



Maryland

Department of the Environment

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Ben Grumbles
Secretary

TECHNICAL MEMORANDUM #1

TO: Applicants and Designers for State and Federal Projects

FROM: Sediment and Stormwater Plan Review Division,
Water and Science Administration

DATE: June 10, 2016

SUBJECT: Standard Items to Include on Erosion & Sediment Control Plans

The Plan Review Division requires standard “boilerplate” items to be included on all approved erosion and sediment control plans for State and federal projects. This technical memorandum is being issued to make the required language available to applicants and designers. The following is contained herein:

- A. Erosion and Sediment Control General Notes
- B. Standard Stabilization Note
- C. Owner’s/Developer’s Certification
- D. Design Certification
- E. Professional Engineer Certification
- F. Vegetative Stabilization Notes and Seeding Summary Tables
- G. MDE Standard Details for Sediment Control Practices
- H. Standard Notes for Working in Nontidal Wetlands, Wetland Buffers, Waterways, and 100-Year Floodplains

Questions about this information or other items relating to sediment and stormwater plans can be directed to Amanda Malcolm amanda.malcolm@maryland.gov or Matthew Keenan matthew.keenan@maryland.gov.

A. Erosion and Sediment Control General Notes

MDE requires that these notes, in their entirety, be included on the erosion and sediment control plan. It is recognized that not every note may apply to all projects. The requirement of any individual note not applicable to the subject project is not binding upon the applicant or the applicant's contractor.

EROSION AND SEDIMENT CONTROL GENERAL NOTES

1. The contractor shall notify MDE at (410) 537-3510 seven (7) days before commencing any land disturbing activity and, unless waived by MDE, shall be required to hold a pre-construction meeting between project representatives and a representative of MDE.
2. The contractor shall notify MDE in writing and by telephone at the following points:
 - A. The required pre-construction meeting.
 - B. Following installation of sediment control measures.
 - C. During the installation of sediment basins (to be converted into permanent stormwater management structures) at the required inspection points (see Inspection Checklist on plan). Notification prior to commencing construction of each step is mandatory.
 - D. Prior to removal or modification of any sediment control structure(s).
 - E. Prior to removal of all sediment control devices.
 - F. Prior to final acceptance.
3. The plan approval letter, approved erosion and sediment control plans, daily log books, and test reports shall be available at the site for inspection by duly authorized officials of MDE and the agency responsible for the project.
4. The contractor shall construct all erosion and sediment control measures per the approved plan and construction sequence and shall have them inspected and approved by the MDE inspector prior to beginning any other land disturbances. Minor sediment control device location adjustments may be made in the field with the approval of the MDE inspector. The contractor shall ensure that all runoff from disturbed areas is directed to the sediment control devices and shall not remove any erosion or sediment control measure without prior permission from MDE inspector. The contractor shall obtain prior agency and MDE approval for modifications to the erosion and sediment control plan and/or sequence of construction.
5. The MDE inspector has the option of requiring additional safety or sediment control measures, if deemed necessary.
6. The contractor shall protect all points of construction ingress and egress to prevent the deposition of materials onto public roads. All materials deposited onto public roads shall be removed immediately.

7. The contractor shall inspect daily and maintain continuously in an effective operating condition all erosion and sediment control measures until such time as they are removed with prior permission from the MDE inspector.
8. Erosion and sediment control for utility construction shall be provided in accordance with approved plans. Utility construction shall only be for areas within the delineated limit of disturbance. Call "Miss Utility" at 1-800-257-7777 48 hours prior to the start of work. When same day stabilization is approved:
 - A. Excavated trench material shall be placed on the high side of the trench.
 - B. Trenches for utility installation shall be backfilled, compacted, and stabilized at the end of each working day. No more trench shall be opened than can be completed the same day.
9. All water removed from excavated areas shall be passed through an MDE approved dewatering practice or pumped to a sediment trap or basin prior to discharge to a functional storm drain system or to stable ground surface.
10. Concrete washout structures shall be used when concrete trucks, drums, pumps, chutes, or other equipment is rinsed or cleaned on-site.
11. Construction activities producing dust shall implement control measures to avoid the suspension of dust particles and/or prevent dust from blowing off-site or to areas without treatment.
12. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within:
 - A. Three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and
 - B. Seven (7) calendar days as to all other disturbed or graded areas on the project site not under active grading.
13. Vegetative stabilization shall be performed in accordance with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control. Refer to appropriate specifications for temporary seeding, permanent seeding, mulching, sodding, and ground covers.
14. When seeding, all disturbed areas with slopes flatter than 2:1 shall be stabilized with 4 inches of topsoil, seed, and mulch. All disturbed areas with slopes 2:1 or steeper shall be stabilized with matting over 2 inches of topsoil and seed.
15. All sediment basins, trap embankments and slopes, perimeter dikes, swales and all disturbed slopes steeper or equal to 3:1 shall be stabilized with seed and anchored straw mulch, sod, or other approved stabilization measures, as soon as possible but no later than three (3) calendar days after establishment. All areas disturbed outside of the perimeter sediment control system shall be minimized. Maintenance shall be performed as necessary to ensure continued stabilization.

16. Permanent swales or other points of concentrated water flow shall be stabilized with seed and an approved erosion control matting, sod, rip-rap, or other approved stabilization measures.
17. For stockpile slopes steeper than 3 horizontal to 1 vertical (3:1), the contractor shall apply seed and anchored straw mulch, sod, or other approved stabilization measures to the face of the stockpile within three (3) calendar days of activity having ceased on the respective face. For slopes 3:1 or flatter, the contractor shall apply stabilization measures to the face of the stockpile within seven (7) calendar days of activity having ceased on the respective face. Maintenance shall be performed as necessary to ensure continued stabilization.
18. For finished grading, the contractor shall provide adequate gradients to prevent water from ponding for more than twenty-four (24) hours after the end of a rainfall event. Drainage courses and swale flow areas may take as long as forty-eight (48) hours after the end of a rainfall event to drain. Areas designed to have standing water shall not be required to meet this requirement.
19. Where deemed appropriate by the engineer or inspector, sediment basins and traps may need to be surrounded with an approved safety fence. The fence must conform to local ordinances and regulations. The developer or owner shall check with local building officials on applicable safety requirements. Where safety fence is deemed appropriate and local ordinances do not specify fencing sizes and types, the following shall be used as a minimum standard: The safety fence shall be made of welded wire and at least 42 inches high, have posts spaced no farther apart than 8 feet, have mesh openings no greater than 2 inches in width and 4 inches in height with a minimum of 14 gauge wire. Safety fence shall be maintained and in good condition at all times.
20. All sediment trap depth dimensions are relative to the outlet elevation. All traps shall have a stable outfall. All traps and basins shall have stable inflow points.
21. Sediment shall be removed and the trap or basin restored to its original dimensions when the sediment has accumulated to one quarter of the total depth of the trap or basin. Total depth shall be measured from the trap or basin bottom to the crest of the outlet.
22. Sediment removed from traps (and basins) shall be placed and stabilized in approved areas, but not within a floodplain, wetland or tree-save area. When pumping sediment laden water, the discharge shall be directed to an MDE approved sediment trapping device prior to release from the site. A sump pit may be used if sediment traps themselves are being pumped out.
23. Prior to removal of sediment control measures, the contractor shall stabilize and have established permanent stabilization for all contributory disturbed areas using sod or an approved permanent seed mixture with required soil amendments and an approved anchored mulch. Wood fiber mulch may only be used in seeding season where the slope does not exceed 10% and grading has been done to promote sheet flow drainage. Areas brought to finished grade during the seeding season shall be permanently stabilized as soon as possible, but not later than three (3) calendar days after establishment for slopes steeper than 3 horizontal to 1 vertical (3:1) and seven (7) calendar days for flatter slopes. When property is brought to finished grade during the months of November through February, and permanent

stabilization is found to be impractical, temporary seed and anchored straw mulch shall be applied to disturbed areas. The final permanent stabilization of such property shall be applied by March 15 or earlier if ground and weather conditions allow.

24. Temporary sediment control devices shall be removed with permission of the MDE inspector within thirty (30) calendar days following establishment of permanent stabilization in all contributory drainage areas. Upon removal of sediment control devices, the area disturbed by removal shall be stabilized with topsoil, seed, and mulch, or as specified, within 24 hours of said removal. Stormwater management structures used temporarily for sediment control shall be converted to the permanent configuration within this time period as well.
25. Off-site spoil or borrow areas on State or federal property shall have prior approval by MDE and other applicable State, federal, and local agencies; otherwise approval shall be granted by the local authorities. All waste and borrow areas off-site shall be protected by sediment control measures and stabilized.
26. Site Information:
 - A. Area Disturbed _____ Acres
 - B. Total Cut _____ Cubic Yards
 - C. Total Fill _____ Cubic Yards
 - D. Off-Site Waste / Borrow Area Location _____

B. Standard Stabilization Note

STANDARD STABILIZATION NOTE

Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) days as to all other disturbed or graded areas on the project site not under active grading.

C. Owner's/Developer's Certification**OWNER'S / DEVELOPER'S CERTIFICATION**

I / We hereby certify that all clearing, grading, construction, and/or development will be done pursuant to this plan and that any responsible personnel involved in the construction project will have a certificate of attendance at a Maryland Department of the Environment approved training program for the control of erosion and sediment before beginning the project. I/We hereby authorize the right of entry for periodic on-site evaluation by appropriate inspection and enforcement authority or the State of Maryland, Department of the Environment. I/We hereby certify that stormwater management facilities will be maintained in accordance with approved plans.

Date

Owner / Developer Signature

Responsible Personnel Certification No.

Printed Name and Title

D. Design Certification**DESIGN CERTIFICATION**

I hereby certify that this plan has been designed in accordance with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control, the 2000 Maryland Stormwater Design Manual, Volumes I & II including supplements, the Environment Article Sections 4-101 through 116 and Sections 4-201 and 215, and the Code of Maryland Regulations (COMAR) 26.17.01 and COMAR 26.17.02 for erosion and sediment control and stormwater management, respectively.

Date

Designer's Signature

Md. Registration No. _____
P.E., R.L.S., RLA, or R.A. (circle one)

Printed Name

E. Professional Engineer Certification

TITLEBLOCK RULES

A professional engineer is required to include the following additional certification when signing and sealing plans, specifications, drawings, reports, or other documents:

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. , Expiration Date: ."

The titleblock, certification, seal, and signature shall appear close to each other.

F. Vegetative Stabilization Notes and Seeding Summary Tables

The following vegetative stabilization notes are required on the plans¹:

- Section B-4, Standards and Specifications for Vegetative Stabilization
- Section B-4-1, Standards and Specifications for Incremental Stabilization
- Section B-4-2, Standards and Specifications for Soil Preparation, Topsoiling, and Soil Amendments
- Section B-4-3, Standards and Specifications for Seeding and Mulching
- Section B-4-4, Standards and Specifications for Temporary Stabilization including a completed version of the following table:

Temporary Seeding Summary

Hardiness Zone (from Figure B.3): _____ Seed Mixture (from Table B.1): _____					Fertilizer Rate (10-20-20)	Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
					436 lb/ac (10 lb/1000 sf)	2 tons/ac (90 lb/1000 sf)

- Section B-4-5, Standards and Specifications for Permanent Stabilization including a completed version of the following table:

Permanent Seeding Summary

Hardiness Zone (from Figure B.3): _____ Seed Mixture (from Table B.3): _____					Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P ₂ O ₅	K ₂ O	
				¼- ½ in	45 pounds per acre (1.0 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	2 tons/ac (90 lb/ 1000 sf)
				¼- ½ in				
				¼- ½ in				

¹This does not apply to Maryland Aviation Administration projects or tidal shoreline restoration projects. These projects use different vegetative stabilization notes.

G. MDE Standard Details for Sediment Control Practices

MDE's standard details for all sediment control practices being proposed are required to be shown on the plans. The State Highway Administration and Maryland Transportation Authority are not required to include standard details on plans. Details that deviate from WMA's standards must also be provided on the plans.

The standard detail for concrete washout is required to be included on all plans for projects requiring concrete work.

A number of standard sediment control practices require design information to be included on the plans. Tabular data must be provided for sediment basins, sediment traps, temporary gabion outlet structures, and temporary stone outlet structures. For earth dikes, perimeter dike/swales, temporary swales, filter logs, and pipe slope drains, the selected size must be indicated. For soil stabilization matting, the shear stress must be provided.

H. Standard Notes for Working in Nontidal Wetlands, Wetland Buffers, Waterways, and 100-Year Floodplains

These notes are to be included on plans when the project impacts nontidal wetlands, wetland buffers, waterways, or the 100-year floodplain.

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS

- 1) No excess fill, construction material, or debris shall be stockpiled or stored in nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
- 2) Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
- 3) Do not use the excavated material as backfill if it contains waste metal products, unsightly debris, toxic material, or any other deleterious substance. If additional backfill is required, use clean material free of waste metal products, unsightly debris, toxic material, or any other deleterious substance.
- 4) Place heavy equipment on mats or suitably operate the equipment to prevent damage to nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
- 5) Repair and maintain any serviceable structure or fill so there is no permanent loss of nontidal wetlands, nontidal wetland buffers, or waterways, or permanent modification of the 100-year floodplain in excess of that lost under the originally authorized structure or fill.
- 6) Rectify any nontidal wetlands, wetland buffers, waterways, or 100-year floodplain temporarily impacted by any construction.
- 7) All stabilization in the nontidal wetland and nontidal wetland buffer shall consist of the following species: Annual Ryegrass (*Lolium multiflorum*), Millet (*Setaria italica*), Barley (*Hordeum* sp.), Oats (*Uniola* sp.), and/or Rye (*Secale cereale*). These species will allow for the stabilization of the site while also allowing for the voluntary revegetation of natural wetland species. Other non-persistent vegetation may be acceptable, but must be approved by the Nontidal Wetlands and Waterways Division. **Kentucky 31 fescue shall not be utilized in wetland or buffer areas.** The area should be seeded and mulched to reduce erosion after construction activities have been completed.
- 8) After installation has been completed, make post-construction grades and elevations the same as the original grades and elevations in temporarily impacted areas.
- 9) To protect aquatic species, in-stream work is prohibited as determined by the classification of the stream:

Use I waters: In-stream work shall not be conducted during the period March 1 through June 15, inclusive, during any year.

Use III waters: In-stream work shall not be conducted during the period October 1 through April 30, inclusive, during any year.

Use IV waters: In-stream work shall not be conducted during the period March 1 through May 31, inclusive, during any year.

- 10) Stormwater runoff from impervious surfaces shall be controlled to prevent the washing of debris into the waterway.
- 11) Culverts shall be constructed and any riprap placed so as not to obstruct the movement of aquatic species, unless the purpose of the activity is to impound water.