

NMOT Specification SECTION 632: REVEGETATION

632.1 DESCRIPTION

This revegetation Work consists of preparing the soil, seeding, mulching, crimping, and the application of seedlings to areas designated for revegetation and are required to be revegetated. For additional information refer to the US Clean Water Act as outlined in the Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Storm Water Pollution Prevention Plan (SWPPP). Construction staking and digital submittals are in the scope of the revegetation Work. The Department and Subcontractor shall each have at least one (1) Section 632, "REVEGETATION," T-20-certified person on the Project at all times.

632.2 MATERIALS

The Contractor shall provide submittals as per Table 632.3.4.1, "Operations Sequence for Classes of Seeding," for all Materials to the Project Manager at a minimum of ten (10) working Days before revegetation Work commences. Submittals shall conform to the Specifications and the revegetated area on the Approved Products List. After submittals have been approved as per procedures identified in Section 632.3.3, "Pre-Seeding Conference," the Contractor may substitute products on the Approved Products List with approval as per the same process. Rock Mulch Material submittal shall be required and meet the Specification but does not need to be on the Approved Product List. Submittal shall be a full five gallon bucket labeled as follows: Project Manager, for all areas to be revegetated.

All bulk Materials delivered to the Project shall be accompanied by a certified weigh master ticket for Materials utilized per Project as per Section 109.1, Measurement of Quantity. Split loads of fertilizer, seed, straw, tackifier, and bonded fiber matle may be allowed with proper weigh master ticket and Contractor affidavit. Split loads shall not be allowed for compost Materials and rock mulch.

All packaged Materials delivered to the Project shall be wrapped or otherwise securely protected from weather which might affect their integrity. Materials in weather-damaged packaging shall be rejected for use on the Project.

Certification for bulk Materials shall comply with Section 106.4, Certificates of Compliance. Notify Project Inspectors when bulk Materials are delivered so loads may be inspected and verified.

The Contractor shall ensure that straw bales stored on the Project shall not exceed 20% moisture content.

632.2.1 Temporary Soil Stabilant/Tackifiers for Class A Seeding

Temporary soil stabilant and tackifier shall be considered the same and the terms used interchangeably. Tackifiers used as a Mue or green dye lasting a minimum of 36 hours to aid in application and inspection, and be bio-degradable. When used as part of seeding operations it shall be applied at a rate of 200 pounds per acre.

Tackifiers shall be plant-derived and bio-degradable and be composed of either guar, psyllium (Plantago ovata), or starch.

Guar. Guar is a plant based product derived from the ground endosperm of the guar plant, yielding with dispersant agents for easy mixing. Psyllium. Psyllium is composed of the finely ground muciloid coating of Plantago ovata seeds that is applied as a dry powder or in a wet slurry to the surface of the soil. It clings to form a firm but re-versible membrane that binds soil particles together but permits germination and growth of seed. Psyllium requires twelve (12) to eighteen (18) hours drying time.

Starch. Starch is non-toxic, cold-water soluble (pre-gelatinized) granular cornstarch. The Material is mixed with water. Approximate drying time is nine (9) to twelve (12) hours.

632.2.2 Seed for Class A and C Seeding

The Project seed list shall conform to the NMOT Revegetation Zone and Seed List Maps at the NMOT website or at the following link: <https://www.nmot.gov>.

The list used shall be the year the Project was let. The Contract shall specify varieties of noxious weed-free seed in accordance with New Mexico Seed Law (NMSA 1978, § 76-10-11 et seq.).

Seed submittal shall be a list from a seed producer showing the common name, botanical name, pure live seed, total poundage, source locality (county and state), and NMOT Project control number as per the revegetation/erosion control Plan.

All seed suppliers must be on the current Approved Products List and provide documentation that their regulating state agency refers to the Association of Official Seed Certifying Agencies (AOSCA).

Seed measures shall be pre-mixed and tagged certifying the measure quantity and percentage as noted in the Contract.

Substitutions for unavailable seeds shall be performed by adding the quantity of the unavailable seed to the quantity of the not seed species listed within that subcategory of the seed list. Before substitutions can be made the Contractor must provide proof of unavailability in letter form from three (3) seed suppliers listed on the NMOT Approved Products List that the seed is not available.

All seed delivered to the Project shall be stored in a container protected from rodents and moisture and not subject to temperatures higher than 90°F.

632.2.2.1 Seed Labeling

The Contractor shall seal and label each bag in accordance with the Federal Seed Act (7 U.S.C. § 1551 et seq.) and NMMA seed labeling requirements (NMSA 1978, § 76-10-13). The Contractor shall provide the following information on each bag tag for each species:

- Variety (specify if modified);
- Kind of seed;
- List number;
- Purity;
- Germination;
- Percentage crop seed, percentage inert, percentage noxious weeds, in accordance with New Mexico Seed Law (NMSA 1978, § 76-10-11, et seq.);
- Origin;
- Test date;
- Weight (in pounds) of this species or percentage of total lot.

The Contractor shall provide seed analysis results that are not older than twelve (12) months prior to use.

Seed suppliers shall provide one (1)-acre seed bags.

The Contractor shall provide to the Project Manager documentation of seed origin and pure live seed content from a certified testing Laboratory. Seed must arrive in the original sealed containers from the Supplier and the Revegetation Contractor must provide all tags and certificates to the Project Manager. Certification must be provided for the seed has been stored in appropriate conditions in the twelve (12) months before arriving at the Project. Each seed tag shall be affixed to the bag and have the project control number clearly identified. The certified Seed Supplier shall maintain records of seed tag control numbers for a period of three (3) years.

632.2.3 Fertilizer for Class A and C Seeding

Fertilizer shall be organic, slow release with an N-P-K (nitrogen, phosphorous, potassium) analysis of either 3-6-3 or 3-7-2 and blended with endo-mycorrhiza and humates. Application rate shall be 1,000 lbs. per acre. Humates must comprise a minimum of 15% by weight. Endo-mycorrhiza must be abutual with a minimum percentage of 1.33 propagules per gram. The Contractor shall provide fertilizer (specified type and formulation) and supplier's certification in accordance with the Contract. Each bag or tote of fertilizer shall have a visible, sealed, and unaltered analysis tag from the manufacturer that must be approved by an authorized Section 632, "Revegetation" certified Inspector prior to application of the Material. The tag must include the manufacturer's information, the N-P-K analysis of the product, and the weight of the bag or tote. NMOT reserves the right to inspect any bill of lading or packing slips from the supplier to verify quality of Material on site.

632.2.4 Hydro-Mulch - Bonded Fiber Matrix (BFM) for Class C Seeding

Hydro-mulch shall be Bonded Fiber Matrix (BFM). BFM is a hydraulically-applied blanket that controls soil erosion and accelerates seed germination. BFM is a three (3)-dimensional composite of wood or paper fibers bonded by polymer tackifier that provides high performance erosion prevention on slopes. Dye and tackifier shall be included in the BFM formulation. BFM shall be applied at a rate of 2,000 lbs. per acre. As a hydraulic erosion control product (HECP) as defined by the Erosion Control Technology Council, the BFM or its equivalent shall be Type 3 or higher in functional longevity as defined in Table 1 of the 2014 Standard Specifications for Hydraulic Erosion Control Products (HECPs) Part 2.01.

632.2.5 Rock Mulch for Class C Seeding

Rock Mulch shall be between one (1) inch and greater than 1.5 inches in size. Rock shall have a minimum of two (2) Fractured Faces. Rock which is black in color will not be Acceptable. Pumice rock is not Acceptable.

632.2.6 Composted Mulch for Class A Seeding

The Contractor shall furnish and place composted mulch as shown on the revegetation Plan and in accordance with the criteria as described below: Composted mulch provider must be approved in writing and permitted by the New Mexico Environment Department Solid Waste Bureau and must be in compliance with 20 NMAC § 1.

Composted mulch is defined as the product of a controlled aerobic thermophilic biological decomposition process that meets the quality requirements in Table 632.2.6.1, "Requirements of Compost Mulch." Raw Material used in producing composted mulch may include green waste, animal manure, animal bedding, paper waste, food waste, bio-sludge or other non-toxic organic matter, but shall not include animal mortalities.

Requirements of Compost Mulch		
Material	Measure	Method
All Composted Mulches	Moisture Content*	Evaporation test
	Carbon/Nitrogen Ratio*	Nitrogen by AOAC 993.15, Carbon by ASTM D5937
	Particle Size	Sieve
	Electrical Conductivity*	1.5 slurry (mass basis)
	pH*	1.5 slurry (mass basis)
Maturity	Organic Matter*	Loss on ignition at 550°C
		25% - 100% of dry weight
		Germination test in 50:50 (volume basis) mixture of 1/4 inch screened composted mulch and twice-rinsed nursery sand.
Stability	By temperature and moisture content	Maximum core temperature of 110°F after 48 hours in 5 foot tall conical pile, with moisture adjusted to between 45% and 60%.
	Debris	By volume
Composted Mulches with Washwater Bio-solids*	Trace Metals*	HNO ₃ digestion
	Fecal Coliforms*	MPN with A-1 broth
*Tests marked with asterisk must be performed by a suitable analytical Laboratory; other tests may be performed by the composted mulch producer.		

632.2.6.1 Acceptance

Compost mulch suppliers on the Approved Products List are approved for Project use. The NMOT Landscape Architect shall review lab analysis and submittals from the compost producers every 180 Days and confirm their listing on the Approved Products List.

Before delivering composted mulch, provider shall furnish documentation that includes the following:

- The raw Materials, by percentage of volume, used in the production of the delivered composted mulch;
- Daily temperature records for at least 20% of the piles or batches used to produce the delivered composted mulch, including a record of at least 100°F for at least seven (7) consecutive Days;
- A Laboratory analysis for criteria shown in Table 632.2.6.1, "Requirements of Compost Mulch" performed on composted mulch no more than 180 Days prior to delivery; and
- An affidavit, signed by a corporate officer, certifying that the composted mulch meets each requirement shown in Table 632.2.6.1, "Requirements of Compost Mulch."

632.2.6.2 Straw Mulch for Class A Seeding

The Contractor shall not use rotten or moldy straw. All straw mulch must be barley straw and it to be free of noxious weeds as certified by an industry-recognized forage certification authority. Certification labels must appear on all certified straw bales. The color of the certified bale for straw bales shall be listed on the certification submittal for identification purposes. The date on the straw certification provided by NMOT may not be older than one (1) year from the date of purchase. Before Acceptance the Contractor shall provide to the Project Manager weigh tickets signed by a certified weighmaster as per Section 109.1, "Measurement of Quantity," which confirm that the amount of bulk Materials delivered to the Project equals tonnage required for the Project per the determined acreage.

632.3 CONSTRUCTION REQUIREMENTS

632.3.1 Equipment

All Equipment shall be inspected by the Contractor to confirm Equipment is in good working order prior to commencing Work. An Inspector shall witness the inspection and calibration.

To avoid the spread of noxious weeds, all revegetation Equipment (including but not limited to trucks, trailers, tractors, hydro-seeders, drill seeders, straw blasters, and disks) shall be pressure-washed to remove all visible mud, soil, and debris prior to leaving the Project. Equipment shall be pressure-washed at the end of the day. If Equipment leaves the Project for any reason it shall be re-inspected when returned to the job site.

Disking attachments shall have a minimum six (6) foot carriage with front and rear discs. Crimping Equipment shall have a minimum eight (8) foot wide carriage.

Skid steer attachments may only be used on confined areas for seeding operations.

Skid steers shall not be used for spreading compost unless in a confined area.

The drill seeder must be inspected daily to prevent loss of seed or to prevent over seeding. Calibration is necessary to control rate and depth of seed distribution. Calibration procedure and demonstration shall be as per manufacturer's Specifications. The drill seeder shall be calibrated on every Project unless it is replaced on the Project. Drill seeders shall apply only modified by manufacturer recommendation and documentation of the modification must be available.

The inspection shall ensure that the Equipment has the following:

- Double disc openers with A' frames;
- Depth bands;
- Drop tubes;
- Packer wheels or drag chains;
- Rate control attachments;
- Seed boxes with covers and agitators for trashy seed; and
- Keyway holding auger to shaft.

632.3.1.1 Hydro-Seeder

The hydro-seeder cannons, hoses and agitators shall be in good working condition. The hydro-seeder shall be capable of applying Materials up to distances of 200 ft.

632.3.2 Materials and Sampling

Inspector must be present when Materials are to be loaded into Equipment or distributed on the areas to be seeded. Contractor shall provide all containers and bags to the Project Inspector for verification.

A one (1) quart sealed zip lock bag of seed Material labeled with the Material identification and the Project control number is to be provided to the NMOT Landscape Architect for examination and testing. The Department may reject Materials not in accordance with the Contract.

A mandatory pre-seeding conference called by the Project Manager shall be held on the Project before revegetation Work begins. Attending will be the NMOT Project Manager or representative, the NMOT Landscape Architect or certified seeding Inspector, the General Contractor, and the Revegetation Contractor.

The purpose of the meeting is to inspect the Project, and off-site yards, pits, and borrow roads for confirmation of their revegetation requirements. The Project Manager shall have all the pre-seeding meeting documentation of all pits, Contractor yards, etc. approved for use on the Project before the meeting. Per Section 632.3.12, "Seeding Operations for Class A and Class C Seeding," test strip location shall be verified following the Pre-seeding Conference. Construction staking must be completed and quantities must be verified by the Project Manager before test strip commences.

Submittals must be provided to the Project Manager and Landscape Architect ten (10) Days prior to the proposed start of revegetation Work. Any revegetation Work done prior to this inspection shall be rejected.

All areas to be revegetated shall be measured and confirmed for each class of seeding in accordance with Section 601, "Construction Staking by the Contractor." The Project Manager and the Contractor shall select and verify the area for each class of seeding, including but not limited to Class A, B, and C. All Materials are ordered and delivered to the Project.

Construction staking shall also identify all areas which have less than four (4) inches of soil cover and qualify for Modified Class A seeding.

The Prime Contractor shall provide minutes of this meeting for review and approval by the Project Manager and Landscape Architect or representative.

There will be no change in Materials or the scope of revegetation Work after the Contractor begins seeding operations.

For revegetation Work areas to be considered ready for revegetation they shall be accessible, free of Equipment, and no further construction processes occurring which would interfere with seeding operations. No further revegetation Work or Equipment access shall occur on areas which have been revegetated.

The Prime Contractor shall maintain a minimum twelve (12) foot wide Equipment access to all revegetated areas for use by revegetation Subcontractor until revegetation Work is complete.

632.3.3 Weather Limitations

Revegetation Work shall not be performed when the ground is frozen or when temperatures are below 32°F. No revegetation Work shall be performed when wind speed exceeds fifteen (15) miles per hour as measured with a wind meter by the Inspector.

632.3.4 Seeding Classes

The Contractor shall provide the various classes and the Material and operations for each class in accordance with Table 632.3.4.1, "Operations Sequence for Classes of Seeding."

Table 632.3.4.1 Operations Sequence for Classes of Seeding			
Operation	A	Class B Seed	C
Disk seed bed to four (4)'	X	X	--
Apply fertilizer by broadcast, then disk to four (4)'	X	X	--
Apply one (1) inch compost mulch, disk to four (4)'	X	X	--
Drill seed	X	X	--
Straw crimp, apply tackifier, dye	X	--	--
Track slopes with ridges horizontal and parallel to bottom of	X	--	X
Hand rake or chain harrow surface horizontally	--	--	X
Hydro apply seed, fertilizer, dye, tackifier	--	X	X
Scatter seeded areas horizontally to slope	--	X	X
Hydro mulch, apply tackifier, dye	--	--	X
Rock Mulch	--	X	X
Note: No seeding shall be applied on frozen ground			
Key: X = required			
-- = not required			

632.3.5 Modified Class A Seeding for Narrow Areas or Areas Inaccessible to Drill Seeding Equipment

Any Project areas with slopes less than 3:1 requiring revegetation which are less than eight (8) ft wide, or are inaccessible to drill seeding Equipment, or are too rocky to disk to a four (4) inch depth, shall use the following procedure and payment is to be made at the Class A rate.

The Contractor shall disk soil to a four (4) inch depth with one (1) inch of incorporated compost mulch and fertilizer as per Class A treatment. A skip seed with attachments may be used. If the seed bed is too rocky to disk to four (4) inches, the Contractor shall cut compost mulch and chain harrow or hand rake the entire area and proceed with Steps 1 and 2 below.

A hydro-seeder shall then be used to apply the seed, dye, tackifier, and hydro mulch in two (2) steps as described below.

Step 1. The Contractor shall apply seed and dye to the newly disked soil, rake or chain harrow so seed is covered with soil.

Step 2. The Contractor shall apply approved bonded fiber mulch with tackifier applied in two (2) coats from opposing directions at rate of 2,000 lbs. per acre.

Table 632.2.6.1 Seed in these areas shall be applied at twice the specified rates and no extra payment shall be made therefor.

632.3.6 Revegetation of Areas Outside the Project Limits

Revegetation of all disturbed off-site locations will be in accordance with Section 104.7, "Final Cleanup," and the appropriate class of seeding will be used for the terrain. Section 632, "Revegetation," procedures will be followed for all public lands and private lands that are required to be revegetated unless other seed lists and procedures are required in a resource agency permit. All revegetation Work done for permitted Contractor located activities shall be done at the Contractor's expense.

The Contractor must provide a part of submittals a letter of intent from landowners for off-site locations to be used as per Section 104.7, "Final Cleanup." The letter of intent must acknowledge the landowner's right to have revegetation performed as per our Specifications and that that revegetation right is waived the owner acknowledges that neither the Contractor nor NMOT shall be responsible for any claims, including but not limited to fugitive dust, noxious weeds, and station of waterways, related to the owner's decision to forgo revegetation. When revegetation Work is being performed on private land, a right of access permit for inspection of the revegetation Work for that private land must be provided by the Contractor to Project Manager and shall be considered incidental to the Work.

The Contractor shall provide documentation of this treatment used and notify Project Manager when the revegetation Work is being performed so Inspectors may be present.

Table 632.3.6.1 Schedule of Materials for Class A Seeding				
CLASS A REVEGETATION MATERIALS PER ACRE				
TACKIFIER	COMPOST MULCH	SEED	STRAW	FERTILIZER
200 lbs	134 cubic yards	Per revegetation zone list	2 tons	1000 lbs.

Table 632.3.6.2 Schedule of Materials for Class A Modified Seeding				
CLASS A MODIFIED REVEGETATION MATERIALS PER ACRE				
COMPOST MULCH	SEED	HYDRO MULCH WITH TACKIFIER	FERTILIZER	
134 cubic yards	Per revegetation zone list X2	2,000 lbs.		1000 lbs.

Table 632.3.6.3 Schedule of Materials for Class C Seeding				
CLASS C REVEGETATION MATERIALS PER ACRE				
HYDRO MULCH WITH TACKIFIER	SEED	ROCK MULCH	FERTILIZER	
2,000 lbs.	Per revegetation zone list X2	300 tons	1,000 lbs.	

632.3.7 Materials Certifications

The Contractor shall provide all certifications for required Material to the Project Manager before the Project begins.

632.3.8 Seedbed Preparation for Class A Seeding

The Contractor shall till the seedbed with a disk, harrow, or chiseling tools to at least four (4) inches deep. Upon competitive vegetation during seedbed preparation, the Contractor shall remove the vegetation to a surface free of clods, large stones, or other Deleterious Material that would interfere with seeding Equipment. The Contractor shall ensure Inspector approves area that was disked before compost is added to the seed.

The Contractor shall add one (1) inch of compost mulch as specified by disk, harrow, or chisel to a depth of four (4) inches.

The same day as and preceding tilling compost mulch into the seeded water shall be added to the compost mulch at a rate of 2,000 gallons per each 134 cubic yards. This is to aid in the incorporation of the mulch into the amended. All compost mulch must be incorporated into the seedbed before adding fertilizer and commencing drill seeding. The Contractor shall add fertilizer by broadcast and disk, harrow, or chisel to a depth of four (4) inches.

The Contractor shall till across the slope, along the contour. The Contractor shall till all the seedbed if the moisture content of the soil is outside the limits recommended by the Seed Supplier for planting, or the ground is in a non-stable condition.

The Contractor shall not prepare more seedbed area on which the entire seeding operation can be applied before the surface cruts or loses seed and fertilizer to erosion. If erosion or crusting occurs, perform seedbed preparation again.

After seed bed preparation and before drill seeding commences all rocks larger than four (4) inches in diameter shall be removed from the seed bed and no payment shall be made therefor.

632.3.9 Tracking and Scarification for Class C Seeding

Areas designated as Class C treatment shall be track-walked as per Table 632.3.4.1, "Operations Sequence for Classes of Seeding" with tracks parallel to the toe of slope to compact and scarify the surface within seven (7) working Days prior to the commencement of Class C operations.

Slopes which have eroded or otherwise degraded in the seven (7) working Day period before seeding may need to be re-graded before revegetation.

Competitive vegetation shall be updated before hydro-seeding so that seed has good adherence to the surface and soil cover and no payment shall be made therefor.

Following tracking slopes shall be scarified by hand raking or chain harrowing horizontally and parallel to the bottom of the slope.

Following tracking of the slopes all rocks larger than four (4) inches in diameter shall be removed from the hydro-seed bed and no payment shall be made therefor.

Fertilizer bags shall be examined before use to confirm content analysis and content. Notify Project Inspector when bags are to be loaded into machines and all bags shall be collected and counted confirming correct amounts used.

The Contractor shall apply the fertilizer uniformly to the prepared seedbed. Class A is broadcast and Class C shall be hydro-applied. The Contractor shall apply mix fertilizer in the hydro-seeder for a minimum of ten (10) minutes before applying.

632.3.11 Compost Mulch for Class A Seeding

The Contractor shall wet down compost mulch so that wind loss is kept to a minimum. Stockpiles shall be less than six (6) ft tall and oriented perpendicular to the prevailing winds to prevent wind loss.

The compost mulch moisture content shall be indicated on the delivery ticket at the time of delivery and shall be within the 35 - 60 % range.

Regardless of the compost mulch moisture content, the Project Manager may require further wetting of compost mulch to delivery to prevent loss through wind. No extra payment shall be made therefor.

The certified Inspector shall verify the load is full before unloading to confirm the Material is up to the front of the trailer. Indicators of a short load are gaps at the front of the truck, overflowing at the back of the truck, and slip staining of the Material from the original loading line.

632.3.12 Seeding Operations for Class A and Class C Seeding

The Contractor shall uniformly apply the seed mix at a rate in accordance with the Contract. The Contractor shall not drive vehicles or other Equipment on seeded areas. The Contractor is responsible for protecting revegetation Work until Acceptance.

A test strip of each class of seeding shall be provided by Contractor before commencing general seeding. Each test strip shall measure no less than one (1) acre in a configuration which works for the Equipment and the site, shall be at a location of the Contractor's choosing within the Project, and shall be done as per Specifications with a certified Inspector and the Landscape Architect or representative present. Equipment calibration and a test strip are not required for Projects less than one (1) acre in size. The test strip is to verify Equipment functionality, proper adjustment, application rate, and the Contractor's ability to perform the Work as per Specification.

Upon Acceptance of the test plot the Contractor may proceed with seeding operations. If the test strip is not Accepted, the Contractor shall establish a new one (1) acre strip location and re-verify. The Contractor shall not proceed to full seeding operation until an Acceptable test strip has been produced. Payment will only be made for Accepted test strips and shall be made under appropriate class of seeding.

The Contractor shall coordinate with the Project Manager prior to starting seeding operations to ensure that an Inspector is present at all times. No seeding Work shall be performed without the presence of a certified Inspector.

Once seed is installed on a given Project areas all operations to complete that class of seeding for that area must be completed the same Day.

If rainfall or some other factor prevents the Contractor from seeding to the specified depth on prepared surfaces, the Contractor shall prepare the seedbed and apply seed again, at no additional cost to the Department.

Class C areas are to be seeded at twice the standard rate and no extra payment is to be made therefor.

The Contractor shall not perform seeding operations when wind velocity exceeds fifteen (15) mph. Disking may still be performed with winds exceeding 15 mph.

632.3.13 Drill Seeding for Class C Seeding

The Contractor shall plant seed 12 inch deep unless otherwise specified in the Contract. The Contractor shall ensure that the distance between the drilled furrows is no more than eight (8) inches. If the furrows openers on the drill exceed eight (8) inches, the Contractor shall re-drill the area and no extra payment shall be made therefor.

632.3.14 Hydro-Seeding for Class C Seeding

Seed shall be applied in a slurry with fertilizer and dye. All Materials loaded into Equipment shall be verified by NMOT Project Inspectors to confirm correct application rates. The Contractor shall mix all Materials for a minimum of ten (10) minutes before application.

632.3.15 Hydro-Mulching for Class C Seeding

Hydro-mulching shall be applied in two (2) sweeps from opposing directions to ensure coverage is complete. The BFM must contain a fertilizer when applied. A dye capsule of lasting 36 hours shall be included in slurry so that Project Inspectors can confirm coverage. Mulch must be the same Day as the seed to protect seed. All Materials loaded into Equipment shall be verified by NMOT Project Inspectors to confirm correct application rates. The Contractor shall mix all Materials for a minimum of ten (10) minutes before application.

The Contractor shall provide the Project Manager a laminated color reference card from the BFM manufacturer showing a close-up reference photograph of their product installed at the rate of 2,000 lbs. per acre.

632.3.16 Straw Mulching for Class A Seeding

The Contractor shall anchor straw mulch using a crimper with flat serrated discs at least one (1) inch thick with dull edges, spaced no more than nine (9) inches apart. The Contractor shall ensure that the disc diameter is large enough to prevent the frame of the Equipment from dragging in mulch.

The Contractor shall ensure that straw mulch crimping is at least two (2) inches deep and do not cover the seed with a wet excessive slurry. The Contractor shall perform mulch anchoring across the slope where practical, with no more than two (2) passes of the anchoring Equipment. Straw bales must be stacked to confirm the bale interior moisture content is no greater than 20%.

The Contractor shall ensure that straw mulch has at least 50% of ridges exceeding ten (10) inches long on the ground after application.

The Contractor shall spread straw mulch following drill seeding with a mechanical mulch spreader or by hand. If spreading by hand, the Contractor shall ensure that the bales of mulch are full and BFM is before spreading.

The Contractor shall anchor straw following crimping with an approved tackifier with green dye at a rate of 200 lbs. per acre. The tackifier shall be incidental to the seeding.

When crimping the straw is impractical due to rocky areas it may be spread and not crimped. Tackifier will be applied as per Specification. This method shall be approved by the Project Manager for rocky areas only.</