Joseph Burch

From: Joseph Burch
Sent: Tuesday, February 18, 2020 4:48 PM
To: Lloyd, Diedre; 'Cathcahe (dhec.sc.gov)'
Cc: HENNESSEY, BRIAN; fulmersb@dhec.sc.gov; Jon Richards; 'pope.robert (epa.gov)'; Chris Bergren; Mike Griffith; Thomas Gaughan; Amy Meyer; Thomas Kmetz; Thelesia Oliver; Kelsey Holcomb; Dena Brett; James Kupar; Shelia Mcfalls; William Jolin
Subject: 484-17D Coal Yard Stabilization Cover Modification

SRNS-J2600-2020-00064

The 484-17D Coal Yard project team is proceeding with a modification to the final stabilization method for the surface area of the 484-17D Coal Yard from a vegetative cover to a more beneficial storm water, best management practice (BMP) stabilization cover – limestone gravel. The use of this material will reduce post maintenance management of this area (such as the prevention of hog damage/rooting). The technical justification for this alternative is listed below. Since the vegetative cover was for aesthetic purposes, to provide an earthen cover for stabilization purposes, and to promote proper surface water drainage, then the limestone gravel cover provides these same functions. In addition, both EPA and SCDHEC recognizes gravel/stone as an acceptable BMP ground cover; and the gravel will provide a long term neutralization source for the underlying soils.

The project team can coordinate a short conference call with you to discuss this change if necessary. Documentation of the change will be identified as an as As-Built in the Removal Action Report (currently scheduled for 5/1/2021).

TECHNICAL JUSTIFICATION:
The use of limestone gravel for final stabilization of the 484-17D coal yard.

Large limestone aggregate/gravel (4A or 57 stone) as final stabilization will provide the following benefits opposed to sod and/or hydroseeding:

- *The stone will increase infiltration of rainwater into the uncompacted coal yard soils (whereas vegetation would increase evapotranspiration), resulting in an increased flow of basic water into the acidified soils beneath the treated layer. This will also assist in the more rapid dissolution of the soil amendments, quickening reaction time within the vadose zone column.*
- *Limestone, which is predominantly calcium carbonate, will slowly breakdown over time leaching carbonates and calcium into the system. These ions will raise the pH of underlying soils eventually reducing the source of acidity to groundwater (calcium will exchange with surface bound protons and carbonate will buffer the system). The increased pH will also decrease the mobility of coal-originated radionuclides and heavy metals.*
- *Gravel is a BMP for final stabilization in the closeout of a SWPPP. Gravel could be installed with the same equipment used to grade the coal yard, eliminating a demobilization of equipment as well as the need for a 3-inch layer of topsoil, lime fertilizer in the topsoil to support growth, and a three to four week commitment of establishing a vegetative cover.*

Please let me know if you have any questions.

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