

**SUBJECT: Removal of Organic Material from Fill  
Foundations**

1. Purpose: Clarify Removal of Organic Material
2. Definitions:
3. Legal Authority:
  - 38-2-14.14(d) (2)
  - 38-2-14.14(e) (8)
  - 38-2-14.14(f) (5)
  - 38-2-14.14(g) (6)
  - 22-3-13(b) (22) (B)
  - 22-3-10(a) (14)
4. Policy/Procedures:

As you are aware, there has been controversy regarding the clearing and grubbing of organic material from fill areas prior to construction. The two issues involved are (1) the removal of tree stumps and their accompanying root balls, and (2) the removal of secondary growth where the fill area has been previously cleared and grubbed.

The West Virginia Code at 22-3-13(b) (22) (B) requires the removal of organic material immediately prior to excess spoil placement. The state regulations at CSR 38-2-14.14 specify the requirements for removal of organic materials for various types of fills as follows:

- 14.14(d) (2) - Fills on existing benches.
- 14.14(e) (8) - Conventional valley fills.
- 14.13(f) (5) - Side hill fills.
- 14.14(g) (6) - Durable rock fills.

The subject regulations for each specific type of fill require that fill areas be progressively cleared of trees, shrubs, and other organic material. The removal of tree stumps and accompanying root balls, and removal of secondary growth, is not specifically addressed. After lengthy negotiations with the federal Office of Surface Mining, it was agreed that:

1. Except in the case of conventional valley fills (see limit in 14.14(e)(8), the fill area may be cleared and grubbed of all tress, brush, and other organic material at ground level in a one step operation if the operator so desires; however, secondary growth must be progressively removed during fill construction.

Tree stumps and accompanying root balls must be removed from critical foundation areas prior to excess spoil placement. Critical foundation areas are those areas of the fill foundation, which, according to prudent engineering practice, are critical to fill stability and integrity. These areas include at a minimum the area underlying the toe of the fill, and any area where a constructed underdrain is to be placed. See the discussion for further detail.

2. The fill area may be progressively cleared and grubbed of trees, brush, and other organic material during fill construction with tree stumps and accompanying root balls removed from critical foundation areas as defined above.

For fills currently under construction, the inspector must during regular inspections assure that original growth, secondary growth, or organic materials are being progressively removed and that tree stumps and root balls are removed from critical foundation areas prior to spoil placement. If (as is likely to be the case) the limits of the critical zones are not defined, the permittee should be directed, via a comment on the inspection report, to file an engineer's report, within 30 days, defining the critical zone(s) limits. The same requirement should be applied to permitted but not started fills. For any new permit application, the engineer's plan and specifications must define the critical zone limits for each excess spoil disposal fill.

If an applicant or permittee objects to the need to have a qualified registered professional engineer define the critical zone limits, they should be informed of the alternative, which is to grub stumps and root balls from the entire fill area. This was the OSM position prior to our negotiation of the critical zone concept.

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As a rule of thumb, the critical zone limit at the toe of the fill should be considered to include the total area of the foundation that is encompassed within the slip circle or wedge defined by the minimum factor of safety analysis for deep-seated failure. Along the fill abutments, the critical zone limits will be defined by a plane parallel to the overall face angle of the proposed fill, and passing through the upstream limit of the critical slip circle (or wedge). (See attached sketch for example).

If you have any questions regarding this matter, contact the Managers of Inspection and Enforcement and Permitting for further guidance.

**SUBJECT: Water Rights and Replacement**

1. Purpose: Define time periods as they relate to water rights and replacement.
2. Definitions:
3. Legal Authority: 22-3-24
4. Policy/Procedures: Upon receipt of notification that a water supply was adversely affected by mining, the permittee shall provide drinking water to the user within twenty-four (24) hours.

Within seventy two (72) hours, the permittee shall have the user hooked up to a temporary water supply. The temporary supply shall be hooked up to existing plumbing, if any, to allow the user to conduct all normal activities associated with domestic water use. This includes drinking, cooking, bathing, washing, non commercial farming, and gardening.

Within thirty (30) days of notification, the permittee shall begin activities to establish a permanent water supply or submit a proposal to the WVDEP outlining the measures and timetables to be utilized in establishing a permanent supply. The total elapsed time from notification to permanent supply hook-up cannot exceed two (2) years.

The permittee is responsible for payment of operation and maintenance costs on a replacement water supply in excess of reasonable and customary delivery costs that the user incurred.

Upon agreement by the permittee and the user (owner), the obligation to pay such operation and maintenance costs may be satisfied by a one-time lump sum amount agreed to by the permittee and the water supply user (owner).

**SUBJECT: Termination for surface water monitoring**

1. Purpose: Define procedure for termination of surface water monitoring.

2. Definitions: The West Virginia Surface Mining Reclamation Regulations at 38-2-14.7(a) provide for the termination of surface water monitoring as it relates to the Surface Mining Permit. 38-2-14.7(a) states: Monitoring shall continue until bond release unless the operator demonstrates that continued monitoring is unnecessary to achieve the purpose of the monitoring plan.

3. Legal Authority: C.S.R. 38-2-14.7(a)

4. Policy/Procedures:

Procedure to review requests to terminate surface water monitoring is as follows:

1. The request should be processed as an insignificant permit revision;
2. For surface extraction mining operations, the permit and/or area of the permit associated with the request should meet the vegetation requirements of Phase II release. The request shall contain the following information:
  - \* One year of raw water data for the area after backfilling has occurred;
  - \* Surface water monitoring data for the requested area;
  - \* Comparison of the pre and post mining data to document the impacts of the operation; and

- \* Documentation that the operation does not require chemical treatment to meet effluent limits.
3. For underground mining operation, the permit and/or area of the permit associated with the request should have been active for at least five (5) years. The request shall contain the following information:
- \* One year of raw water data for the area;
  - \* Surface water monitoring data for the requested area;
  - \* Comparison of the pre and during mining data to document the impacts of the operations; and
  - \* Documentation that the operation does not require chemical treatment to meet effluent limits.

The State can order resumption of the water monitoring program upon notice if the operation begins to chemically treat water and/or is adversely impacting the area.

**SUBJECT: Perimeter Markers**

1. Purpose: Standards for placement of perimeter markers
2. Definitions: N/A
3. Legal Authority: C.S.R. 38-2-14.1(b)
4. Policy/Procedures: Perimeter markers shall be established and located on the proposal maps (and located accordingly on the ground) in such a manner so as to define the beginning and end points of the permit. Such markers must be durable and have the permit number affixed. Perimeter markers must remain in place until Phase III bond release is approved.

The boundaries of the permit must be clearly marked at a maximum of 500' intervals with other suitable markers which can consist of but not be limited to engineering tape, flagging or other easily identifiable markings. These additional markers do not need to be identified or located on the proposal map. These markers are not required for haulage or access roads or off-site drainage systems. Boundary markers must remain in place until active mining is complete and regrading is accomplished to acceptable Phase I standards for any particular permit segment. Phase I release approval is not necessary to discontinue maintenance of boundary markers.

It should also be emphasized that 14.1(b) requires all markers to be in place prior to initial disturbance. All markers must remain in place until Phase I bond release is approved. Perimeter markers must remain in place until Phase III bond release is approved.

As per the September 1993 agreement with OSM, boundary markers are not required on certified haulroads, off site drainage structures, and permits which are eligible for grade release.

**SUBJECT: Durable Rock Fills**

1. Purpose: Clarification of Wing Dumping
2. Definitions: n/a
3. Legal Authority/Reference: 38-2-14.14(g) (7)
4. Policy/Procedure: The West Virginia Surface Mining Reclamation Regulations at 38-2-14.14(g) (7) for durable rock fills, state in part that "the undergrain system may be constructed simultaneously with excess spoil placement by the natural segregation of dumped materials". This construction method results in the larger dumped rocks settling on the bottom of the valley floor to form an adequate underdrain.

It has been observed, during recent field visits, that a few durable rock fills were being constructed using multiple side dumping points which were located well ahead of the developing toe. However, this construction method, also known as "wing dumping", can create several types of problems.

Excessive side dumping of spoil creates increased disturbed area within the limits of the fill that results in an increased sediment load upon the sediment control structure. Additionally, when conditions arise which dictate that a durable rock fill cannot be constructed to meet its original design capacity, any spoil which had been previously side dumped ahead of the developing toe would then have to be rehandled and placed within the confines of the fill. Thus, this practice can result in environmental problems and unnecessary additional disturbance.

Therefore, for durable rock fills, it shall be the policy of this agency to limit side dumping or "wing dumping" of spoil to a distance not to exceed 300 feet downstream from the developing toe, as measured horizontally. The developing toe shall be defined as that

area which is clearly being formed by the dumping of materials from points located near the center of the hollow.

Please ensure that all current operations are brought into compliance with this policy and that all future permitted durable rock fill designs incorporate construction plans which do not exceed this limit.

**SUBJECT: Procedure for obtaining Inactive Status**

1. Purpose: Outline procedure for processing Inactive Status Applications.
2. Definitions:
3. Legal Authority/Reference: 38-2-14.11
4. Policy/Procedure: The procedures for obtaining inactive are as follows:

1. Permittee submits three (3) complete copies of application form MR-14 to the appropriate Division of Environmental Protection Regional Office, to the attention of the appropriate I & E Clerk.
2. Upon receipt of the application, the I & E Clerk logs the application into ERIS and submits one copy to the I & E Inspector for review. Within fifteen (15) days of receipt, the Inspector reviews the application (along with the respective I & E Specialist or supervisor, if necessary).
  - a. If the application is so incomplete (major deficiencies) that it cannot be properly reviewed, the application must be denied and the appropriate procedures for denial followed (see Step 5 a).
  - b. If the application has only minor deficiencies, the I & E Supervisor/Specialist, and/or Inspector lists the corrections and gives the application to the I & E Clerk for tracking. The I & E Clerk returns the original and one copy of the application with the correction sheet to the company/consultant, noting that the Courthouse copy must also be corrected. The Supervisor sees that the third copy of the application is mailed to or delivered to the appropriate Courthouse. The company/consultant has seven (7) days from receipt to correct the application and return the original and one copy to the appropriate I & E Clerk. Upon return of the corrected application, the I & E Clerk

b). checks for delinquent civil penalties (see step 5

3. The I & E Clerk, after tracking the corrected application, submits it to the Inspector for review of the requested corrections and the completion of the MR-14A. Upon completion of the 14A, the inspector will give the application to the specialist or supervisor for a final cursory review before returning to the I & E Clerk.

4. The I & E Clerk does appropriate tracking and places application in the pending file awaiting End of Comment. A site inspection is to be performed if the operation has not had a recent complete inspection, or if the current inspector is unfamiliar with the permit.

5. The application is kept on file at the appropriate Regional Office until the comment period closes and any informal conference (if requested) is held. An original and two (2) copies of the affidavit of publication must be received by this time and tracked by the I & E Clerk.

a. If any reason for denial exists (i.e. delinquent civil penalties, denial recommendations by the inspector, the I & E Supervisor will, within five (5) days of the close of the comment period, issue the letter denial and distribute copies of the letter only. (letter informs of the right to appeal to the Assistant Chief). All copies of the application will be held at the Regional Office pending a request and outcome of any appeal, before distribution.

b. If delinquent civil penalties are owed on the subject permit, the I & E Supervisor will, within five (5) days of such discovery, direct a letter to the permittee advising of the delinquent civil penalties. The letter will allow for the payment in full or approval of a payment plan for the civil penalties and the letter will further indicate that the application will continue to be processed but be denied at the close of the comment period if the delinquent civil penalties are not resolved.

c. If all recommendations are for approval, the I & E Supervisor has the approval letter prepared and forwards it, with the application, to the Assistant Chief of Operations, or a Deputy Assistant Chief within five (5) days after the comment period.

6. The Assistant Chief of Operations or Deputy Assistant Chief reviews the application, makes the final decision, and executes the approval letter.

Distribution upon Approval:

- 1 - Nitro Office (original application and letter)
- 1 - Regional (application and letter)
- 1 - Inspector (application and letter)
- 1 - Company (letter only)
- 1 - Health and Safety (letter only)

Followed by these procedures are: Inspector's Checklist for Inactive Status and the Advertisement Request for Inactive Status

**SUBJECT: Contemporaneous Reclamation**

1. Purpose:

2. Definitions:

3. Legal Authority: 38-2-14.15(b)(6)  
38-2-14.15(b)(6)(A)  
38-2-14.15(c)  
38-2-14.15(d)

4. Policy/Procedure:

Operations which are defined under 38-2-14.15(b)(6) may apply for and be granted a variance to the percentage and/or acreage limits contained in 38-2-14.15(b)(6)(A), PROVIDED: The operation consists of at least three spreads of excavating equipment. <sup>a</sup>

The variance shall be limited to not more than 50% of the total permit acreage or 400 acres, whichever is less.

In addition to the semi-permanent ancillary facilities already exempted in 14.15(c), these additional areas may now be considered reclaimed or not disturbed:

1. Areas within the confines of excess spoil disposal fills which are under construction provided the fill is being constructed in the "conventional" method, i.e., completed from the toe up, or those fills which are being constructed progressively in lifts from the toe up or are being progressively completed from the toe up by constructing benches and appropriate drainage control structures (ditches, flumes, channels, etc.) from the toe up as soon as the area is available to do so.
2. Areas containing 30 aggregate acres or less which have

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<sup>a</sup> The contemporaneous reclamation variance will be reviewed no less than quarterly. Any deficiencies will be communicated to the operator/permittee immediately and appropriate enforcement action taken.

been cleared and grubbed and have the appropriate drainage control (temporary or permanent) installed and certified, and which will become a part of the operational area within six months or less. (Failure to incorporate these areas into the operational area within six months may result in the loss of this exemption.)

3. Areas that have been cleared and grubbed which exceed the thirty aggregate acres and/or those which will not be included in the operational area within six months may be excluded if the appropriate temporary or permanent drainage control structures are installed and certified and have temporary vegetative cover established.
4. Areas which have been backfilled and graded to final grade, mechanically stabilized, and had appropriate drainage control structures installed in accordance with the approved mining and reclamation plans. The sediment control structures need not be certified to meet this requirement if the mining plan is such that it would make this unfeasible. Topsoiling and revegetation of these areas are highly encouraged.

The request for variance consideration shall be submitted as part of the mining and reclamation plans required by 38-2-14.15(d) and shall contain sufficient information so as to allow the director to properly evaluate the plan and issue an approval.

5. Consideration may be given to contemporaneous reclamation plans on multiple permitted areas with adjoining boundaries where contemporaneous reclamation is practiced on a total operation basis. Operations such as this will not be eligible for incremental bonding.

**SUBJECT: Inactive Status Requests for Operations with Valley  
Fills**

1. Purpose: Minimize potential problems for inactive status
2. Definitions: N/A
3. Legal Authority: 38-2-14.11
4. Policy/Procedures:

When operations containing valley fill(s) request inactive status, the fill(s) may be in a condition that could allow for erosion into natural drainage paths. In addition, fill construction may not be to the point where long-term stability can be achieved. Therefore, to minimize surface water runoffs to minimize surface erosion and to prevent spoil movement, each of the following conditions shall apply to fill(s) that have not reached designed capacity and it has been demonstrated that reactivation of the fill(s) is feasible:

1. The top of the fill shall be configured to prevent water from discharging over the face of the fill;
2. Runoff and sediment from the top of the fill must be managed and discharged in a controlled manner;
3. The top and all erosion prone areas of the fill shall be seeded;
4. Surface water runoff from areas above and adjacent to the fill surface shall be diverted into stabilized channels;
5. Submission of certification that the fill is stable in its present condition. The certification must address the steepness of slopes, duration of inactive status request and must include observations and tests necessary to evaluate stability. The certification of the fill shall include a drawing of the fill showing the following:
  - a. Current outline of the fill
  - b. Location of sediment control and drainage structure(s)
  - c. Limits of clearing and grubbing
  - d. Location of any surface or ground water discharges
  - e. Current extent and location of underdrains
  - f. Design and current volume
  - g. Percent slope at the current toe location
  - h. Color photographs
6. Drainage control structures shall be cleaned to 100% designed capacity.

If the operation has any fill(s) that has reached designed capacity or it cannot be demonstrated that reactivation is feasible, the request will not be considered for approval until the fill(s) is reclaimed.

**SUBJECT: Excess Spoil Disposal**

1. Purpose: To Minimize Erosion During Construction of End-dump Fills
2. Definitions: N/A
3. Legal Authority: § 22-3-13(B) (10)
4. Policy/Procedures:

In order to minimize erosion during the construction of end-dump valley fills, water shall not be allowed to flow over the face of the fill. The top of the fill shall be sloped toward the back and sides into drainage channels through approved outlets. Drainage from above the fill should also be channeled away from the fill and discharge through approved outlets.

In the event that water from the deck and/or above the fill cannot be directed away from the fill area, a flow path shall be constructed and maintained by dumping sufficient rock to minimize erosion along the interface where the edge of the fill meets original ground and shall be capable of handling the maximum anticipated flows.

Quarterly certifications shall address the maintenance of these areas as temporary drainage control for that reporting period. Once the fill is completed or as conditions allow, water will be diverted into properly designed and constructed channels capable of passing a 100 year, 24 hour event.



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West Virginia Department of Environmental Protection

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Bob Wise  
Governor

Stephanie R. Timmermeyer  
Cabinet Secretary

## INTEROFFICE MEMORANDUM

To: All DMR Employees

From: Joe Parker, Acting Director

Date: 1/14/2016

Re: EXCESS SPOIL AND VALLEY FILL CERTIFICATION REQUIREMENTS

**AUTHORITY:** § 22-3-13 (b) (22), 38-2-14.14

This document replaces the 'EXCESS SPOIL DISPOSAL FACILITY INSPECTION AND REPORTING REQUIREMENTS' memorandum issued on February 25, 2003.

### INSPECTION FREQUENCY

A registered professional engineer experienced in the construction of earth or rock fills or other qualified professional specialist working under the direction of a professional engineer experienced in the construction of earth or rock fills, shall inspect an excess disposal facility according to the following schedule:

1. Quarterly for stability;
2. Regularly during the placement and compaction of fill materials and during critical construction periods such as, but not limited to:
  - a. Foundation preparation;
  - b. Underdrain placement;
  - c. Installation of surface drainage systems;
  - d. Construction of rock toe buttresses.
3. Upon completion of construction.

## REPORTING FREQUENCY

A certified report of this inspection shall be submitted to the Secretary a certified report within two weeks following completion of the inspections. The certified report shall contain a statement that the fill is being constructed and maintained as designed in accordance with the approved plan and this rule. The report shall contain the company name, permit number, company address, fill identification, date of inspection, and name of the person performing the inspection. The report will also note any instances of apparent instability, structural weaknesses, and other hazards. The report on the drainage system and protective filters shall include color photographs taken during and after construction, but before the underdrains are covered with excess spoil. Color photographs shall be of sufficient size and number to provide a relative scale and to clearly identify the site. A copy of the certified report shall be maintained at the mine site.

## REPORTING REQUIREMENTS

The report shall include as applicable the following:

1. Type of inspection.
  - a. Quarterly for stability;
  - b. Regular/critical stage;
    - i. Foundation preparation;
    - ii. Critical foundation area;
    - iii. Underdrain\lateral drains;
    - iv. Material Compaction;
    - v. Surface drains;
    - vi. Rock toe buttress;
    - vii. Other
  - a. Final;
  - b. Comments
2. Foundation preparation.
  - a. Acknowledgment of proper construction;
  - b. Comments
3. Placement of underdrain system.
  - a. Acknowledgement of proper construction;
  - b. Acknowledgement of construction simultaneously with excess spoil placement by the natural segregation of dumped materials;

- c. Comments - include color photographs
4. Installation of surface drainage system.
    - a. Acknowledgement of proper construction of sediment control structures;
    - b. Acknowledgement of proper construction of temporary drainage control;
    - c. Acknowledgement of proper construction of permanent diversion ditches and terraces
  5. Placement of materials.
    - a. Acknowledgement of proper construction of fill;
    - b. Acknowledgement of proper handling of toxic or acid forming materials;
    - c. Acknowledgement of contents not exceeding 20% non-durable material;
    - d. Acknowledgement of prohibited materials not being placed, deposited, or disposed of into the fill area
    - e. Comments
  6. Stability.
    - a. Acknowledgement of no apparent instances of instability, structural weakness, and/or other hazards being observed;
    - b. Note any instances of apparent instability, structural weaknesses, or other hazards observed;
    - c. List any corrective actions taken or recommended
  7. Additional information
    - a. Estimated current volume of fill;
    - b. Status of fill;
      - i. Active
      - ii. Being reclaimed
      - iii. Inactive
    - c. If inactive, date of last activity
    - d. Test results;
    - e. Sketches;
    - f. Drawings;
    - g. Photographs;
    - h. As-built plans, drawings, and stability analyses as appropriate for final certifications

The information listed above must be specifically addressed and submitted in summarized form.

<b>TO:</b>	Permitting and I&E Personnel
<b>SUBJECT:</b>	SWROA Requirements for Existing Permits
<b>DATE:</b>	May 25, 2004
<b>APPROVAL:</b>	F. Joe Parker, Acting Director

The requirement to implement a surface water runoff analysis (SWROA) on active mining operations is provided by rule at 38-CSR2-5.6.d. of the West Virginia Surface Mining Regulations. After January 1, 2004, all existing permits must comply with the SWROA requirements according the following timetable based upon permitted acreage.

- Permitted acreage > 400 acres: SWROA due date is June 29, 2004
- Permitted acreage • 200 and • 400 acres: SWROA due date is December 26, 2004
- Permitted acreage • 100 and < 200 acres: SWROA due date is June 24, 2005
- Permitted acreage • 50 and < 100 acres: SWROA due date is December 21, 2005
- Permitted acreage < 50 acres: SWROA due date is June 19, 2006

If a SWROA has been previously approved for an exiting permit and the entire permit remains in compliance with those SWROA designs, the permittee needs only to submit a written statement, signed by a corporate official having signatory authority, to the permit supervisor. This statement needs to address that the permit is SWROA compliant and specify what approved permitting transaction contains the SWROA design, e.g., Amendment #1, Revision #5, etc. After verification, the associated ERIS entry description should be revised, if needed, to show that a SWROA compliance demonstration is included.

If a permit, or portion thereof, is not SWROA compliant, a permit revision will be required to incorporate the required designs into the permit, regardless of whether on-ground remedial construction is anticipated or not. Allowable exclusions to the SWROA requirement include permits, or portions thereof, that are vegetated and qualify for Phase I release standards. Such exclusions will require a written request to be submitted as a permit revision. Permit review should coordinate with the inspector to verify any requested SWROA exclusions on a case-by-case basis. The associated ERIS entry description should indicate that the revision contains a SWROA compliance demonstration.

## SWROA Requirements for Existing Permits

If a permit will become Phase I eligible within the above-mentioned timeframes, a written schedule may be provided to the inspector by the permittee specifying when the permit will achieve these standards. The submitted schedule must also include a contingency plan for SWROA compliance in the event the permit fails to meet this stipulated timeframe. This statement needs to be signed by a corporate official having signatory authority.

SWROA submittals for “not started” permits may be postponed if the permittee provides a written statement to the inspector stating that the permit’s SWROA will be performed and submitted as a permit revision prior to permit activation. This statement needs to be signed by a corporate official having signatory authority.

<b>TO:</b>	<b>Permitting and I&amp;E Personnel</b>
<b>SUBJECT:</b>	<b>SWROA Modeling, Runoff Monitoring, and Data Recording</b>
<b>DATE:</b>	<b>November 24, 2015</b>
<b>APPROVAL:</b>	<b>Harold D. Ward, Acting Director</b>

Surface Water Runoff Analysis (SWROA) requirements were codified in the West Virginia Surface Mining Reclamation Regulations (38-CSR2-5.6, et seq.) and became effective June 1, 2003. At its inception, SWROA was effectively applied to existing permits and became a routine design requirement for future permits. Nevertheless, some confusion still exists relating to hydrologic modeling, runoff monitoring, data collection, field reporting, and termination aspects of this rule. The purpose of this policy is to provide clarification for permits containing SWROA designs.

### **Evaluation Point Siting Requirements**

Any evaluation point (EP) chosen for hydrologic modeling shall be located so that pre-mining, during-mining, and post-mining peak flow volumes can be compared at a common location. To comply with the “no-net increase” SWROA requirement, calculated during-mining and post-mining peak flow volumes cannot exceed those of the pre-mining condition. Also, EP locations must be as close as practical to the permitted acreage while being located upstream of any critical structures such as, houses, buildings, stream constrictions/encroachments, etc.

SWROA pre-mining modeling should consider existing ground cover conditions at the time of permit issuance. Hydrologic analyses for the pre-mining condition must rely on realistic curve number and hydrologic soil group (HSG) assumptions applicable to actual on-ground conditions. HSG assumptions shall be substantiated by using the United States Department of Agriculture – Natural Resources Conservation Service – Web Soil Survey, as follows:

<http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>.

Failure to account for available sheet flow can exaggerate peak flows from pre-mining areas and result in reduced SWROA protection. Therefore, all pre-mining flow calculations should assume sheet flow conditions of three hundred feet (300 ft.) at the onset of the hydraulic flow path through any component watershed, unless otherwise documented.

### **SWROA Design Storm**

The minimum SWROA design storm is a 25 year/24 hour precipitation event. The SWROA design storm is based upon the design standard applied to the most immediate hydraulic structure upstream of each EP within the associated watershed area. Typically, this will result in a 25 year/24 hour event to base SWROA designs upon, but occasionally a 100 year/24 hour design standard may apply. Other instances triggering the 100 year/24 hour SWROA design requirement would be the presence of occupied dwellings or significant stream constrictions/encroachments located upstream of an EP.

### **Runoff Monitoring Plan and Data Collection (U-3)**

The intent of a site-specific runoff monitoring plan for a permit is to accumulate rainfall/runoff data for precipitation events of 1 year/24 hour or greater until the permit meets phase II release requirements. The runoff monitoring location(s) chosen by the permittee should be easily accessible and be representative of component watersheds within the permit boundaries where mining disturbance is expected to result. Rainfall and flow measurement methodologies should be adequately detailed in Item U-3.

Any permit having an approved SWROA with an incomplete or missing U-3 monitoring plan that fails to fulfill the above mentioned goals will require a permit revision to incorporate an acceptable monitoring plan.

The permittee is required to record daily precipitation and report monthly. Additionally, peak runoff resulting from any precipitation event of 1 year/24 hour or greater, must be measured at the designated location(s) identified in Item U-3 and be recorded. All recorded data, including rainfall data, shall be reported to the Secretary on a monthly basis in the format specified by Item U-3 of the approved permit.

### **Inspection of Drainage/Sediment Structures and Reporting on Integrity/Function**

Any precipitation event of 1 year/24 hour or greater, based upon the permittee's designated rain gauge in Item U-3, will require the permittee to conduct a permit-wide inspection to evaluate all constructed drainage/sediment structures. Such inspection should verify that the structures remain structurally intact and can still function as intended. A report is to be submitted to the Secretary addressing such findings. Present rule language allows 48 hours before a report has to be submitted to the Secretary.

Reporting is to be in written format so that a tangible record can be included in the permit file. Reporting to the inspector via email will be deemed acceptable; a telephone call to the inspector is also acceptable provided that timely follow-up (within one week) is submitted in written form.

### **Implementation/Termination of SWROA Requirements**

All permits are required to have approved SWROA designs prior to any on-ground disturbance, unless otherwise exempted. For permits less than 50 acres, SWROA may be exempted on a case-by-case basis, if adequately justified and approved in a permit revision. Further, haulroads, loadouts, and ventilation facilities are excluded from any SWROA requirements. If a SWROA exemption is granted for any permit, all aspects of the SWROA rule are waived, including U-3 rainfall/runoff monitoring.

When a permit becomes Phase II eligible and complete drainage structure removal occurs, the SWROA runoff monitoring plan (U-3) can be terminated. At this time, recording of rainfall and resulting runoff responses will no longer be required. The permittee should submit a letter to the inspector addressing proposed SWROA termination for a permit.