

Prepared for: \_\_\_\_\_

Prepared by: \_\_\_\_\_

Farm: \_\_\_\_\_ Tract: \_\_\_\_\_ Date: \_\_\_\_\_



**DEFINITION**

Establishing permanent vegetation on sites that have or are expected to have high erosion rates, and on sites that have physical, chemical or biological conditions that prevent the establishment of vegetation with normal practices.

**PURPOSE**

The specifications provided here are to:

- Stabilize areas with existing or expected high rates of soil erosion by water or wind.
- Rehabilitate and re-vegetate degraded sites that cannot be stabilized through normal farming practices.
- Stabilize coastal areas, such as sand dunes and riparian areas.

**SITE PREPARATION**

Site preparation (including removal of rocks, stumps and other obstructions) shall be the

minimum necessary to ensure close contact of seeds or sprigs with the soil and to ensure safe and efficient operation of equipment.

When conventional planting is proposed (normally on slopes with a 3:1 ratio or flatter), the area should be graded or shaped to permit the safe use of equipment associated with the establishment of vegetation and maintenance.

The use of 3-4 inches of topsoil or similar soil material should be considered where the soil texture at the site is sandy clay, silty clay, or clay. Ripping prior to the addition of new material is usually needed.

If feasible, no-till seeding may also be used.

Slopes steeper than 3:1 will normally need to be planted by hand, or with a hydroseeder. The slope surface should be left in a loose, friable, and slightly roughened condition. If additional roughness is desired, stair-step grading, grooving, furrowing, or tracking may be required by heavy equipment. Grooves or furrows should be at least two inches deep.

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However, tracking may cause severe surface compaction, and may not be as effective as other forms of roughening. On clayey soils, use this method only if there is no other alternative.

Grading of slopes should be performed only to the extent necessary to ensure stability.

Any surface debris that may interfere with conventional cover establishment or maintenance operations should be removed.

### **SEEDBED PREPARATION**

All required seedbed preparation should be performed just prior to, and in conjunction with planting. If rainfall occurs between the initial seedbed preparation and the planting, the site may need to be reworked.

Where site conditions will not permit normal seedbed preparation, loosen the soil surface by tracking and/or back-blading with a bulldozer or other suitable earthmoving equipment.

Soil disturbance can also be accomplished with the use of a chain harrow, hand tools, or similar equipment. When hydro-seeding, seedbed preparation may not be necessary if adequate site preparation was performed.

On sites where the use of conventional equipment is proposed, prepare a proper seedbed by disking, harrowing, or using other suitable tillage implements.

### **SOIL AMENDMENTS**

Soil fertility and pH level should be amended to the needs of the plant species planned.

Application of all soil amendments should be based on recommendations from a qualified soil testing laboratory.

If a sample is not feasible or practical, an all-inclusive fertilizer recommendation may be used as shown in Table 1.

### **BEFORE STARTING WORK**

Obtain all necessary permits and/or rights, and to comply with all Federal, state, and local laws pertaining to this installation. The landowner/operator is responsible for locating any buried utilities (water lines, electric lines, telephone lines, sewer lines, etc.) in the work area. NRCS makes no representation of the existence or nonexistence of utilities.

If manipulation of wetlands or streams may be involved, contact the Corps of Engineers and/or NRCS for a wetland determination/delineation.

If cost-sharing will be provided for this practice, do not begin construction without NRCS or SWCD approval. Staking or flagging the area may be necessary. Contact NRCS or SWCD prior to starting construction.

Additional instructions, specifications, material lists, designs, etc. for the establishment of this practice are:

- attached      or  
 will be provided by

\_\_\_\_\_.

**Fertilization and lime rates to use for establishment in absence of a soil test.**

<b>Planting</b>	<b>Fertilizer Analysis</b>	<b>Fertilizer Rate</b>	<b>Lime Rate</b>
<b>Sod,</b> fertilizer incorporated	10-10-10	12-25 Lbs./1,000 sq. ft	45-72 Lbs./1,000 sq. ft.
<b>Perennial Grass,</b> fertilizer incorporated	10-10-10	18-23 Lbs./1,000 sq. ft ----- apply additional 0.5-1.0 Lbs./1,000 sq. ft 3-12 months later	92 Lbs./1,000 sq. ft.
<b>Perennial Grass &amp; Legume,</b> fertilizer incorporated	5-10-10	18-23 Lbs./1,000 sq. ft ----- apply additional 0.5-1.0 Lbs./1,000 sq. ft 3-12 months later	92 Lbs./1,000 sq. ft.
<b>Perennial Grasses with or without Legumes,</b> fertilizer <b>NOT</b> incorporated	10-10-10	10 Lbs./1,000 sq. ft	46 Lbs./1,000 sq. ft.
<b>Temporary Cover,</b> fertilizer <b>NOT</b> incorporated	10-10-10	12-16 Lbs./1,000 sq. ft	92 Lbs./1,000 sq. ft.
<b>Tree, Shrub &amp; Vines</b> in close-spaced mass plantings	Incorporate 3-5 lbs of 5-10-10 fertilizer and well rotted leaf compost into soil's top 4-6 inches. Blend needed fertilizer, organic material with soil removed from each hole or furrow.		
<b>Tree, Shrub &amp; Vines</b> in mass plantings on 3:1 or steeper slope	Only cultivate the soil in contour rows, or dig single holes for each plant.  Blend 1/4 cup 5-10-10 fertilizer with soil removed from each hole or furrow and well rotted compost equal to half the volume of soil removed.  If the soil on the slope is not suitable for plant growth, batch blend a 2:1 mixture of sandy loam soil, well rotted compost, 10 lbs. of 5-10-10 fertilizer and 20 lbs. of lime per cubic yard of soil mix.		

**OPERATION AND MAINTENANCE**

Check new seedings and plantings every few days during the first month to assess progress and apply the needed care (irrigation, reseeding, mulching, etc.). Water sod establishments as needed for the first 30 days after placement.

After the first month, the planting should be inspected at least twice in the establishment year and then at least annually. Evaluate

the site within several months of seeding. If the stand is uniform but too thin (50 to 80% ground cover), apply additional seed during the next optimum seeding period with a no-till drill, grain drill, or hydro-seeder as site conditions dictate. Sites with an establishment rate of less than fifty percent (50%) should be reseeded in accordance with the original planting plan. Determine the reasons for planting failure and

corrective measures should be incorporated into the remedial planting.

The planting must be restored and protected from adverse impacts such as vehicular and pedestrian traffic, pest infestations, pesticide use on adjacent lands, livestock damage and fire.

Vegetation damaged by machinery, herbicides, or erosion should be repaired promptly.

The area must be protected from livestock grazing until the vegetation is well established and the site is stabilized.

If soil moisture becomes critically deficient, irrigate the site if practical and feasible.

Weed competition must be controlled by mowing or with herbicides. Use caution when spraying chemicals on lands that are adjacent to the site.

Replacement of failed vegetation should be continued until the area progresses to a fully functional condition. For forage, manage and maintain according to the standard and specifications for (528) Prescribed Grazing or (511) Forage Harvest Management. Occasional grazing and/or haying may benefit the stand.

Soil amendments should be applied as required to maintain ground cover density at the desired level (usually 90% or greater). Application of soil amendments will be based upon soil testing laboratory recommendations. At a minimum, test the soil at least once every five years or more often if indicated by periodic inspections of the practice.

Maintenance practices and activities are not to disturb cover during the primary nesting period for grassland species. Activities may occur during this period only in the establishment year.

To benefit insect food sources for grassland nesting birds, spraying or other control of noxious weeds should be done on a "spot"

basis to protect forbs and legumes that benefit native pollinators and other wildlife.

Remove temporary diversions, silt fences, etc. after the area is stabilized.

Maintenance will include lime and fertilizer. Use Table 2 in absence of a soil test.

**Table 2.** Acceptable lime & fertilizer maintenance absence of a soil test for maintenance.

Species	N Lbs/1000 sq.ft.	P205 Lbs/1000 sq.ft.	K20 Lbs/1000 sq.ft.	Lime Lbs/1000 sq.ft.
Sod				60 – Apply late fall or winter every 3 years
Topdress Bluegrass and Tall Fescue Sod (10-10-10) in early fall	10-25	10-25	10-25	60 – Apply late fall or winter every 3 years
Tree Shrub & Vines	Fertilize the plantings the spring of the second growing season and thereafter as needed using 2-3 lbs. per 100 sq.ft. of a granulated commercial fertilizer such as 5-10-10.			

Additional operation and maintenance requirements:

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**SPECIFICATIONS FOR CRITICAL AREA PLANTING**

**GRASSES/LEGUMES:**  Not Applicable.

<b>Cover Seeding Type</b>	Check one:	<input type="checkbox"/> Hydroseed	<input type="checkbox"/> Hydroseed	<input type="checkbox"/> Hydroseed
		<input type="checkbox"/> Conventional/Drilled	<input type="checkbox"/> Conventional/Drilled	<input type="checkbox"/> Conventional/Drilled
	Check one:	<input type="checkbox"/> Temporary cover seeding	<input type="checkbox"/> Temporary cover seeding	<input type="checkbox"/> Temporary cover seeding
		<input type="checkbox"/> Permanent	<input type="checkbox"/> Permanent	<input type="checkbox"/> Permanent
<b>Specifications</b>		<b>Field</b>	<b>Field</b>	<b>Field</b>
Site Slope <sup>1</sup>				
Seedbed Preparation Method <sup>2</sup>				
<del>Seedbed Preparation Date</del>				
<del>Selected Species #1</del>				
<del>Species #1 Rate<sup>3</sup></del>				
<del>Species #1 Planting Date</del>				
<del>Selected Species #2</del>				
<del>Species #2 Rate<sup>3</sup></del>				
<del>Species #2 Planting Date</del>				
<del>Selected Species #3</del>				
<del>Species #3 Rate<sup>3</sup></del>				
<del>Species #3 Planting Date</del>				
<del>Topsoil Salvage<sup>4</sup></del>				

<sup>1</sup> Indicate the approximate site slope. NOTE: Machinery should only be operated on slopes flatter than 3:1.

<sup>2</sup> List the site/seedbed preparation method to be used: Farm Equipment, Heavy Equipment, Manual, or Other.

<sup>3</sup> Specify seeding rates in quantities of lbs/acre or lbs/1000 ft<sup>2</sup>.

<sup>4</sup> Indicate whether topsoil is present and feasible to be salvaged, stockpiled and utilized. NOTE: Topsoil should not be added to slopes steeper than a 2:1 unless good bonding to sub-layer can be achieved.

Note: Inoculate Legumes.

**TREE/SHRUB/VINE PLANTING:**  Not Applicable.

Plant the following trees and/or shrubs at spacing specified. (See area on Conservation Plan Map)

**Area/Field** \_\_\_\_\_

TREE/SHRUB MATERIALS LIST AND PLANTING SPECIFICATIONS Species/Cultivar	Kind of stock	Planting Dates	Distance (ft) between tree/shrubs in row	Distance (ft) between rows	Estimated tree/shrubs per acre

**SODDING:**  Not Applicable.

Area/Field \_\_\_\_\_ Sodding Period: \_\_\_\_\_

Carefully place (specify species type) \_\_\_\_\_ sod on the prepared seedbed and press into place. Thoroughly soak the sod with water to a depth of 4 inches after placement. Additional anchoring will be required in the following areas \_\_\_\_\_. Never place sod on frozen soil. Where additional anchoring is needed, anchor the sod with stakes or netting. Use 1/2" x 3/4" x 12" stakes spaced 4 feet apart in each strip of sod and stake each end; or use netting according to the manufacturer's recommendations.

**MULCHING:**  Not Applicable.

Uniformly mulch all the seeded areas immediately after seeding (or seedbed preparation for a dormant seeding) with \_\_\_\_\_ or \_\_\_\_\_ @ \_\_\_\_\_ tons/acre or \_\_\_\_\_ lbs/1000 ft<sup>2</sup>.

**LIME & FERTILIZER:**  Not Applicable.

Fertilize and Lime according to current soil test(s).

Grasses/Legumes  Trees, Shrubs, & Vines  Sod

Lime and Fertilizer during establishment (Specify rates in quantities of tons/acre or lbs/1000 ft <sup>2</sup> ) See Table 1, in absence of soil test				
Area/Field	Lime	Nitrogen (N)	Phosphate (P <sub>2</sub> O <sub>5</sub> )	Potash (K <sub>2</sub> O)

**INSTALLATION OF STRAW BALES OR SILT FENCE TEMPORARY BARRIERS:**

(See areas on the Conservation Plan Map)

Not Applicable

The following area(s) shall have temporary straw bale barrier(s) installed. Bales shall be placed on the contour, place on their sides, tight end-to-end. Two wooden stakes (30-36 inches long) shall be driven through each bale and at least 12 inches into the soil. \_\_\_\_\_

The following area(s) shall have a silt fence installed per the manufacturer's recommendations on the contour.  
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Remove the temporary barriers after the area to be vegetated is stabilized.