



## SECTION 801

### LIME AND FERTILIZER

**801.1 Description.** This work shall consist of the application of agricultural lime and commercial fertilizer and soil preparation for seeding and sodding on areas shown on the plans or designated by the engineer.

#### **801.2 Material.**

**801.2.1** Material used for soil neutralization, unless otherwise specified, shall be agricultural lime with no less than 90 percent passing the No. 8 sieve containing no less than 65 percent calcium carbonate equivalent.

**801.2.2** Agricultural lime shall be furnished from a source that has been tested and certified in accordance with the Missouri Agricultural Liming Materials Act. The quantity of material required to provide the specified pounds of effective neutralizing material (E.N.M.) per acre shall be determined from the producer or distributor's certification of analysis furnished by the Director of the Missouri Agriculture Experiment Station, Columbia, Missouri in accordance with the Missouri Agricultural Liming Materials Act. The contractor shall provide a copy of this certification to the engineer prior to application. If agricultural lime is furnished as a commercially bagged product, pelletized or otherwise, with a guaranteed product analysis shown on the bag listing the elemental properties and gradation, the E.N.M. shall be provided to the engineer. Material may be accepted on the basis of bag label analysis.

**801.2.3** Fertilizer shall be a standard commercial product which, when applied at the proper rate, will supply the quantity of total nitrogen (N), available phosphoric acid (P<sub>2</sub>O<sub>5</sub>) and soluble potash (K<sub>2</sub>O), as specified in the ~~contract~~ Missouri Standard Plans for Highway Construction or contract. Material may be accepted on the basis of bag label analysis or supplier's certification, and shall be in accordance with all applicable Missouri fertilizer laws.

**801.3 Equipment.** Lime and commercial fertilizer shall be applied by mechanical equipment designed for this purpose.

#### **801.4 Construction Requirements.**

**801.4.1** The area to be limed and fertilized will be the area specified within the limits of construction. The area shall have a uniform surface free from rills, washes and depressions, and shall conform to the finished grade and cross section shown on the plans. ~~The soil shall be thoroughly broken up, worked, tilled and loosened to a minimum depth of 2 inches.~~ The seedbed ~~or sodbed~~ shall be prepared by loosening the existing soil on the slope by surface roughening in accordance with the SWPPP or by other mechanical methods approved by the engineer. Adding loose soil is not an acceptable surface preparation method, rather than by the addition of loose soil.

**801.4.2** Lime and fertilizer shall be applied evenly at the rates specified in the Missouri Standard Plans for Highway Construction for the applicable region and grass seed mixture type. When a project extends across two regions, the region with the greater acreage of seeding shall be used to determine the lime and fertilizer rates, unless otherwise specified in the contract, contract, and

~~only when the soil is in a tillable condition. After application, the lime and fertilizer shall be thoroughly mixed into the soil to a minimum depth of 2 inches, except when applied hydraulically on slopes steeper than 2:1. Lime and fertilizer shall be applied separately, but may be incorporated into the soil in one operation. Lime and fertilizer shall be applied no more than 48 hours before the seed is sown except when temporary seeding finished areas in accordance with Sec 806.50.2 unless otherwise authorized by the engineer.~~

**801.5 Method of Measurement.** ~~No measurement will be made for lime or fertilizer. Measurement of the area that has been limed and fertilized will be made to the nearest 1/10 acre.~~

**801.6 Basis of Payment.** ~~The accepted quantity of liming and fertilizing will be paid for at the contract unit price. No direct payment will be made for lime or fertilizer. All costs for liming or fertilizing shall be included in the applicable seeding item. liming and fertilizing areas for which seeding or sodding items are included in the contract.~~



## SECTION 802

### MULCHING

**802.1 Description.** This work shall consist of applying vegetative mulch and a specified stabilization covering as indicated in the contract.

#### 802.2 Material.

**802.2.1 Vegetative Mulch.** 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. Mulch may also be composted material from clearing and grubbing operations. If composted material from clearing and grubbing operations are used the particle size shall be such it can be adequately spread and does not exceed 6 inches in length. 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 shall be dry enough to spread properly.

**802.2.2 Mulch Overspray.** Mulch overspray shall be either virgin wood cellulose fibers or recycled paper mulch. The mulch shall be produced by either the ground or cooked fiber process, shall not be water soluble and shall have the following properties:

Property	Requirement
Moisture Content, percent by weight, max	15
Organic Matter-Wood Fiber, percent by weight, min	80
pH	4.3-8.5

**802.2.3 Certification.** The contractor shall furnish a certification for mulch and a manufacturer's certification that the mulch overspray material ~~are~~ is in accordance with these specifications.

**802.3 Construction Requirements.** All seeded areas shall be mulched in conjunction with the initial application of temporary or permanent seeding. When overseeding, re-mulching will not be required except for areas that lack vegetative growth and the original mulch no longer adequately covers the ground. Disturbed areas outside of authorized construction limits shall be seeded and mulched at the contractor's expense.

**802.3.1 Application.** Vegetative mulch shall be applied at a minimum rate of 2 1/2 tons per acre. All mulch shall be distributed evenly 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 that is displaced shall be replaced ~~at once, but only after the work preceding the mulching which was damaged as a result of the displacement has been repaired~~ to the satisfaction of the engineer. The contractor may use erosion control blankets in lieu of mulch.

**802.3.2 Stabilization.** Vegetative mulch shall be secured from movement by ~~either~~ mulch overspray ~~or embedment as indicated in the contract documents~~, or other methods as approved by the engineer.

~~802.3.2.1 Mulch Overspray.~~ Mulch overspray shall be applied over the vegetative mulch as a separate operation. Mulch overspray shall be applied in accordance with the manufacturer's recommendations at a minimum rate of 750 pounds per acre.

~~802.3.2.2 Vegetative Mulch Embedment.~~ Mulch shall be embedded in the soil a sufficient depth to prevent the loss of mulch by wind or water erosion and approximately parallel to the roadbed grade.

~~802.4 Method of Measurement.~~ Measurement of Mulch will be made to the nearest 1/10 of an acre of area mulched. ~~This item will not be measured for payment.~~

~~802.5 Basis of Payment.~~ ~~No direct payment will be made for providing and securing mulch. The accepted quantities of mulch will be considered completely covered by the contract unit price for seeding.~~ The accepted quantities of mulch will be paid at the contract unit price.

~~802.5.1~~ No direct payment will be made for maintaining mulch prior to acceptance for maintenance. Mulch re-applied to overseeded areas in accordance with Sec 802.3 shall be at the contractor's expense. On previously accepted mulched areas, the engineer may authorize areas to be repaired in accordance with [Sec 104.3](#).

~~802.5.2~~ No additional payment will be made for erosion control blankets used in lieu of mulch at the contractor's option.



## SECTION 805

### SEEDING

**805.1 Description.** This work shall consist of furnishing and sowing seed as specified in the contract. All disturbed areas shall be seeded except for sodded areas, surfaced areas, solid rock, and slopes consisting primarily of broken rock.

**805.2 Material.**

**805.2.1** The seed shall be grown and processed in the United States or Canada and shall comply with the requirements of the Missouri Seed Law. Certain lots of seed may be desirable for the advancement of a local ecotype when specified, and will be the only seed permitted. The following percentages for purity and germination or pure live seed will be the minimum requirements in the acceptance of seed, unless otherwise permitted by the engineer.

SEED REQUIREMENTS				
Non-native Grasses	Scientific Name	Purity	Germination <sup>a</sup>	Pure Live Seed
Bermuda Grass	<i>Cynodon dactylon</i>	95	80	
Smooth Bromegrass	<i>Bromus inermis</i>	85	80	
Kentucky Bluegrass	<i>Poa pratensis</i>	85	80	
Orchardgrass	<i>Dactylis glomerata</i>	85	80	
Perennial Ryegrass	<i>Lolium perenne</i>	98	85	
Tall Fescue	<i>Festuca arundinacea</i>	97	85	
Red Fescue	<i>Festuca rubra</i>	97	85	
Timothy	<i>Phleum pratense</i>	98	85	
Cereal or Cover Crop		Purity	Germination	Pure Live Seed
Annual Ryegrass	<i>Lolium multiflorum</i>	98	85	
<u>German Millet</u>	<u><i>Setaria italica</i></u>	<u>98</u>	<u>85</u>	
Redtop	<i>Agrostis alba</i>	92	85	
Oat Grain	<i>Avena sativa</i>	98	85	
Rye Grain	<i>Secale cereale</i>	98	80	
<u>Teff Grass</u>	<u><i>Eragrostis tef</i></u>	<u>97</u>	<u>80</u>	
Wheat Grain	<i>Triticum aestivum</i>	97	85	
Wildrye, Virginia	<i>Elymus virginicus</i>			60
Wildrye, Canada	<i>Elymus canadensis</i>			60
Legumes		Purity	Germination	Pure Live Seed
Korean Lespedeza	<i>Lespedeza stipulacea</i>	98	85	

Alsike Clover	Trifolium hybridum	98	85	
Red Clover	Trifolium pratense	98	85	
White Clover	Trifolium repens	98	85	
Hairy Vetch	Vicia villosa	97	80	
Partridge Pea	Chamaecrista fasciculata	98	80	
<b>Native Grasses</b>	<b>Scientific Name</b>	<b>Purity</b>	<b>Variety(s)</b>	<b>Pure Live Seed</b>
Big Bluestem	Andropogon gerardii		Mo. Ecotype Roundtree Kaw	40
Blue Grama	Bouteloua gracilis			40
Buffalograss	Buchloe dactyloides		Mo. Ecotype Sharp's Improved Texoka	65
Indiangrass	Sorghastrum nutans		Mo. Ecotype Rumsey Cheyenne	50
Little Bluestem	Schizachyrium scoparium		Mo. Ecotype Aldous Cimmaron	40
Eastern Gamagrass	Tripsacum dactyloides		Mo. Ecotype	
<u>River Oats</u>	<u>Chasmanthium Latifolium</u>		<u>Mo. Ecotype</u>	<u>40</u>
Sideoats Grama	Bouteloua curtipendula		Mo. Ecotype El Reno Trailway	40
Switchgrass	Panicum virgatum		Mo. Ecotype Trailblazer Cave-in-Rock	80
Wildrye, Virginia	Elymus virginicus			60
Wildrye, Canada	Elymus canadensis			60
Cluster Fescue	Festuca paradoxa		Mo. Ecotype	
Rough Dropseed	Sporobolus compositus		Mo. Ecotype	
Prairie Dropseed	Sporobolus heterolopus			
Prairie Cordgrass	Spartina pectinata			

<sup>a</sup>Will not apply if unhulled or unscarified seed is specified.

<b>WILDFLOWERS (FORBS) (PLS for all wildflowers shall be 80)</b>	
<b>Common name</b>	<b>Scientific name</b>
<u>Annual black-eyed Susan</u>	<u>Rudbeckia hirta</u>
<u>Golden Alexanders</u>	<u>Zizia aurea</u>
<u>Greyhead coneflower</u>	<u>Ratibida pinnata</u>
<u>Lanceleaf coreopsis</u>	<u>Coreopsis lanceolata</u>
<u>Milkweed</u>	<u>Asclepias syriaca</u>
<u>New England aster</u>	<u>Aster novae-angliae</u>
<u>Prairie blazing star</u>	<u>Liatris pycnostachya</u>
<u>Purple coneflower</u>	<u>Echinacea purpurea</u>
<u>Purple prairie clover</u>	<u>Dalea purpurea</u>
<u>Sky blue aster</u>	<u>Aster oolentangiensis</u>
<u>Swamp milkweed</u>	<u>Asclepias incarnata</u>
<u>White prairie clover</u>	<u>Dalea candida</u>

**805.2.2** If the specified quantity is in pounds of seed, no reduction will be permitted in the specified quantity of seed if the purity or germination or both, are higher than the minimum required by the specifications. If the specified quantity is in pounds of pure live seed, the pure live seed quantity shall be determined from the actual percentage shown by the supplier for native grasses or by multiplying the actual percentages of purity times the actual percentage of germination, including hard seed for other seed.

**805.2.3** All leguminous seed shall be inoculated or treated with the proper quantity of cultures approved for the particular legume to be sown. ~~Leguminous seed will include alsike clover, Korean lespedeza, red clover, white clover, hairy vetch, partridge pea and slender bush clover.~~

**805.2.3.1** The inoculant for treating leguminous seed shall be a nitrogen-fixing bacteria culture. The inoculant containers shall be plainly marked with the expiration date for use. The manufacturer's recommendations for inoculating seed shall be followed.

**805.2.3.2** ~~Native grasses shall be a local ecotype variety adapted for growth in Missouri. In the event a local ecotype is unavailable, the contractor shall promptly provide documentation to the engineer substantiating the variety is unavailable. As part of the documentation, the contractor shall propose an alternative variety source. Alternate ecotype varieties may be used, provided acceptable results are achieved.~~

**805.3 Construction Requirements.**

**805.3.1** The seedbed shall be prepared in accordance with Sec 801. Seeding shall be done before the seedbed becomes eroded and in accordance with the Missouri State Operating Permit for land disturbance. The grass seed mix type (cool season or warm season) shall be as indicated in the plans, or as directed by the engineer. Grass Seed mixes and application rates shall be as specified in the Missouri Standard Plans for Highway Construction for the region that corresponds with the project location. When a project extends across two regions, the region with the greater acreage of seeding shall be used to determine seed mixes and rates, unless otherwise specified in the contract. Seed shall be uniformly applied at no less than the rates identified in the plansspecified.

**805.3.1.1 Cool Season Grasses.** Full seeding periods for cool season grasses include the months of December through May, August, and September. When seeding during these months, the full rate of lime, fertilizer, seed, and mulch shall be applied. When seeding of cool season grasses is necessary during the months of June, July, October, or November, lime fertilizer, seed and mulch shall be applied at the following rates:

<u>Lime</u>	<u>100 percent of the specified rate</u>
<u>Fertilizer</u>	<u>75 percent of the specified rate</u>
<u>Seed</u>	<u>50 percent of the specified rate</u>
<u>Mulch</u>	<u>100 percent of the specified rate</u>

When the partial application has been made during June, July, October, or November, overseeding of the partially seeded areas shall occur during August, September, December, January, or February. Overseeding requires the application of fertilizer and seed at the following rates.

<u>Fertilizer</u>	<u>25 percent of the specified rate</u>
<u>Seed</u>	<u>75 percent of the specified rate</u>

**805.3.1.2 Warm Season Grasses.** Warm season grass mixes shall be placed during the period of October 15 through April 15 both dates inclusive. During this period, the rate specified for lime, fertilizer, seed and mulch shall be applied to the prepared seedbed. When grading of an area designated to receive warm season grasses is completed from April 16 through October 14, temporary seeding shall be applied in accordance with Sec 806 and the full amount of lime specified for the warm season grass mix shall be applied. The temporary seeded area shall be overseeded with the warm season grass seed mix, and fertilizer, at the full rates specified in the standard plans, during the next allowable period. No additional lime should be applied with the overseeding.

**805.3.2** Disturbed areas outside of authorized construction limits shall be seeded, mulched, limed, and fertilized at the contractor's expense.

**805.3.3** All seeded areas shall be limed and fertilized in accordance with Sec 801 and mulched in accordance with Sec 802.

**805.4 Acceptance.** Acceptance of permanent seeding will be made when seeded ~~disturbed~~ areas meet the requirements for final stabilization as defined in the current state operating permit for land disturbance. Inspection for acceptance of cool season grasses will be made within 60 days after seeding, excluding seeding dates that fall between September 30 and March 1. Cool Season ~~Seeding~~ that occurs between September 30 and March 1 will be inspected no earlier than May 1. Inspection for acceptance of warm season grasses will be made no earlier than May 1.

**805.5 Time Exception.** The contractor shall notify the engineer in writing when final seeding cannot be completed within the specified contract time due to contractual seeding period limitations. The notification shall include a proposed work schedule that shows prompt completion of final seeding during the next allowable seeding period. If the delay of final seeding past the contract completion date is deemed of no fault of the contractor, the engineer will grant an exception to the contract time to allow completion of final seeding without assessment of liquidated damages. This time exception shall not apply to any other uncompleted work.

**805.56 Certification.** The contractor shall certify the seed and seed mixture meets the contract requirements and be in accordance with Sec 805. The certification shall list the seed type, lot numbers, pure live seed, percent germination, and quantity used for each lot. In lieu of listing the lot specific information, the certification may include attached individual bag label analysis for all seed used.

**805.6-7 Corrective Action.** Inadequate stands shall be reworked and reseeded within the time period agreed upon at the contractor's expense. On previously accepted seeded areas, the engineer may authorize eroded areas to be repaired in accordance with Sec 104.3.

**805.7-8 Method of Measurement.** Measurement of seeding-seeded areas will be made ~~of the area seeded~~ to the nearest 1/10 acre.

**805.8-9 Basis of Payment.** The accepted quantity of seeding will be paid for at the contract unit price for cool season and warm season grasses. No direct payment will be made for liming, fertilizing or seedbed preparation or any costs associated with overseeding. The cost of lime and fertilizer will be considered included in the cost of seeding. Payment for mulch will be made separately in accordance with Sec 802.

## SECTION 806.50 TEMPORARY SEEDING ~~AND MULCHING.~~

**806.50.1 Description.** This work shall consist of furnishing and applying fertilizer ~~and~~ seed, ~~vegetative mulch or other acceptable cover,~~ in disturbed areas authorized by the engineer. ~~Mulch shall be applied following temporary seeding in accordance with Sec 802.~~ Temporary seeding and mulching is utilized ~~to establish a quick ground cover provide interim stabilization of that reduces erosion in~~ disturbed areas where staging requires the area to be disturbed again at a later date, and for areas ~~to be seeded with warm season grasses that are finish-graded, but application of permanent seeding is disallowed per Sec 805.3.1.2 that are complete but current seasonal conditions are not favorable for applying permanent seeding.~~ Finish grading will not be required except for areas that will not receive further grading prior to permanent seeding.. Hydraulic seeding and fertilizing in accordance with [Sec 805](#) will be permitted.

**806.50.2 Construction Requirements.** Seeding and mulching shall be a continuous operation on all cut and fillslopes, excess material sites and borrow pits during the construction process. All disturbed areas shall be seeded and mulched as necessary to control erosion in accordance with the Missouri State Operating Permit. Seed bed shall be prepared in accordance with Sec 801. ~~When a project is shown in the contract to be constructed in stages and operations in those staged areas are suspended for a significant amount of time, the contractor shall receive payment for temporary seed and mulch.~~ When the engineer allows the contractor to disturb additional ground beyond the restrictions in [Sec 806.4.4](#) solely to enhance the contractor's operation, the contractor shall not receive compensation for temporary seed or mulch, as required by the engineer, for ground cover for areas exceeding the restrictions in [Sec 806.4.4](#).

**806.50.2.1** The contractor shall provide permanent seeding and mulching ~~as shown on the plans~~ following temporary seeding in accordance with Sec 805. Any preparation of the seed bed that might be necessary prior to permanent seeding to ensure germination shall be considered incidental to temporary seeding. All washouts and rills shall be repaired at the contractor's expense prior to permanent seeding.

**806.50.2.2** Temporary seeding mixtures of cereal grains shall be applied at a minimum rate of 100 pounds per acre. All erodible seeded areas shall provide a minimum of 20 plants of the species planted per square foot on at least two random counts per acre in representative areas of the field. For areas with a large percentage of rock, the number of living plants shall be proportional to the percentage of erodible surface, as determined by the engineer. The counts will be conducted 60 days after the species is planted.

~~**806.50.2.3** Mulch placed over temporary seed mixtures shall be applied in accordance with Sec 802.~~

**806.50.2.43** Fertilizer shall be applied at a rate of 40 pounds nitrogen (N) per acre.

**806.50.2.54** Lime will not be required for temporary seeding of unfinished areas. In finished areas, where temporary seeding is placed due to warm season grass planting time restrictions, 100 percent of the lime specified for warm season grasses shall be applied at the time of temporary seeding.

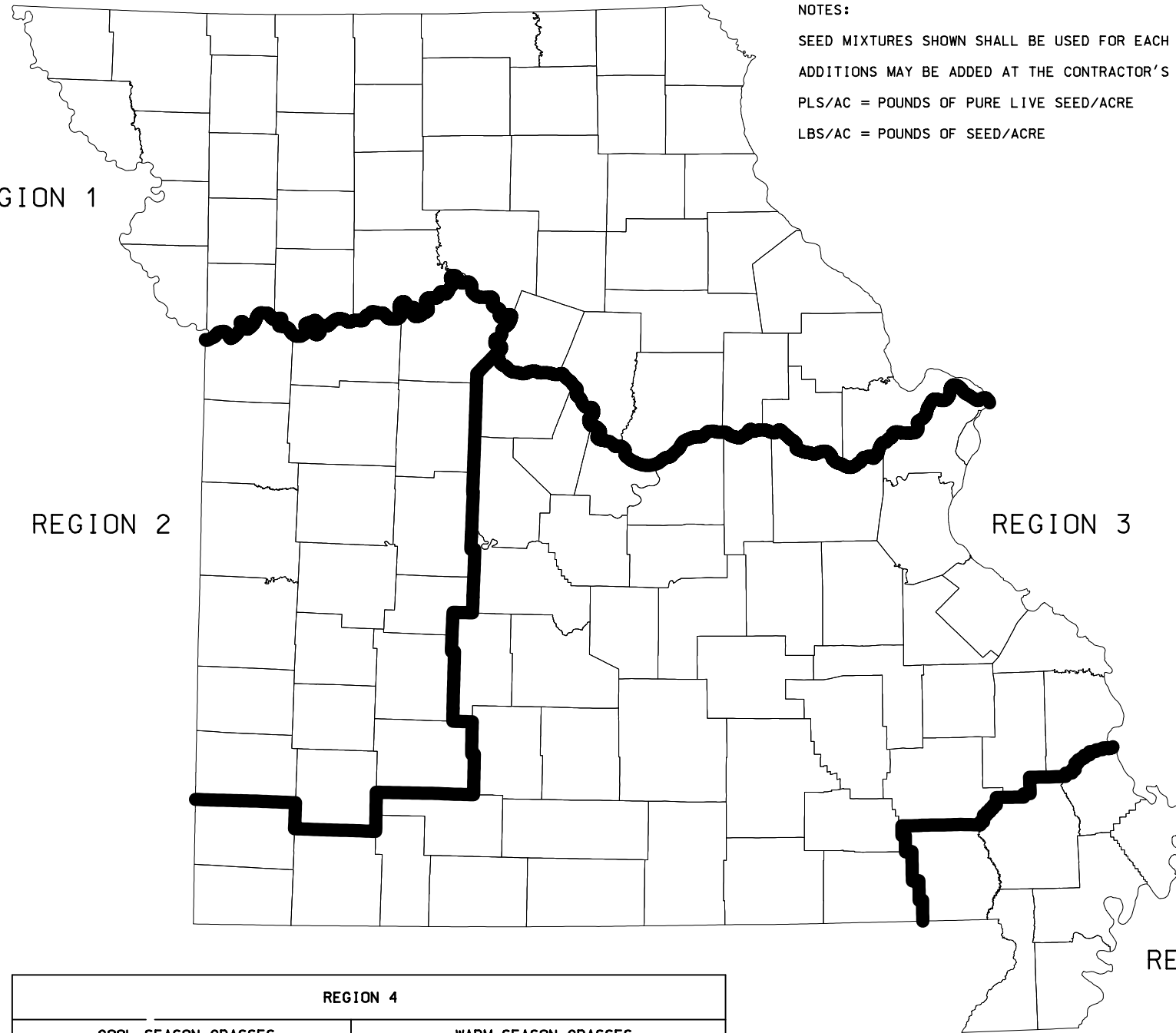
**806.50.3 Method of Measurement.** Measurement of temporary seeding areas will be made to the nearest tenth of an acre. ~~No measurement will be made for mulch.~~

**806.50.4 Basis of Payment.** The accepted quantities of temporary seeding will be paid for at the contract unit price per acre. Payment for fertilizer ~~and mulch~~ shall be included in the cost of temporary seeding. When lime is applied in accordance with Sec 806.50.2.4, upon request from the contractor, payment for the lime application will be made as a partial payment for Seeding- Warm Season Mixtures. The remaining payment for Seeding – Warm Season Grasses will be made after permanent seeding is complete.

REGION 1					
COOL SEASON GRASSES			WARM SEASON GRASSES		
LIME	0 LBS ENM/AC	FERTILIZER 80-160-80	LIME	0 LBS ENM/AC	FERTILIZER 40-80-40
SEED MIXTURE		ADDITIONS	SEED MIXTURE		ADDITIONS
COVER CROP		COVER CROP	COVER CROP		COVER CROP
ANNUAL RYEGRASS	5 LBS/AC	VIRGINIA RYE	5 LBS/AC	ANNUAL RYEGRASS	5 LBS/AC
TEFF GRASS	4 LBS/AC	CANADA RYE	5 LBS/AC	TEFF GRASS	4 LBS/AC
GERMAN MILLET	2 LBS/AC	WHEAT GRAIN	10 LBS/AC	GERMAN MILLET	2 LBS/AC
OATS	10 LBS/AC			OATS	10 LBS/AC
COOL SEASON		COOL SEASON	WARM SEASON		WARM SEASON
TALL FESCUE	70 LBS/AC	ORCHARDGRASS	20 LBS/AC	BUFFALO GRASS	15 PLS/AC
KENTUCKY BLUEGRASS	20 LBS/AC	TIMOTHY	10 LBS/AC	BIG BLUESTEM	10 PLS/AC
PERENNIAL RYEGRASS	10 LBS/AC	RED FESCUE	20 LBS/AC	LITTLE BLUESTEM	5 PLS/AC
BUFFALO GRASS	15 PLS/AC	SMOOTH BROME	10 LBS/AC	INDIAN GRASS	10 PLS/AC
RED TOP	4 LBS/AC			SIDE OATS GRAMA	5 PLS/AC
LEGUME		LEGUME	LEGUME		LEGUME
WHITE CLOVER	8 LBS/AC	RED CLOVER	5 LBS/AC	RED CLOVER	5 LBS/AC
		ALSIKE CLOVER	4 LBS/AC	RED CLOVER	5 LBS/AC
TOTAL SEED/ACRE	148			RED CLOVER	5 LBS/AC
		WILDFLOWER / POLLINATOR		WILDFLOWER	
		LANCELEAF COREOPSIS	0.5 LBS/AC	GOLDEN ALEXANDERS	0.25 LBS/AC
		BLACK EYED SUSAN	0.5 LBS/AC	SKY BLUE ASTER	0.25 LBS/AC
		GRAY HEADED CONEFLOWER	1 LBS/AC	PRAIRIE BLAZING STAR	0.25 LBS/AC
		PURPLE CONEFLOWER	2 LBS/AC		
		NEW ENGLAND ASTER	0.25 LBS/AC		
		COMMON MILKWEED	0.5 LBS/AC		
		SWAMP MILKWEED	0.25 LBS/AC		
		WHITE PRAIRIE CLOVER	0.25 LBS/AC		
		PURPLE PRAIRIE CLOVER	0.25 LBS/AC		
		PARTRIDGE PEA	0.5 LBS/AC		
		TOTAL SEED/ACRE	92		


REGION 2					
COOL SEASON GRASSES			WARM SEASON GRASSES		
LIME	1000 LBS ENM/AC	FERTILIZER 80-80-80	LIME	600 LBS ENM/AC	FERTILIZER 40-40-40
SEED MIXTURE		ADDITIONS	SEED MIXTURE		ADDITIONS
COVER CROP		COVER CROP	COVER CROP		COVER CROP
ANNUAL RYEGRASS	5 LBS/AC	VIRGINIA RYE	5 LBS/AC	ANNUAL RYEGRASS	5 LBS/AC
TEFF GRASS	4 LBS/AC	CANADA RYE	5 LBS/AC	TEFF GRASS	4 LBS/AC
GERMAN MILLET	2 LBS/AC	WHEAT GRAIN	10 LBS/AC	GERMAN MILLET	2 LBS/AC
OATS	10 LBS/AC			OATS	10 LBS/AC
COOL SEASON		COOL SEASON	WARM SEASON		WARM SEASON
TALL FESCUE	70 LBS/AC	ORCHARDGRASS	20 LBS/AC	BUFFALO GRASS	15 PLS/AC
KENTUCKY BLUEGRASS	10 LBS/AC	TIMOTHY	10 LBS/AC	BIG BLUESTEM	10 PLS/AC
PERENNIAL RYEGRASS	10 LBS/AC	RED FESCUE	20 LBS/AC	LITTLE BLUESTEM	5 PLS/AC
BUFFALO GRASS	15 PLS/AC	SMOOTH BROME	10 LBS/AC	INDIAN GRASS	10 PLS/AC
RED TOP	4 LBS/AC			SIDE OATS GRAMA	5 PLS/AC
BERMUDA GRASS	10 LBS/AC			SWITCH GRASS	3 PLS/AC
LEGUME		LEGUME	LEGUME		LEGUME
WHITE CLOVER	8 LBS/AC	RED CLOVER	5 LBS/AC	RED CLOVER	5 LBS/AC
		ALSIKE CLOVER	4 LBS/AC	RED CLOVER	5 LBS/AC
TOTAL SEED/ACRE	148			RED CLOVER	5 LBS/AC
		WILDFLOWER / POLLINATOR		WILDFLOWER	
		LANCELEAF COREOPSIS	0.5 LBS/AC	GOLDEN ALEXANDERS	0.25 LBS/AC
		BLACK EYED SUSAN	0.5 LBS/AC	SKY BLUE ASTER	0.25 LBS/AC
		GRAY HEADED CONEFLOWER	1 LBS/AC	PRAIRIE BLAZING STAR	0.25 LBS/AC
		PURPLE CONEFLOWER	2 LBS/AC		
		NEW ENGLAND ASTER	0.25 LBS/AC		
		COMMON MILKWEED	0.5 LBS/AC		
		SWAMP MILKWEED	0.25 LBS/AC		
		WHITE PRAIRIE CLOVER	0.25 LBS/AC		
		PURPLE PRAIRIE CLOVER	0.25 LBS/AC		
		PARTRIDGE PEA	0.5 LBS/AC		
		TOTAL SEED/ACRE	92		

REGION 3					
COOL SEASON GRASSES			WARM SEASON GRASSES		
LIME	1500 LBS ENM/AC	FERTILIZER 80-240-80	LIME	1000 LBS ENM/AC	FERTILIZER 40-120-40
SEED MIXTURE		ADDITIONS	SEED MIXTURE		ADDITIONS
COVER CROP		COVER CROP	COVER CROP		COVER CROP
ANNUAL RYEGRASS	5 LBS/AC	VIRGINIA RYE	5 LBS/AC	ANNUAL RYEGRASS	5 LBS/AC
TEFF GRASS	4 LBS/AC	CANADA RYE	5 LBS/AC	TEFF GRASS	4 LBS/AC
GERMAN MILLET	2 LBS/AC	WHEAT GRAIN	10 LBS/AC	GERMAN MILLET	2 LBS/AC
OATS	10 LBS/AC			OATS	10 LBS/AC
COOL SEASON		COOL SEASON	WARM SEASON		WARM SEASON
TALL FESCUE	70 LBS/AC	ORCHARDGRASS	20 LBS/AC	BUFFALO GRASS	15 PLS/AC
KENTUCKY BLUEGRASS	10 LBS/AC	TIMOTHY	10 LBS/AC	BIG BLUESTEM	10 PLS/AC
PERENNIAL RYEGRASS	10 LBS/AC	RED FESCUE	20 LBS/AC	LITTLE BLUESTEM	5 PLS/AC
BUFFALO GRASS	15 PLS/AC	SMOOTH BROME	10 LBS/AC	INDIAN GRASS	10 PLS/AC
RED TOP	4 LBS/AC			SIDE OATS GRAMA	5 PLS/AC
BERMUDA GRASS	10 LBS/AC			SWITCH GRASS	3 PLS/AC
LEGUME		LEGUME	LEGUME		LEGUME
WHITE CLOVER	8 LBS/AC	RED CLOVER	5 LBS/AC	RED CLOVER	5 LBS/AC
		ALSIKE CLOVER	4 LBS/AC	RED CLOVER	5 LBS/AC
TOTAL SEED/ACRE	148			RED CLOVER	5 LBS/AC
		WILDFLOWER / POLLINATOR		WILDFLOWER	
		LANCELEAF COREOPSIS	0.5 LBS/AC	GOLDEN ALEXANDERS	0.25 LBS/AC
		BLACK EYED SUSAN	0.5 LBS/AC	SKY BLUE ASTER	0.25 LBS/AC
		GRAY HEADED CONEFLOWER	1 LBS/AC	PRAIRIE BLAZING STAR	0.25 LBS/AC
		PURPLE CONEFLOWER	2 LBS/AC		
		NEW ENGLAND ASTER	0.25 LBS/AC		
		COMMON MILKWEED	0.5 LBS/AC		
		SWAMP MILKWEED	0.25 LBS/AC		
		WHITE PRAIRIE CLOVER	0.25 LBS/AC		
		PURPLE PRAIRIE CLOVER	0.25 LBS/AC		
		PARTRIDGE PEA	0.5 LBS/AC		
		TOTAL SEED/ACRE	92		



NOTES:  
 SEED MIXTURES SHOWN SHALL BE USED FOR EACH REGION.  
 ADDITIONS MAY BE ADDED AT THE CONTRACTOR'S DISCRETION FOR NO DIRECT PAY.  
 PLS/AC = POUNDS OF PURE LIVE SEED/ACRE  
 LBS/AC = POUNDS OF SEED/ACRE

REGION 4					
COOL SEASON GRASSES			WARM SEASON GRASSES		
LIME	0 LBS ENM/AC	FERTILIZER 80-160-80	LIME	0 LBS ENM/AC	FERTILIZER 40-80-40
SEED MIXTURE		ADDITIONS	SEED MIXTURE		ADDITIONS
COVER CROP		COVER CROP	COVER CROP		COVER CROP
ANNUAL RYEGRASS	5 LBS/AC	VIRGINIA RYE	5 LBS/AC	ANNUAL RYEGRASS	5 LBS/AC
TEFF GRASS	4 LBS/AC	CANADA RYE	5 LBS/AC	TEFF GRASS	4 LBS/AC
GERMAN MILLET	2 LBS/AC	WHEAT GRAIN	10 LBS/AC	GERMAN MILLET	2 LBS/AC
OATS	10 LBS/AC			OATS	10 LBS/AC
COOL SEASON		COOL SEASON	WARM SEASON		WARM SEASON
TALL FESCUE	70 LBS/AC	ORCHARDGRASS	20 LBS/AC	BUFFALO GRASS	15 PLS/AC
KENTUCKY BLUEGRASS	10 LBS/AC	TIMOTHY	10 LBS/AC	BIG BLUESTEM	10 PLS/AC
PERENNIAL RYEGRASS	10 LBS/AC	RED FESCUE	20 LBS/AC	LITTLE BLUESTEM	5 PLS/AC
BUFFALO GRASS	15 PLS/AC	SMOOTH BROME	10 LBS/AC	INDIAN GRASS	10 PLS/AC
RED TOP	4 LBS/AC			SIDE OATS GRAMA	5 PLS/AC
BERMUDA GRASS	10 LBS/AC			SWITCH GRASS	3 PLS/AC
LEGUME		LEGUME	LEGUME		LEGUME
WHITE CLOVER	8 LBS/AC	RED CLOVER	5 LBS/AC	RED CLOVER	5 LBS/AC
		ALSIKE CLOVER	4 LBS/AC	RED CLOVER	5 LBS/AC
TOTAL SEED/ACRE	148			RED CLOVER	5 LBS/AC
		WILDFLOWER / POLLINATOR		WILDFLOWER	
		LANCELEAF COREOPSIS	0.5 LBS/AC	GOLDEN ALEXANDERS	0.25 LBS/AC
		BLACK EYED SUSAN	0.5 LBS/AC	SKY BLUE ASTER	0.25 LBS/AC
		GRAY HEADED CONEFLOWER	1 LBS/AC	PRAIRIE BLAZING STAR	0.25 LBS/AC
		PURPLE CONEFLOWER	2 LBS/AC		
		NEW ENGLAND ASTER	0.25 LBS/AC		
		COMMON MILKWEED	0.5 LBS/AC		
		SWAMP MILKWEED	0.25 LBS/AC		
		WHITE PRAIRIE CLOVER	0.25 LBS/AC		
		PURPLE PRAIRIE CLOVER	0.25 LBS/AC		
		PARTRIDGE PEA	0.5 LBS/AC		
		TOTAL SEED/ACRE	92		



**MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION**  
 105 WEST CAPITOL  
 JEFFERSON CITY, MO 65102  
 1-888-ASK-MODOT (1-888-275-6636)

SEEDING

DATE EFFECTIVE:	07/01/2022	805.00	SHEET NO.
DATE PREPARED:	3/25/2022		1 OF 1

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.