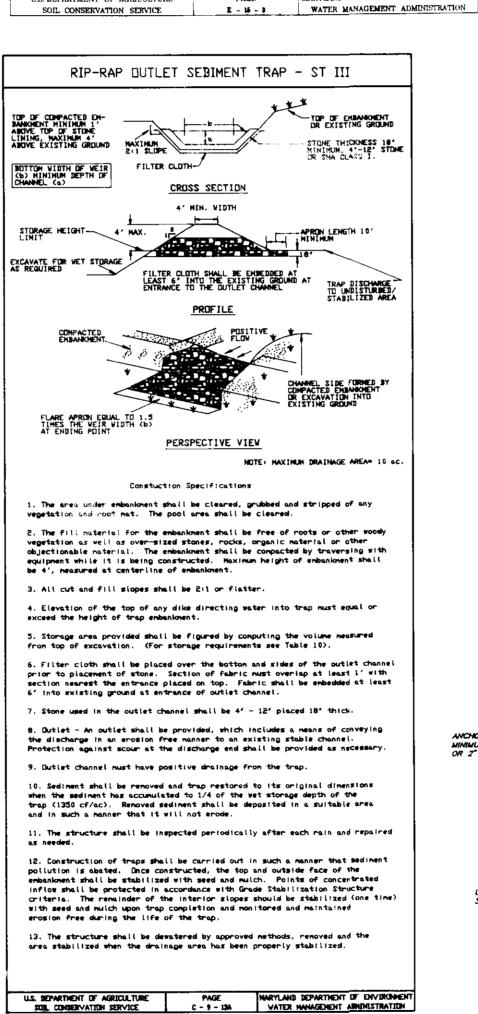


MARYLAND DEPARTMENT OF ENVIRONMEN





Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

To provide a suitable soil medium for vegetable growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

1. This practice is limited to reas having 2:1 or flatter slopes where:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

c. The original soil to be vegetated contains material toxic to plant growth.

limestone is not feasible.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate

d. The soil is so acidic that treatment with

Construction and Material Specifications

 Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA—SCS in cooperation with Maryland Agricultural Experimental Station.

stabilization shown on the plans.

II. Topsoil Specifications — Soil to be used as topsoil must meet the following:

i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or a soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger that 1 and 1/2" in diameter.

ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutsedge, poison in thirty or others as consilied.

iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

II. For sites having disturbed areas under 5 acres:i. Place topsoil (if required) and apply soil

amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

V. Topsoil Application

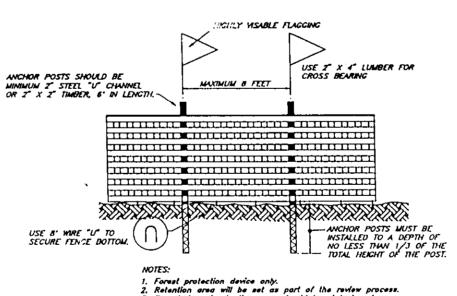
i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.

ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4"

 8" higher in elevation.

iii. Topsoil shall be uniformly distributed in a 4" — 8" layer and lightly compacted to a minimum ...ickness of 4". Spreading shall be performed in such a mann.r that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

iv. Topsoil shall not subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.



Forest protection device only.
 Retention area will be set as part of the review process.
 Boundaries of retention area should be staked and flagged prior to installing device.
 Root damage should be avoided.
 Protection signage may also be used.
 Device should be maintained throughout construction.

BLAZE ORANGE PLASTIC MESH TYPICAL TREE PROTECTION FENCE DETAIL

TEMPORARY SEEDING NOTES

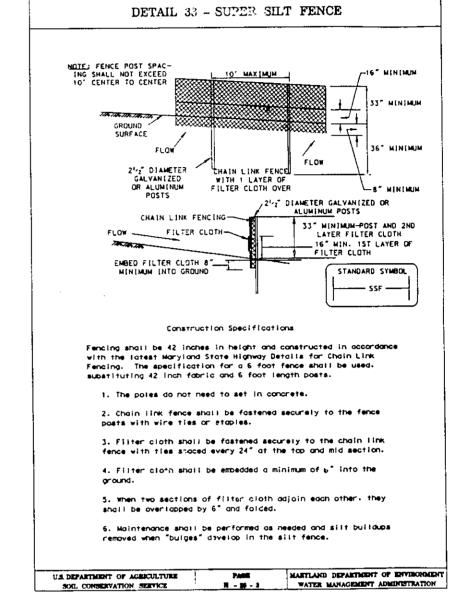
SEEDBED PREPARATION: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously

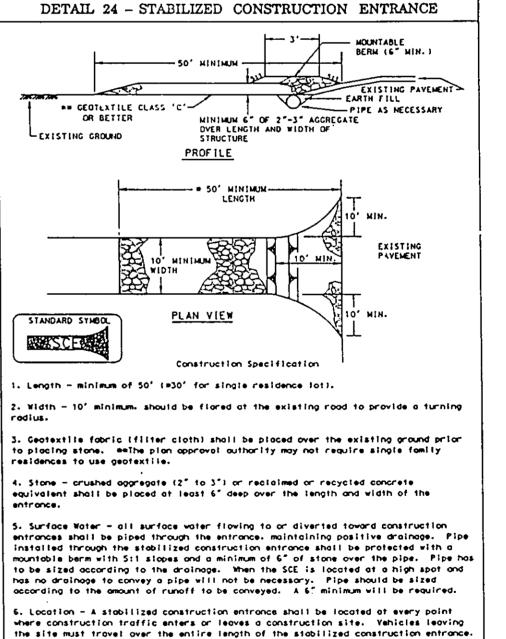
SOIL AMENDMENTS: Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq.ft).

SEEDING: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2 1/2 bushel per acre of annual rye (3.2 lbs./1000 sq.ft.) For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (.07 lbs./1000 sq.ft.). For the period November 1 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

MULCHING: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs./1000 sq.ft.) of unratted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq.ft.) for anchoring.

REFER TO THE 1**894 MARYLAND STANDARDS AND SPECIFICATIONS FOR** SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.





PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE

COVER IS NEEDED.

SEEDBED PREPARATION: Loosen upper three inches of soil by raking,

SOIL AMENDMENTS: In lieu of soil test recommendations, use one of

discing or other acceptable means before seeding, if not previously

the following schedules:

1) Preferred-Apply 2 tons per acre dolomitic limestone (92 lbs/
100 sq.ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs./
1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At the time of seeding, apply 400 lbs. per acre

30-0-0 ureaform fertilizer (9 lbs/1000 sq.ft.)

2) Acceptable-Apply 2 tons per acre dolomatic limestone (92 lbs/1000 sq.ft.) and apply 1000 lbs. per acre 10-10-10- fertilizer (23 lbs./1000 sq.ft.) before seeding. Harrow or disc into upper

three inches of soil.

SEEDING: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs/1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (.05 lbs./1000 sq.ft.) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) 2 tons per acre well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored

MULCHING: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq.ft.) for anchoring.

MAINTENANCE: Inspect all seeded areas and make needed repairs, replacements and reseedings.

SEDIMENT AND EROSION CONTROL NOTES

 A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313-1855).

2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 MARYLAND STANDARDS AND SPECS.

FOR SOIL EROSION AID SEDIMENT CONTROL and revisions thereto.

3. Following initial soil disturbance or redisturbance, permanent or temporary tabilization shall be completed within:

a) 7 calen ar days for all perimeter sediment control stuctures, dikes, perimeter slopes and all slopes greater than 3:1

b) 14 days as to all other disturbed or graded areas on the project site.

4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeters in accordance with Vol.1, Chapter 7, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage

5. All disturbed areas must be stabilized within the time period specified above, in accordance with the 1994 MARYLAND STAND—ARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings, sod, temporary seeding and mulching (Sec G).

Temporary stabilization with mulch alone can only be done when

and establishment of grasses.
6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.

recommended seeding dates do not allow for proper germination

7. SITE ANALYSIS:

Total Area of Site: 3.697.Ac.
Area Disturbed: 3.11 Ac.
Area to be roofed or paved: 1.27.Ac.
Area to be vegetatively stabilized: 1.84.Ac.
Total Cut: 3333 CY
Total Fill: 16,235.CY
Offsite Waste/Borrow Area Location: *

Offsite Waste/Borrow Area Location: *

8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

Additional sediment control must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.
 On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is

 Trenct es for the construction of utilities is limited to three pipe lengths or that which shall be back—filled and stabilized within one working day, whichever is shorter.

12. The total amount of silt fence = GOOLF

13. The total amount of super silt fence = -0-

* It is the responsibility of the contractor to identify the spoil/borrow site and notify and gain approval from the sediment control inspector of the site and it's grading permit number at the time of construction.

CONSTRUCTION SEQUENCE:

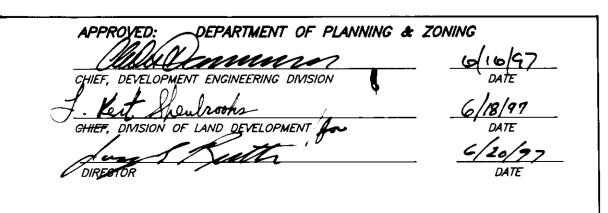
1. Obtain grading permit
2. Install tree protection fence.
3. Install sediment and erosion control devices and stabilize.
4. Excavate for foundations, rough grade and temporarily stabilize.
5. Construct structures, sidevalks and driveways.
6. Final grade and stabilize in accordance with Stds. and Specs.
7. Upon approval of the sediment control inspector, remove sediment and erosion control devices and slabilize.
7.

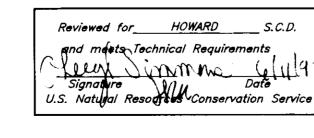
OWNER / DEVELOPER

THE HOWARD RESEARCH AND DEVELOPMENT CORP.

10275 LITTLE PATUXENT PARKWAY

COLUMBIA, MARYLAND 21044



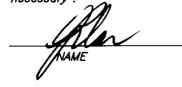


THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

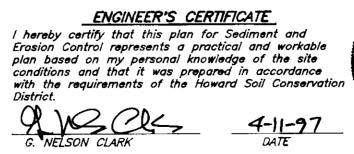
Approved

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan of development and plan for sediment and erosion control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on—site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary".







SOIL CONSERVATION SERVICE



PAGE MARYLAND DEPARTMENT OF ENVIRONMENT
F - 17 - 3 WATER MANAGEMENT ADMINISTRATION

