

**SECTION 570
GRASSING (BY SEEDING)**

570-1 Description.

Establish a stand of grass on slopes, shoulders and specified other areas, by seeding or by seeding and mulching. Perform seeding and mulching, fertilizing, and wildflower seed application as required, and maintain the grassed areas until the completion of the project.

The Engineer may eliminate at his discretion, any of the items of work covered by this Section.

570-2 Materials.

Meet the following requirements:

Grass Seed.....	981-1
Wildflower Seed	981-1
Mulch	981-3
Fertilizer, Type I	Section 982
Water.....	Section 983
Compost	Section 987

Prior to planting, furnish the Engineer a certification from the grower stating the age of all seed.

570-3 Construction Methods.

570-3.1 General: Do not seed or mulch when wind velocities exceed 15 mph [25 km/h]. Sow seed only when the soil is moist. Do not perform any seeding when the ground is frozen, unduly wet or otherwise not in a tillable condition.

Whenever a suitable length of roadway slopes or adjacent areas has been graded, prepare the area and perform grassing in accordance with the Contract Documents. Incorporate grassing into the project at the earliest practical time.

Complete all grassing on shoulder areas prior to the placement of the friction course on adjacent pavement, unless the friction course is to be placed directly on a non-asphalt base.

570-3.2 Sequence of Operations: Perform the operations in the following sequence: Apply finish soil layer materials in accordance with Section 162, prepare the area to be seeded, seed, spread and cut-in mulch and fertilize.

In preparing the ground for sowing of seeds, disk-harrow and thoroughly pulverize the soil to an average depth of 6 inches [150 mm]. Make the soil true to grade, not compacted and free of large clods, roots, and other material which will interfere with the work or subsequent mowing and maintenance operations. Do not begin subsequent operations until the Engineer has approved the condition of the prepared areas.

570-3.3 Seeding: While the soil is still loose, scatter the seed uniformly over the grassing area and immediately mix it into the seed bed to a depth of 1/4 inch [6 mm] using the specified seed.

Thoroughly dry-mix the separate types of seed immediately before sowing. Do not use wet seed.

The Engineer will allow the wildflower seed to be included in the grassing operation or performed separately from the grass seeding operation in areas shown in the plans.

Ensure that the wildflower seed is uniformly planted by drilling or placing the seed into the soil at an average depth of 1/8 inch [3 mm], but not exceeding 1/4 inch [6 mm] into the designated area at the specified rate.

570-3.4 Mulching: When areas require mulch, as shown on the plans, apply approximately 2 inches [50 mm], loose thickness, of the mulch material uniformly over the seeded area, and cut the mulch material into the soil to produce a loose mulched thickness of 3 to 4 inches [75 to 100 mm]. Do not use harrows. The Contractor may use compost meeting the requirements of Section 987 in lieu of mulch.

When mulching on steep slopes, where the use of a machine for the cutting-in process is not practicable, secure the mulch after the seeding operation by either using an erosion control fabric, or; spread a string net over the mulch using stakes driven flush with the top of the mulch at 6 foot [1.8 m] centers and string parallel and perpendicular with diagonals in both directions.

570-3.5 Rolling: Immediately after seeding, roll the entire grassed or mulched area with a cultipacker, traffic roller or a horticultural roller. Make at least two passes over the entire area.

570-3.6 Watering: Provide a vehicle for applying water to the grassed areas equipped with either a calibrated tank or an approved metering device installed at such point on the vehicle to measure the water at time of application. Do not water newly seeded areas to force the seed germination. Do not apply more than 1 inch of water per acre [60 mm of water per hectare] per week for sustaining the grass growth. Use water only on vegetated areas when permitted by the Engineer.

570-3.7 Fertilizing: Spread the fertilizer over the grassed area four to five weeks after the grass seed germinates in one or more applications as specified below:

Spread an initial application of 265 lbs/acre [300 kg/ha] of 16-4-8.

If the project has not reached final acceptance in accordance with Article 5-11, spread subsequent applications of 135 lbs/acre [150 kg/ha] of 16-4-8 approximately 60 calendar days after the initial application without mixing into the soil.

The Contractor may spread the fertilizer by hand on steep slopes or other areas where machine-spreading may not be practicable.

570-4 Maintenance.

Maintain the planted areas as an acceptable stand of grass until final acceptance of the project at no expense to the Department. Include in such maintenance the filling, leveling, and repairing of any washed or eroded areas, as may be necessary.

An acceptable stand of grass is defined as a 1 by 1 foot [300 by 300 mm] area containing a minimum of 16 live, viable, healthy wildflower and/or grass seedlings.

The Department will pay for replanting as necessary due to factors determined to be beyond control of the Contractor.

Mow the planted grass areas to a height of 6 inches [150 mm] when competing vegetation height exceeds 20 inches [500 mm] in height. Do not mow wildflower areas until at least three weeks after the peak of the bloom period and do not mow lower than 6 inches [150 mm]. Do not use selective herbicides in wildflower areas.

570-5 Method of Measurement.

570-5.1 General: The quantities to be paid for will be for the following items, completed and accepted:

- (1) The area, in square feet [square meters], of seeding.
- (2) The area, in square feet [square meters], of seeding and mulching.
- (3) The weight, in pounds [kilograms], of grass seed.
- (4) The weight, in tons [metric tons], of mulch material.
- (5) The weight, in tons [metric tons], of fertilizer.
- (6) The volume, in thousand gallons [kiloliters], of water.
- (7) The weight, in pounds [kilograms], of wildflower seed.
- (8) The area, in acres [hectares], of mowing.

570-5.2 Area Quantities: For the quantities paid for on a square foot [square meter] basis, no deductions will be made for the areas occupied by turnouts in rural sections.

570-5.3 Seed: The quantity of grass or wildflower seed will be determined from packaged weights or by other appropriate methods.

570-5.4 Mulch Material: The quantity will be determined by weighing on truck scales, or by other appropriate methods. The Contractor shall advise the Engineer of the time and place of such weighing. Weighing will be done in the general vicinity of the project.

570-6 Basis of Payment.

570-6.1 General: Prices and payments will be full compensation for all work and materials specified in this Section.

570-6.2 Seeding: When mulching is not specified, price and payment will be full compensation for all work and materials not specifically included in the items of separate payment shown below. The item of Seeding will include specifically all preparations of the ground, the application of the seed, the rolling, tilling or other specified work.

570-6.3 Seeding and Mulching: When mulching is specified, price and payment will be full compensation for everything specified in 570-6.2 and, in addition, will include the cost of applying, cutting-in, rolling, and anchoring, where required, of the mulch material, but will not include the furnishing of the mulch material.

570-6.4 Seed: Price and payment for Grass Seed (Permanent Type) and, Grass Seed (Quick-Growing Type) will be full compensation for the furnishing of the seed, at the site of its use. Price and payment for Wildflower Seed will include furnishing, applying, and mixing the seed into the seed bed.

570-6.5 Mulch Material:

570-6.5.1 General: Price and payment will be full compensation for the furnishing and spreading of the mulch material, at the site of its use.

570-6.6 Water: The quantity of water, ordered at the specific time of its being applied and which is actually used, determined by the specific metering device or by calibrated tank, will be paid for at the Contract price per thousand gallons [kiloliters] of Water for Grassing. Such quantity will include all water authorized by the Engineer, which is used until the time of acceptance of the work.

570-6.7 Payment Items: Payment will be made under:

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| Item No. 104- 4- | Mowing - per acre. |
| Item No. 2104- 4- | Mowing - per hectare. |
| Item No. 570- 1- | Seeding - per square foot. |
| Item No. 2570- 1- | Seeding - per square meter. |
| Item No. 570- 2- | Seeding and Mulching - per square foot. |
| Item No. 2570- 2- | Seeding and Mulching - per square meter. |
| Item No. 570- 3- | Grass Seed (Permanent Type) - per pound. |
| Item No. 2570- 3- | Grass Seed (Permanent Type) - per kilogram. |
| Item No. 570- 4- | Mulch Material - per ton. |
| Item No. 2570- 4- | Mulch Material - per metric ton. |
| Item No. 570- 5- | Fertilizer - per ton. |
| Item No. 2570- 5- | Fertilizer - per metric ton. |
| Item No. 570- 9- | Water for Grassing - per thousand gallons. |
| Item No. 2570- 9- | Water for Grassing - per kiloliters. |
| Item No. 570- 10- | Grass Seed (Quick-Growing Type) - per pound. |
| Item No. 2570- 10- | Grass Seed (Quick-Growing Type) - per kilogram. |
| Item No. 570- 12- | Wildflower Seed - per pound. |
| Item No. 2570- 12- | Wildflower Seed - per kilogram. |