
ES=P: EXPOSED SOIL = POLLUTION

Verifying That A Construction Site Benefits From The Most Effective Pollution Control Measures

This factsheet will provide the background needed to participate in an ES=P Survey and complete the Survey Form. For further information visit: ceds.org/esp

WHY EROSION CONTROL IS VITALLY IMPORTANT

Without effective control measures, the mud washed from a single construction site can damage three miles of downstream waters with recovery taking up to a century! **THE** most effective measure is to quickly get disturbed soil under a dense blanket of straw mulch, then grass. The black silt fence and ponds you see on the edge of construction sites only trap a third to half the mud with the rest flowing into a nearby waterway. To protect sensitive aquatic communities and human uses, mud pollution must be cut by at least 90%. Mulching and grass achieve a 90% to 99% reduction. This is why when you see exposed soil on a construction site you can assume a nearby waterway will suffer pollution come the next major storm. For every dollar spent keeping mud onsite tax-payers save \$100 or more in damages avoided.

TEMPORARY STABILIZATION LEGAL REQUIREMENTS

Mulching, seeding and other erosion control measures are known as *temporary stabilization*. All Chesapeake Bay watershed states require rapid application of temporary stabilization once site clearance and initial grading have ceased. Maryland law has two time limits for stabilization: 3 days for the perimeter and 7 days for the site interior.

PERIMETER CONTROLS & STABILIZATION

As shown in the illustrations beginning on the next page, initial clearance of a site must be restricted to a narrow swath along the downslope edge. Within this swath the contractor installs perimeter measures (silt fence, earth dikes, etc.) to capture runoff and deliver it to traps or small ponds also installed within the perimeter swath. Once these measures are installed they must be mulched and seeded within **three days**. The mulch must be thick enough to obscure underlying soil from view. The grass must achieve 95% coverage within four- to six-weeks during the growing season (March-October). Mulch must be reapplied whenever wind or decay allows the underlying soil to become

visible. Reseeding is required if 95% grass coverage has not been achieved within eight weeks during the growing season.

INTERIOR CLEARING, GRADING & STABILIZATION

Once the perimeter is stabilized up to 20 acres of the site interior may be cleared of vegetation. Bulldozers and other earth-moving equipment are used to fill and cut the site to *rough grade*, which is the point where road and building construction can begin. Once rough grade is reached and earth-moving has ceased the contractor has a maximum of **seven days** to stabilize all exposed soils. Within road beds and parking lots stabilization is achieved by laying down a layer of stone thick enough to blanket the soil from view. All other exposed soils must be mulched and seeded. As with the perimeter, mulch must be reapplied whenever wind or decay allows underlying soil to become visible. Reseeding is required if 95% grass coverage has not been achieved within eight weeks during the growing season.

HAS A STABILIZATION TRIGGER BEEN REACHED?

The following will ease the task of determining if a site has reached the point where mulching-seeding must occur.

Perimeter: If work on the perimeter has ceased for three days or more then its probably time to stabilize. It's definitely time to stabilize the perimeter if interior site clearance has begun.

Interior: If building foundations or road beds are present in the interior, then that portion of the site is at rough grade and must be stabilized. If neither is present yet no earth-moving has occurred for weeks then stabilization should occur anyway.

Beware The Bulldozer Bluff: Some unscrupulous contractors will keep a piece of equipment on the site and occasionally run it around to give the appearance that grading is still occurring. If you suspect this ploy then take photos of the site for a couple of weeks. If the photos show no real change in grades then the site should be stabilized. Again, if road beds and foundations are present its definitely time to stabilize.

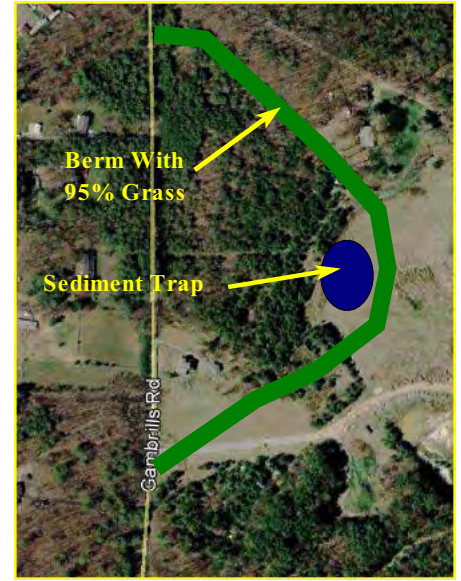
HOW CONSTRUCTION SITE STABILIZATION IS REQUIRED TO EVOLVE



Site Prior To Clearance; Red Arrows Show Direction of Runoff Flow (Downhill)



Initially Clear Swath for Earth Berm, Silt Fence, Trap & Other Perimeter Controls



Once Controls Are In Place Mulch & Seed Perimeter Then Clear Site Interior



Interior Has Been Cleared: Nonerodible Areas (Building + Lower-Left Parking) = 30% of site; Of The Pervious Areas 90% is Exposed Soil



50% of Site Erodible; North, East & South Areas Must be Stabilized With Mulch & Grass

WHY IS IT IMPORTANT TO DETERMINE THE PERCENT OF A SITE THAT'S ERODIBLE & NONERODIBLE? Areas of the site occupied by buildings, streets, parking lots and other impervious surfaces (those which do not allow rain to soak into underlying soils) are no longer a source of eroded soil. The remaining *pervious* areas would be the only source of soil erosion and mud pollution. Therefore it is these areas where we'd like you to focus your attention and estimate percent that's exposed soil, partially stabilized and fully stabilized.

PERIMETER CONTROLS & PERIMETER STABILIZATION



Perimeter Silt Fence Rows



Silt Fence & Earth Berm



Perimeter Sediment Trap



Perimeter Earth Berm With 95% Grass Cover



When the perimeter controls were installed & stabilized the contractor was then allowed to clear the interior (upper portion) of the site. Here you see perimeter stabilization with dense mulch plus grass approaching 95% coverage.

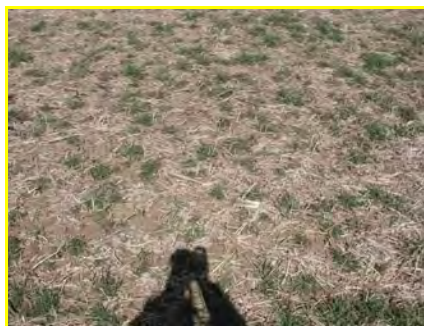


← Good Stabilization

Straw mulch completely blankets underlying soil from view.

Poor Stabilization →

Soil still visible through the sparse grass and mulch.



About 30% Vegetative Cover

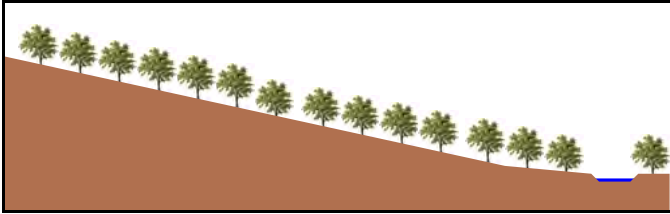


About 75% Vegetative Cover

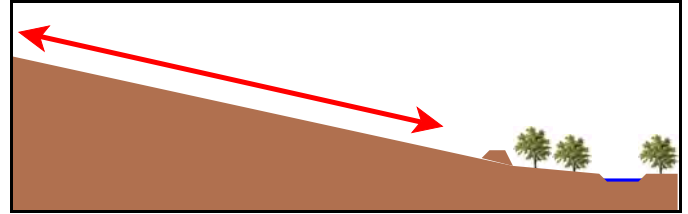


About 95% Vegetative Cover

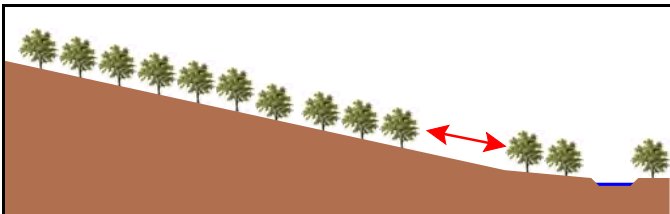
WHEN HAS A SITE REACHED ROUGH GRADE?



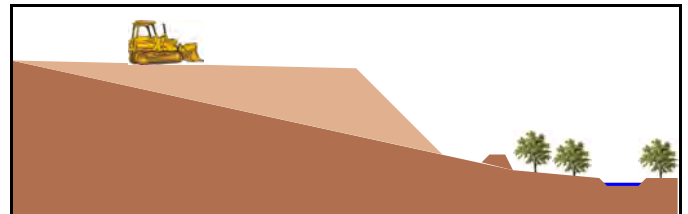
1 Site Prior To Disturbance



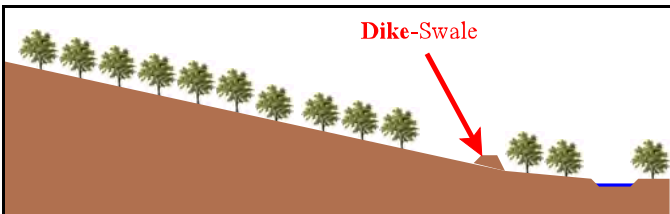
4 Remainder of Site Cleared



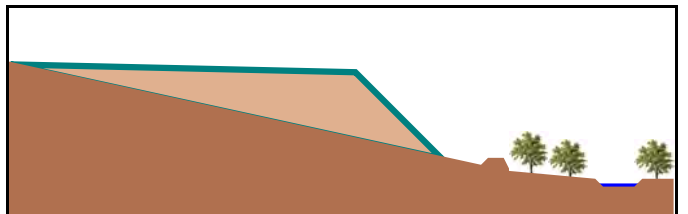
2 Perimeter Swath Cleared



5 Earth-Moving Brings Site To Rough Grade



3 Perimeter Controls Installed & Stabilized



6 Rough Grade Reached - All Soil Stabilized



Site At Rough Grade



Full Stabilization Required At Rough Grade



Site is definitely at rough grade when building foundations appear or road bed construction begins. At that point all exposed soils must be stabilized with mulch. Mulch must completely blanket soil. More mulch must be applied when underlying soil becomes visible. During the growing season (March-October) a 95% grass cover should appear within 4- to 6-weeks from when seeding occurs. If after 8 weeks grass cover is less than 95% then reseeding is required.

EXAMPLES OF ERODIBLE & NONERODIBLE PORTIONS OF A CONSTRUCTION SITE

ERODIBLE AREAS *Bare soil or areas stabilized but could begin eroding if stabilization isn't maintained.*



Fully exposed soil between stone pile and grass



Some grass & mulch but underlying soil still visible



95% or better grass cover



Mulch completely obscures soil



Road bed stabilized with stone



Parking lot stabilized with stone

NONERODIBLE AREAS



Building footer



Paved street



Paved parking lot



Remnant concrete & other nonerodible surfaces



Partially-Complete buildings



Completed building

ES=P: CLEARING OUR WATERS SURVEY FORM

1. **Construction Site Information:** *Please provide as much of the following information as you can.*

Name of Construction Site: _____

Company Developing Site: _____

Company Contact Info: _____

City/Town: _____ County: _____ State: _____

Your Photo Numbers: _____ Date You Surveyed Site: _____

2. **LOCATION:** Since most sites lack a street address, describe the location: _____

GPS Coordinates: North _____ West _____

3. Could we get your contact information in case we have questions and so we can provide you with an update on what your report and that of others has accomplished?

Name: _____

Email: _____ Phone Number: _____

4. Of the originally disturbed area, what percentage is **nonerodible** with buildings, building foundations, completed streets or parking lots, etc: _____%

5. What percentage of the **erodible** (*still susceptible to erosion*) portion of the site is:

a. Fully exposed soil (*zero mulch, grass or stone*): _____%

b. Stabilized with **some** mulch, grass or stone, **but underlying soils are still visible**: _____%

c. Stabilized with sufficient mulch, grass or stone to **fully obscure underlying soils**: _____%

5a + 5b + 5c must total 100%

6. Do you see vegetation growing throughout the site indicating that earth-moving has ceased for some time and stabilization should have been completed? Yes No

7. Are bulldozers, graders or other earth-moving equipment present on the site: Yes No

8. Are buildings, building foundations, road or parking lot beds present? Yes No

9. What portion of the site is at **rough grade** as indicated by the absence of earth-moving equipment and/or the presence of buildings, building foundations, road or parking lot beds: ... _____%

COMMENTS: _____
