mulched at the contractor's expense.

802.2 Material.

802.2.1 Type 1 Mulch (Vegetative). The vegetative mulch shall be prairie hay or straw from oats, rye, wheat or barley. Prairie hay shall consist of any combination of any of the following plants: Big Bluestem, Little Bluestem, Indiangrass, Sideoats Grama and native wildflowers. The mulch shall be free of prohibited weed seed as stated in the Missouri Seed Law and shall be relatively free of all other noxious and undesirable seed. The mulch shall be clean and bright, relatively free of foreign material and be dry enough to spread properly. If the above specifications cannot be met practicably, hay of the following plants may, with the engineer's approval, be substituted: Smooth Brome, Timothy, Orchard Grass, Reed Canary Grass, Tall Fescue, Redtop, Kentucky Bluegrass, Alfalfa and Birdsfoot Trefoil.

802.2.2 Type 2 Mulch (Vegetative with Asphalt Emulsion). The asphalt emulsion shall be SS-1, SS-1h, CSS-1 or CSS-1h conforming to the requirements of AASHTO M 140 or AASHTO M 208. The vegetative mulch shall be as specified in [Sec 802.2.1](#).

802.2.3 Type 3 Mulch (Vegetative with an Overspray). The vegetative mulch shall be as specified in [Sec 802.2.1](#). The overspray material may be virgin wood cellulose fibers or recycled slick paper as herein specified. It shall not contain any germination or growth inhibiting substances. The overspray shall be green in color after application and shall have the property to be evenly dispersed and suspended when agitated in water. When sprayed uniformly over vegetative mulch, the mulch fibers shall form an absorbent cover, allowing percolation of water to the underlying soil. The mulch shall be packaged in moisture resistant bags with the net weight (mass) of the packaged material plainly shown on each bag. The mulch fibers shall not be water soluble.

802.2.3.1 Virgin wood cellulose fibers shall be produced by either the ground or cooked fiber process and shall have the following properties:

Moisture Content, percent by weight (mass), max	15
Organic Matter-Wood Fiber, percent by weight (mass), min	80
pH	4.3-8.5

802.2.3.2 Recycled slick paper mulch shall be produced from printers slick paper containing wood cellulose and kaolin clay. Recycled newsprint or cardboard will not be allowed. The material shall be free of other material or fillers and shall have a moisture content and pH in accordance with [Sec 802.2.3.1](#).

802.2.3.3 The contractor shall furnish a manufacturer's certification in triplicate certifying that the overspray mulch materials complies with these specifications. The engineer may sample and test these materials prior to approval and use. Acceptance will be based upon a satisfactory certification and results of any test deemed necessary by the engineer.

802.2.4 Type 4 Mulch (Embedded). The vegetative mulch shall be as specified in [Sec 802.2.1](#). The mulch shall be embedded by a disk type roller having flat serrated disks spaced not more than 10 inches (255 mm) apart and cleaning scrapers shall be provided.

802.3 Construction Requirements.

802.3.1 Type 1 Mulch (Vegetative) shall be applied at the rate of 2 1/2 tons per acre (5.5 Mg/ha).

802.3.2 Type 2 Mulch (Vegetative with Asphalt Emulsion) shall be applied by mechanical mulch spreaders equipped to eject, by means of a constant air stream, controlled quantities of the vegetative mulch and emulsified asphalt in a uniform pattern over the specified area. The mulching machine shall be so designed that the asphalt will be injected at the proper rate directly into the air stream carrying the straw, resulting in a uniform spotty tacking of the vegetative mulch with asphalt. The vegetative mulch shall be applied at the rate of 2 1/2 tons per acre (5.5 Mg/ha). The application rate for the asphalt emulsion shall be 100 gallons per ton (415 L/Mg) of straw.

802.3.3 Type 3 Mulch (Vegetative with an Overspray) shall be hydraulically applied over the vegetative mulch as a separate operation. Recycled slick paper shall be applied at the rate of 750 pounds per acre (840 kg/ha). Virgin wood cellulose fibers with 90 percent or more organic matter shall be applied at the rate of 750 pounds per acre (840 kg/ha) and that with 80 to 89 percent inclusive shall be applied at a rate calculated as follows:

$$\begin{array}{l} \text{ENGLISH} \\ \text{Rate lb/acre} = \frac{100}{\text{Actual Percent Organic Matter}} \times 750 \text{ lb/acre} \end{array}$$

$$\begin{array}{l} \text{METRIC} \\ \text{Rate kg/ha} = \frac{100}{\text{Actual Percent Organic Matter}} \times 840 \text{ kg/ha} \end{array}$$

The overspray material shall be mixed with water in a manner to provide a homogeneous slurry. Equipment for mixing and applying the slurry shall be capable of applying it uniformly over the entire vegetative mulched area. The slurry mixture shall be agitated during application to keep the ingredients thoroughly mixed.

802.3.4 Type 4 Mulch (Embedded) shall be applied at the rate of 2 1/2 tons per acre (5.5 Mg/ha). The mulch roller shall be operated approximately parallel to the roadbed grade. The mulch shall be embedded in the soil a sufficient depth to prevent the loss of mulch by wind or water erosion. Excelsior blanket may be used in lieu of Type 4 Mulch at the option of the contractor.

802.3.5 All mulch shall be distributed evenly over the area to be mulched within 24 hours following the seeding operation. Following the mulching operation, precautions shall be taken to prohibit foot or vehicular traffic over the mulched area. Any mulch which is displaced shall be replaced at once, but only after the work preceding the mulching which may have been damaged as a result of the displacement has been acceptably repaired.

802.4 Method of Measurement. Measurement of Types 1, 2, 3 and 4 Mulch will be made to the nearest 1/10 acre (0.1 hectare) of the area mulched.

802.5 Basis of Payment. The accepted quantities of mulch will be paid for at the unit price for each of the pay items included in the contract.