

## Grading, Erosion and Sediment Control (GESC) Manual Summary of Proposed Refinements – 6-24-09

<b>Proposed GESC Refinement</b>	
<b>GESC Section</b> <b>Chapter 1 – Regulatory and Permitting</b>	<p>Minor administrative modifications only.            Sec 1.5.3...Haul Roads....County will include additional clarification for contractor with APEN standards</p> <p>Fill or excavations of 200 cubic yards of material trigger a full GESC permit (not 50 cubic yards). The proposed change to 200 yd<sup>3</sup> is significantly below the disturbance threshold of 1-acre (MS4 permit) while providing a more reasonable approach. [See Section 2.1.1]            County has determined no change for this section; fill/excavation criteria will remain 50 cubic feet; they will entertain variances for larger amounts of fill or excavation.</p> <p>Maintenance of pavement repair, including mill and overlay projects, do not require a GESC permit. [See Section 2.1.2]            County projects will comply with GESC considerations in Program 6 SOPs for maintenance operations....</p> <p>Add Irrevocable Letter of Credit from out of state financial institutions in a form acceptable to County. [See Section 2.16.3]            County collateral language includes requirement for conformance to Colorado State Statutes no matter where issued ...</p> <p>Modify terms of collateral for governmental and quasi-governmental entities. Waive governmental and quasi-governmental agencies from financial collateral upon providing agreement with conditions of approval. [See Section 2.16.3.1]            County will utilize agreements for security...</p> <p>Financial collateral may be released <i>prior to two years</i> if seeding, mulching, and re-vegetation are complete in accordance with GESC requirements. [See Section 2.16.3]            County will add stabilization to section language...</p> <p>Other Chapter 2 items noted in GESC Manual revisions:            1. The County may entertain Annual Permits on a case-by-case basis...            2. SEMSWA will be able to charge a fee for an accelerated 1<sup>st</sup> submittal reviews...</p>
<b>Chapter 3 – Plan and Report Requirements</b>	<p>Updated engineer's cost estimates (based on a 2009 cost update analysis) are used as the basis for collateral determination; cost estimate is a separate submittal from the report. [See Section 3.3.1 and Appendix F and G]            County will check with staff to see if this is necessary; at a minimum, a note will be added that explains these ECE costs are for SEMSWA purposes only and reflect the cost of immediately reacting to a GESC issue where there may be surcharges for expedited contractor work....</p>

Updated notes on initial, interim and final GESC Drawings. [See Sections 3.1.3, 3.1.4 and 3.1.5]  
No comments...

Updated Design Engineer's Certification statement proposed, as follows: [See Section 3.1.1 (9)]  
"I hereby certify that the attached Grading, Erosion, and Sediment Control (GESC) Plan for (Name of Subdivision/Development) has been prepared by me or under my direct supervision in accordance with the latest version of the Arapahoe County GESC Manual. The signature and stamp affixed hereon certifies that the GESC Plan was prepared in accordance with the required regulations and criteria; however, the stamp and signature does not certify or guarantee future performance of the execution of the plan by the Contractor. The Contractor is responsible for executing the construction work according to the information set forth in the plan and in accordance with all applicable requirements."  
Registered Professional Engineer \_\_\_\_\_

State of Colorado No. \_\_\_\_\_

Affix Seal

No comments....

Updated Owners Certification statement proposed, as follows: [See Section 3.2.15]

"I hereby certify that the GESC measures for (Name of Subdivision/Development/address) shall be constructed according to the design presented in this report. I understand that additional erosion control, sediment control and water quality enhancing measures may be required of the owner and his or her agents due to unforeseen pollutant discharges or if the submitted plan does not function as intended. The requirements of the plan shall be the obligation of the land owner and/or his successors or heirs; until such time as the plan is properly completed, modified or voided.  
Owner or Authorized Agent \_\_\_\_\_

Authorized Signature \_\_\_\_\_

No comments...

Other Chapter 3 comments:

1. County will not impose requirement for location of haul roads at the design stage ....
2. County will use "if greater than 3:1 slopes, requires use of..." language...
3. Review staff will still review earthwork balance in order to assist the project with GESC considerations of hauling, but no variance process required...

### Chapter 3 – Plan and Report Requirements (cont'd)

### Section 4 – Grading Criteria, Ten Elements of GESC Plan,

Additional BMPs are introduced to add flexibility and address Erosion and Sediment Control, such as those listed below:  
County will offer alternative BMPs to provide the opportunity for customizing site controls ...

## BMP Sizing

**Mechanically Bonded Fiber Matrix (MBFM)** for steeper slopes (4:1 to 3:1) and as another option in lieu of ECB. *[See Section 4.5.4, 4.15.9]*

County will not call out proprietary BMPs by name, just the general specifications and let the contractor choose; the review staff will indicate during the GESC plan comment period if a certain BMP will not be appropriate, as is the current practice....

**Inlet protection** – curb socks and proprietary curb inlet bags included as other inlet protection options.

*[Consistent with 4.15.8]*

GESC Plan review staff will indicate if a certain BMP will not be appropriate, as is the current practice ....

**Concrete Washout** – pre-fabricated bins are included as another option. *[See Section 4.15.3]*

GESC Plan review staff will indicate if a certain BMP will not be appropriate, as is the current practice; the County will disallow the use of 'kiddle pools', and will indicate these are not considered to be prefabricated bins...

**Vehicle Tracking Control** – proprietary pre-fabricated tracking mats offered as another option. *[See Section 4.15.21]*

GESC Plan review staff will indicate if a certain BMP will not be appropriate, as is the current practice ....

Due to linear nature and limited area of some CIP/roadway projects, vegetated buffers and swales as acceptable BMP in lieu of sediment basin, as needed. *[See Section 4.11]*

GESC Plan review staff will indicate if a the vegetated buffer will not be appropriate in a particular instance and will alert the project design engineer to need for additional perimeter controls if required ....

Stockpile requirement modified to allow sediment pond or other appropriate BMP to control sediment, i.e. SCL, silt fence, etc. *[See Section 4.1.3]*

County has determined no change for this section; stockpile height criteria will remain at 10'; BMPs to control sediment will be determined based on stockpile characteristics...

Encourage earthwork balance; not required. A variance is no longer needed for earthwork balance. *[See Section 4.1.5 and 4.7]*

Review staff will still review earthwork balance in order to assist the project with GESC considerations of hauling, but no variance process required...

Other Chapter 4 comments:

1. County has determined no change for this section; stockpile height criteria will remain at 10', but the County will entertain variances on a case-by-case basis...
2. Resource area is defined as an ecologically sensitive area like wetlands, or a known recharge area, or open space and the like...
3. Review staff will comment on an application of a BMP in the channel bed that may not be appropriate for expected velocities ...
4. Review staff will comment during review period on appropriate BMP for linear projects regarding vegetated buffers...
5. Balancing of the need for safety with installation of GESC controls will be done during the review period for a particular BMP ...
6. Seed will not be hydraulically applied to maintain contact between the seed and soil...

<p><b>Chapter 5 – Field Process and Enforcement</b></p>	<p>Delete 48 hour requirement to modify or implement BMP. This time constraint is not specified for County's stormwater MS4 permit with CDPHE. [See Section 5.9.4]</p> <p>County will remove 48 hour follow-up inspection to allow for establishing an inspection schedule that is appropriate to the violation...</p> <p>Other Chapter 5 comments:</p> <ol style="list-style-type: none"> <li>1. When the site infrastructure is tied into the system, appropriate BMPs will be installed within an established deadline for site conditions....</li> </ol> <p>County may invoice contractors if sediment leaves site and streets need to be cleaned by county staff. [See Section 6.1.2]</p>
<p><b>Chapter 6 – Construction, Operation and Maintenance of BMPs</b></p>	<p>No comments....</p> <p>Description of additional BMP options for inlet protection, vehicle tracking, erosion blanket, etc. [See Sections 6.2.8, 6.2.9, 6.2.2]</p> <p>County will offer alternative BMPs to provide the opportunity for customizing site controls ...</p> <p>Other Chapter 6 comments:</p> <ol style="list-style-type: none"> <li>1. Steel Plates (6.1.8)....County will only allow use as appropriate and on a case-by-case basis...</li> </ol>
<p><b>Chapter 7 – Project Close Out</b></p>	<p>Minor administrative changes only.</p> <p>No comments....</p>
<p><b>Chapter 9 – Single Family Residential Lot Criteria</b></p>	<p>Minor administrative changes only.</p> <p>The County would like to work with SEMSWA when staff begins revisions to this section in 2010...</p>
<p><b>Appendix A</b></p>	<p>Minor phone number updates</p> <p>SEMSWA will be added to contact list....</p>
<p><b>Appendix B</b></p>	<p>Standard Notes changes (deleted "all maintenance and repair of BMPs must be completed within 48 hours"; deleted note regarding requirement of earthwork balance) [Consistent with Section 4]</p>
<p><b>Appendix C</b></p>	<p>New BMP detail for curb sock (CS) and mechanically bonded fiber matrix (MBFM).</p> <p>Note: Need to obtain authorization to use detail for CS from UDFCD and MBFM from Flexterra.</p> <p>SEMSWA will provide County with a detail for curb sock that is more appropriate for GESCC controls than UDFCD detail....</p>
<p><b>Appendix D</b></p>	<p>Note: Will include CIP drawing examples, as available.</p> <p>Checklist updates to complement proposed GESCC changes (i.e. encouraged earthwork balance/not required to balance earthwork quantities, and option to use MBFM or other BMPs deemed appropriate during construction) [Consistent with changes to GESCC requirements above]</p> <p>No comments...</p>
<p><b>Appendix E</b></p>	<p>Updated certification language as proposed in Section 3.1.1 and 3.2.1.</p> <p>No comments...</p> <p>Updated general notes: [Consistent with Sections 3.1.3, 3.1.4 and 3.1.5]</p>

	<p>ALL INTERIM BMPs, INCLUDING SEEDING AND MULCHING OF DISTURBED AREAS, MUST BE COMPLETED WITHIN 14 DAYS IF THE AREAS WILL REMAIN UNDISTURBED FOR A PERIOD GREATER THAN 30 DAYS AND PRIOR TO ISSUANCE OF ANY CURB AND GUTTER PERMITS.</p> <p><b>No comments...</b></p> <p>ALL PROPOSED SLOPES ON THIS PLAN HAVE A MAXIMUM SLOPE OF 4:1. ANY SLOPES BETWEEN 3:1 AND 4:1 WILL REQUIRE THE USE OF EROSION CONTROL BLANKETS OR MECHANICALLY BONDED FIBER MATRIX.</p> <p>County will use "if greater than 3:1 slopes, requires use of..." language...</p>
<b>Appendix F</b>	<p>GESC Cost Estimates for Initial and Interim BMPs updated based on unit cost updates (2009) for determining collateral for implementing various GESC BMPs. <i>[Consistent with SEMSWA unit cost updates]</i></p> <p><b>No comments...</b></p>
<b>Appendix G</b>	<p>GESC Cost Estimates for Final BMPs updated based on unit cost updates (2009) for determining collateral for implementing various GESC BMPs. <i>[Consistent with SEMSWA unit cost updates]</i></p> <p><b>No comments...</b></p>
<b>Appendix I</b>	<p>Consistent changes in Comprehensive Grading Plan that comport with changes in GESC (i.e. encourage earthwork balance/no need for variance) <i>[See Sections 3.1.3, 3.1.4 and 3.1.5]</i></p> <p><b>No comments...</b></p>