Ds1

Disturbed Area Stabilization (With Mulching Only)

DEFINITION

Applying plant residues or other suitable materials, produced on the site if possible, to the soil surface.

PURPOSE

To reduce runoff and erosion

To conserve moisture

To prevent surface compaction or crusting

To control undesirable vegetation

To modify soil temperature

To increase biological activity in the soil

REQUIREMENT FOR REGULATORY COMPLIANCE

Mulch or temporary grassing shall be applied to all exposed areas within 14 days of disturbance. Mulch can be used as a singular erosion control device for up to six months, but it shall be applied at the appropriate depth, depending on the material used, anchored and have a continuous 90% cover or greater of the soil surface.

Maintenance shall be required to maintain appropriate depth and 90% cover. Temporary vegetation may be employed instead of mulch if the area will remain undisturbed for less than six months.

If any area will remain undisturbed for greater than six months, permanent vegetative techniques shall be employed. Refer to **Ds2 -Disturbed Area Stabilization (With Temporary Seeding), Ds3 - Disturbed Area Stabilization (With Permanent Seeding), and Ds4 - Disturbed Area Stabilization (With Sodding**).

SPECIFICATIONS

Mulching Without Seeding

This standard applies to graded or cleared areas where seedings may not have a suitable growing season to produce an erosion retardant cover, but can be stabilized with a mulch cover.

Site Preparation

1. Grade to permit the use of equipment for applying and anchoring mulch.
2. Install needed erosion control measures as required such as dikes, diversions, berms, terraces and sediment barriers.
3. Loosen compact soil to a minimum depth of 3 inches.

Mulching Materials

Select one of the following materials and apply at the depth indicated:

1. Dry straw or hay shall be applied at a depth of 2 to 4 inches providing complete soil cover- age. One advantage of this material is easy application.
2. Wood waste (chips, sawdust or bark) shall be applied at a depth of 2 to 3 inches. Organic material from the clearing stage of develop- ment should remain on site, be chipped, and applied as mulch. This method of mulching can greatly reduce erosion control costs.
3. Polyethylene film shall be secured over banks or stockpiled soil material for temporary protection. This material can be salvaged and re-used.

Applying Mulch

When mulch is used without seeding, mulch shall be applied to provide full coverage of the exposed area.

1. Dry straw or hay mulch and wood chips shall be applied uniformly by hand or by mechanical equipment.
2. If the area will eventually be covered with perennial vegetation, 20-30 pounds of nitrogen per acre in addition to the normal amount shall be applied to offset the uptake of nitrogen caused by the decomposition of the organic mulches.
3. Apply polyethylene film on exposed areas.

Anchoring Mulch

1. Straw or hay mulch can be pressed into the soil with a disk harrow with the disk set straight or with a special "packer disk." Disks may be smooth or serrated and should be 20 inches or more in diameter and 8 to 12 inches apart. The edges of the disk should be dull enough not to cut the mulch but to press it into the soil leaving much of it in an erect position. Straw or hay mulch shall be anchored immediately after application.

   Straw or hay mulch spread with special blower-type equipment may be anchored. Tackifers, binders and hydraulic mulch with tackifier specifically desgined for tacking straw can be substituted for emulsified asphalt. Please refer to specification **Tac- Tackifers**. Plastic mesh or netting with mesh no larger than one inch by one inch shall be installed according to manufacturer's specifications.
2. Netting of the appropriate size shall be used to anchor wood waste. Openings of the net- ting shall not be larger than the average size of the wood waste chips.
3. Polyethylene film shall be anchor trenched at the top as well as incrementally as necessary.

Ds2

Disturbed Area Stabilization (With Temporary Seeding)

DEFINITION

The establishment of temporary vegetative cover with fast growing seedings for seasonal protection on disturbed or denuded areas.

PURPOSE

- To reduce runoff and sediment damage of down stream resources
- To protect the soil surface from erosion
- To improve wildlife habitat
- To improve aesthetics
- To improve tilth, infiltration and aeration as well as organic matter for permanent plantings

REQUIREMENT FOR REGULATORY COMPLIANCE

Mulch or temporary grassing shall be applied to all exposed areas within 14 days of distur- bance. Temporary grassing, instead of mulch, can be applied to rough graded areas that will be exposed for less than six months. If an area is expected to be undisturbed for longer than six months, permanent perennial vegetation shall be used. If optimum planting conditions for tempo- rary grassing is lacking, mulch can be used as

a singular erosion control device for up to six months but it shall be applied at the appropriate depth, anchored, and have a continuous 90% cover or greater of the soil surface. Refer to specification **Ds1-Disturbed Area Stabilization (With Temporary Seeding).**

CONDITIONS

Temporary vegetative measures should be coordinated with permanent measures to assure economical and effective stabilization.

Most types of temporary vegetation are ideal to use as companion crops until the permanent vegetation is established. Note: Some species of temporary vegetation are not appropriate for companion crop plantings because of their potential to out-compete the desired species (e.g. annual ryegrass). Contact NRCS or the local SWCD for more information.

SPECIFICATIONS

Grading and Shaping

Excessive water run-off shall be reduced by properly designed and installed erosion control practices such as closed drains, ditches, dikes, diversions, sediment barriers and others.

No shaping or grading is required if slopes can be stabilized by hand-seeded vegetation or if hydraulic seeding equipment is to be used.

Seedbed Preparation

When a hydraulic seeder is used, seedbed preparation is not required. When using conventional or hand-seeding, seedbed preparation is not required if the soil material is loose and not sealed by rainfall.

When soil has been sealed by rainfall or consists of smooth cut slopes, the soil shall be pitted, trenched or otherwise scarified to provide a place for seed to lodge and germinate.

51 **Lime and Fertilizer**

Agricultural lime is required unless soil tests indicate otherwise. Apply agricultural lime at a rate determined by soil test for pH. Quick acting lime should be incorporated to modify pH during the germination period. Bio stimulants should also be considered when there is less than 3% organic matter in the soil. Graded areas require lime application. Soils must be tested to deter- mine required amounts of fertilizer and amendments. Fertilizer should be applied before land preparation and incorporated with a disk, ripper, or chisel. On slopes too steep for, or inaccessible to equipment, fertilizer shall be hydraulically applied, preferably in the first pass with seed and some hydraulic mulch, then topped with the remaining required application rate.

Seeding

Select a grass or grass-legume mixture suit- able to the area and season of the year. Seed shall be applied uniformly by hand, cyclone seeder, drill, cultipacker-seeder, or hydraulic seeder (slurry including seed and fertilizer).

Drill or cultipacker seeders should normally place seed one-quarter to one-half inch deep. Appropriate depth of planting is ten times the seed diameter. Soil should be "raked" lightly to cover seed with soil if seeded by hand.

See Table 6-4.1

Mulching

Temporary vegetation can, in most cases, be established without the use of mulch, provided there is little to no erosion potential. However, the use of mulch can often accelerate and enhance germination and vegetation establishment. Mulch without seeding should be considered for short term protection. Refer to **Ds1 - Disturbed Area Stabilization (With Mulching Only)**.

Irrigation

During times of drought, water shall be applied at a rate not causing runoff and erosion. The soil shall be thoroughly wetted to a depth that will insure germination of the seed. Subsequent applications should be made when needed.

Table 6-4.1 - Temporary Cover or Companion Cover Crops

PLANT, PLANTING RATE, AND PLANTING DATE FOR TEMPORARY COVER OR COMPANION CROPS

Planting Dates by Resource Area (J F M A M J J A S O N D): Solid lines indicate optimum dates, dotted lines indicate permissible but marginal dates.

Species	Broadcast Rates: Rate Per Acre	Broadcast Rates: Pure Live Seed (PLS) Per 1000 sqft	Resource Area	Remarks
BARLEY *Hordeum vulgare*				
alone	3 bu. (144 lbs)	3.3 lbs	M-L	14,000 seed per pound. Winter hardy. Use on productive soils.
in mixture	1/2 bu. (24lbs)	0.6 lb	P	
			C	
LESPEDEZA, ANNUAL *Lespedeza striata*				
alone	40 lbs	0.9 lb	M-L	200,000 seed per pound. May volunteer for sev- eral years. Use inoculant EL.
in mixture	10 lbs	0.2 lb	P	
			C	
LOVEGRASS, WEEPING *Eragrostis curvula*				
alone	4 lbs	0.1 lb	M-L	1,500,000 seed per pound. May last for several years. Mix with *Sericea lespedeza*.
in mixture	2 lbs	0.05 lb	P	
			C	
MILLET, BROWNTOP *Panicum ramosum*				
alone	40 lbs	0.9 lb	M-L	137,000 seed per pound. Quick dense cover. Will provide excessive competition in mixtures if seeded at high rate.
in mixture	10 lbs	0.2 lb	P	
			C	
MILLET, PEARL *Pennisetum glaucum*				
alone	50 lbs	1.1 lbs	M-L	88,000 seed per pound. Quick dense cover. May reach 5 feet in height. Not recommended for mixtures.
			P	
			C	
OATS *Avena sativa*				
alone	4 bu. (128 lbs)	2.9 lbs	M-L	[illegible] seed per pound. Use on productive soils. Not as a winter hardy as rye or barley.
in mixture	1 bu. (32 lbs)	0.7 lb	P	
			C	
RYE *Secale cereale*				
alone	3 bu. (168 lbs)	[illegible]	[illegible]	18,000 seed per pound. Quick cover. Drought tolerant and winter hardy.
in mixture	1/2 bu. (28 lbs)	[illegible]	P	
			C	
RYEGRASS, ANNUAL *Lolium temulentum*				
alone	[illegible]	[illegible]	M-L	227,000 seed per pound. Dense cover. Very com- petitive and is not to be used in mixtures.
			P	
			C	
SUDANGRASS *[illegible]*				
alone	60 lbs	1.4 lbs	M-L	55,000 seed per pound. Good on droughty sites. Not recommended for mixtures.
			P	
			C	
TRITICALE *X-Triticosecale*				
alone	3 bu. (144 lbs)	3.3 lbs	C	
in mixture	1/2 bu. (24 lbs)	0.6 lb		
WHEAT *Triticum aestivum*				
alone	3 bu. (180 lbs)	4.1 lbs	M-L	
in mixture	1/2 bu. (30 lbs)	0.7 lb	P	
			C	

[1] Temporary cover crops are very competitive and will crowd out perennials if seeded too heavily.

[2] Reduce seeding rates by 50% when drilled.

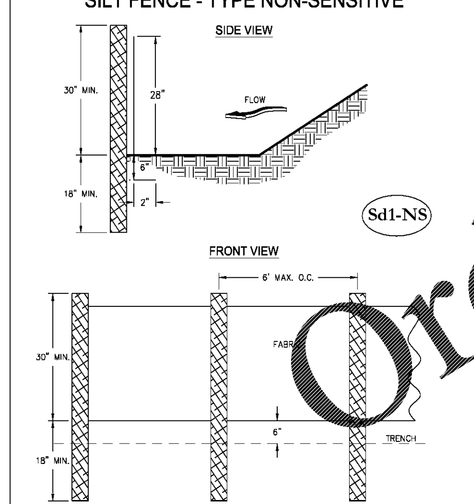
[3] M-L represents the Mountain; Blue Ridge; and Ridges and Valleys MLRAs

P represents the Southern Piedmont MLRA

C represents Southern Coastal Plain, Sand Hills, Black Lands, and Atlantic Coast Flatwoods MLRAs

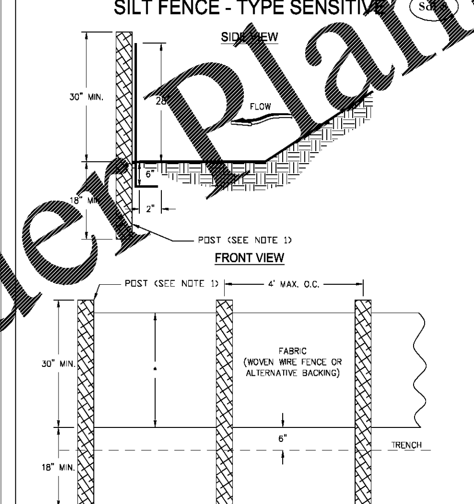
See Figure 6-4.1 [illegible]

SILT FENCE - TYPE NON-SENSITIVE



NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

SILT FENCE - TYPE SENSITIVE



NOTES:
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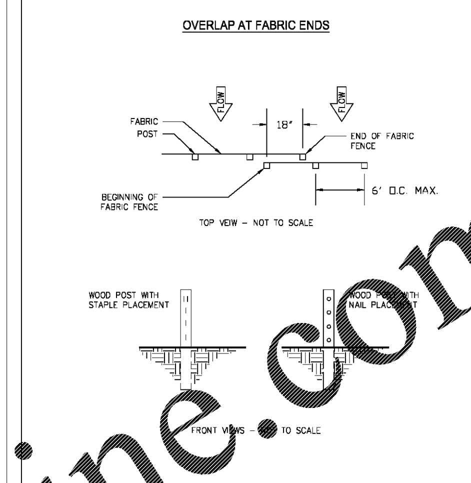
2. HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

OVERLAP AT FABRIC ENDS



NOTES:
1. THE FABRIC AND WIRE SHOULD BE SECURELY FASTENED TO POSTS AND FABRIC ENDS MUST BE OVERLAPPED A MINIMUM OF 18" OR WRAPPED TOGETHER AROUND A POST TO PROVIDE A CONTINUOUS FABRIC BARRIER AROUND THE INLET.

POST SIZE

TYPE	MIN. LENGTH	TYPE OF POST	SIZE OF POST
NS	4'	SOFT WOOD	3" DIA. OR 2X4
		OAK	1.5"X1.5"
		STEEL	1.3 LB./FT. MIN.
S	4'	OAK	2"X2"
		STEEL	1.3 LB./FT. MIN.

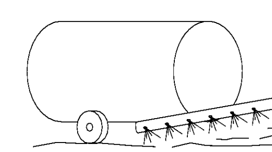
FASTENERS FOR WOOD POST (WIRE STAPLES)

GAUGE	CROWN	LEGS	STAPLES/POST
17 MIN.	3/4" WIDE	1/2" LONG	5 MIN.

FASTENERS FOR WOOD POST (NAILS)

GAUGE	LENGTH	BUTTON HEADS	NAIL/POST
14 MIN.	1"	3/4"	4 MIN.

NOTE: FILTER FABRIC MAY ALSO BE ATTACHED TO THE POST BY WIRE, CORD, AND POCKETS OR ANY METHOD PROVIDED MINIMUM P-FACTOR, AS REQUIRED BY GCWCC, IS MET.



CONTRACTOR SHALL EMPLOY THE FOLLOWING TEMPORARY METHODS TO LIMIT THE SURFACE AND AIR MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES AND
TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES THAT MAY BE HARMFUL OR INJURIOUS TO HUMAN HEALTH, WELFARE OR SAFETY, OR TO ANIMALS OR PLANT LIFE

*TEMPORARY METHODS:
- -MULCHES
- -VEGETATIVE COVER
- -SPRAY ON ADHESIVES
- -TILLAGE
- -IRRIGATION
- -BARRIERS
- -CALCIUM CHLORIDE

*PERMANENT METHODS
- -PERMANENT VEGETATION
- -TOPSOIL
- -STONE COVER

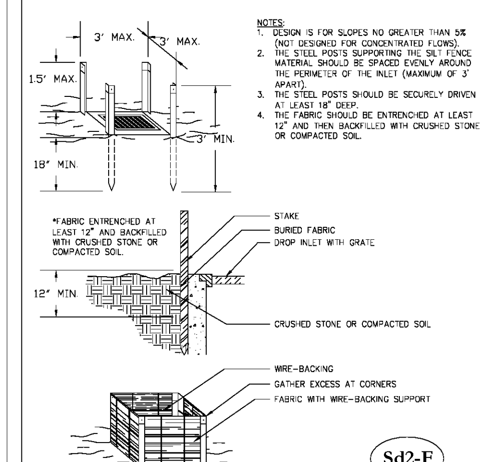
SPRAY ADHESIVES

ADHESIVE ADHESIVE	WATER DILUTION	TYPE OF NOZZLE	APPLICATION RATE (GAL/AC)
ANIOIC ASPHALT EMULSION	7.1	SPRAY	1200
LATEX EMULSION	12 1/2:1	FINE SPRAY	235
RESIN-IN-WATER EMULSION	4:1	FINE SPRAY	300

DUST CONTROL ON DISTURBED AREAS Du

FABRIC AND SUPPORTING FRAME FOR INLET PROTECTION

STEEL FRAME AND SILT FENCE INSTALLATION



NOTES:
1. DESIGN IS FOR SLOPES NO GREATER THAN 5% (NOT DESIGNED FOR CONCENTRATED FLOWS).
2. THE STEEL POSTS SUPPORTING THE SILT FENCE MATERIAL SHOULD BE SPACED EVENLY AROUND THE PERIMETER OF THE INLET (MAXIMUM OF 3' APART).
3. THE STEEL POSTS SHOULD BE SECURELY DRIVEN AT LEAST 18" DEEP.
4. THE FABRIC SHOULD BE ENTRENCHED AT LEAST 12" AND THEN BACKFILLED WITH CRUSHED STONE OR COMPACTED SOIL.

NRCS ORIGINAL SUBMITTAL: 10/1/2020

DESIGN PROFESSIONAL'S CREDENTIALS:

ENGINEER'S NAME (PRINTED):	TRAVIS BURKE, PE
GEORGIA PE NUMBER:	31215
GSWCC LEVEL II CERTIFICATION NUMBER:	8134

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REVISIONS:

CIVIL CONSTRUCTION PLANS FOR
PIPE MAKER'S CANAL IMPROVEMENTS
LOCATED IN POOLER, GA
PREPARED FOR CITY OF POOLER

JOB NUMBER:	20-265
DATE:	06/05/20
DRAWN BY:	RAR
CHECKED BY:	TGB
SCALE:	AS NOTED

EROSION CONTROL DETAILS

SHEET:
ES7.6