



## BOTETOURT COUNTY, VIRGINIA

### DESIGN CHECKLIST FOR E&S PLANS

**TO BE COMPLETED FOR ALL PLANS; NO PLANS, INCL. RESUBMITTALS, WILL BE REVIEWED WITHOUT A DULY COMPLETED AND SIGNED CHECKLIST; PLEASE ENSURE ALL ITEMS ARE ADDRESSED**

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Yes No N/A

- MS-1** Have temporary and permanent stabilization been addressed in the narrative?  
..... Are practices shown on the plan? yes/no  
..... Seed specifications? yes / no                      Mulching? yes / no                      Gravel? yes / no
- MS-2** Has stabilization of soil stockpiles been addressed in the narrative?  
   Are sediment trapping measures provided?
- MS-3** Has maintenance of permanent stabilization been addressed?
- MS-4** Are sediment trapping facilities to be constructed as a first step in LDA?
- MS-5** Has stabilization of earthen structures been addressed?
- MS-6** Are sediment basins required where needed?  
   Detailed design calculations and specifications included for all proposed sediment traps and basins?
- MS-7,8** Has stabilization of cut and fill slopes been adequately addressed?  
   **MS-9** (i. e. Surface Roughening, Outlet Protection)
- MS-8** Are paved flumes, channels, or slope drains required where necessary?
- MS-10** Is adequate inlet protection required on all operational storm sewer inlets?
- MS-11** Are channel lining and/or outlet protection required on stormwater conveyance channels?  
   Detailed specifications included for all required instances of outlet protection?
- MS-12** Are in-stream construction measures required so that channel damage is minimized?
- MS-13** Are temporary stream crossings of non-erodible material required where applicable?
- MS-14** (NOTE: This regulation requires that all applicable federal, state and local regulations pertaining to working in or crossing live watercourses be followed.)
- MS-15** Has restabilization of areas subject to in-stream construction been adequately addressed?
- MS-16** Is stabilization of utility trenches addressed?
- MS-17** Is the transport of soil and mud onto public roadways properly controlled? (i.e. Construction Entrances, Wash Racks, daily cleaning of road ways, transport of sediment to a trapping facility)?
- MS-18** Has the removal of temporary practices been addressed?  
   Has maintenance of practices been addressed? (i. e. repair of structures and removal of accumulated sediment)?
- MS-19** Are properties and waterways downstream from development adequately protected from erosion and sediment deposition due to increases in peak stormwater runoff?  
   Surveyed cross sections of receiving channel shown on plans?  
   Calculations demonstrating channel adequacy included?



## ***BOTETOURT COUNTY, VIRGINIA***

\_\_\_\_\_ Minimum Standards - All applicable Minimum Standards must be addressed (refer to MS checklist.)

### NARRATIVE

\_\_\_\_\_ Project description - Briefly describes the nature and purpose of the land-disturbing activity, and the area (acreage) to be disturbed.

\_\_\_\_\_ Existing site conditions - A description of the existing topography, vegetation and drainage.

\_\_\_\_\_ Adjacent areas - A description of neighboring areas such as streams, lakes, residential areas, roads, etc., which might be affected by the land disturbance.

\_\_\_\_\_ Off-site areas - Describe any off-site land-disturbing activities that will occur (including borrow sites, waste or surplus areas, etc.). Will any other areas be disturbed?

\_\_\_\_\_ Soils - A brief description of the soils on the site giving such information as soil name, mapping unit, erodibility, permeability, depth, texture and soil structure, as well as acreage of each mapping unit. This information should be taken from the NRCS Soil Survey of Botetourt County, or a current mapping by NRCS personnel or a Va. Certified Professional Soil Scientist (CPSS).

\_\_\_\_\_ Critical areas - A description of areas on the site which have potentially serious erosion problems (e.g., steep slopes, channels, wet weather/ underground springs, etc.).

\_\_\_\_\_ Erosion and sediment control measures - A description of the methods which will be used to control erosion and sedimentation on the site. (Controls should satisfy applicable minimum standards and specifications in Chapter 3 of the VESCH, 1992 Edition.)

\_\_\_\_\_ Permanent stabilization - A brief description, including specifications, of how the site will be stabilized after construction is completed.

\_\_\_\_\_ Stormwater runoff considerations - Will the development site cause an increase in peak runoff rates? Will the increase in runoff cause flooding or channel degradation downstream? Describe the strategy to control stormwater runoff. Ensure that receiving channel adequacy, per Minimum Standard 19, is addressed.

\_\_\_\_\_ Calculations - Detailed calculations for the design of temporary sediment basins, permanent stormwater detention basins, diversions, channels, outlet protection, etc. Include calculations for pre- and post-development runoff. Rational Method calculations, in any form (Modified, etc.), will not be accepted for drainage areas larger than 20 acres, or having a time of concentration greater than 20 minutes. Ensure that receiving channel is adequate, per Minimum Standard 19.

\_\_\_\_\_ Maintenance - A schedule of regular inspections and repair of erosion and sediment control structures should be set forth.



## SITE PLAN

# ***BOTETOURT COUNTY, VIRGINIA***

- \_\_\_\_\_ Vicinity map - A small map locating the site in relation to the surrounding area. Include any landmarks which might assist in locating the site.
- \_\_\_\_\_ Indicate north - The direction of north in relation to the site.
- \_\_\_\_\_ Limits of clearing and grading - Areas which are to be cleared and graded.
- \_\_\_\_\_ Existing contours - The existing contours of the site.
- \_\_\_\_\_ Final contours - Changes to the existing contours, including final drainage patterns.
- \_\_\_\_\_ Existing vegetation - The existing tree lines, grassed areas, or unique vegetation.
- \_\_\_\_\_ Soils - The boundaries and acreage of different soil types. For stormwater management calculations, all areas in the watershed must be included.
- \_\_\_\_\_ Existing drainage patterns - The dividing lines and the direction of flow for the different drainage areas. Include the size (acreage) of each drainage area.
- \_\_\_\_\_ Critical erosion areas - Areas with potentially serious erosion problems. (See Chapter 6 of the VESCH, 1992 Edition, for criteria.)
- \_\_\_\_\_ Site Development - Show all improvements such as buildings, parking lots, access roads, utility construction, etc.
- \_\_\_\_\_ Location of practices - The locations of erosion and sediment control and stormwater management practices used on the site. Use the standard symbols and abbreviations in Chapter 3 of the VESCH, 1992 Edition.
- \_\_\_\_\_ Off-site areas - Identify any off-site land-disturbing activities (e.g., borrow sites, waste areas, etc.). Show location of erosion controls. (Is there sufficient information to assure adequate protection and stabilization?)
- \_\_\_\_\_ Detail drawings - Any structural practices used that are not referenced to the ESC Handbook or local handbooks should be explained and illustrated with detail drawings.
- \_\_\_\_\_ Maintenance - A schedule of regular inspections and repair of erosion and sediment control structures should be set forth.
- \_\_\_\_\_ Botetourt County General E&S Notes- The Botetourt County General E&S Notes (see next page) *must* be included, in either the Maintenance or Details section of the plans