



State of Ohio Environmental Protection Agency

Southeast District Office

2195 Front Street
Logan, Ohio 43138

TELE: (740) 385-8501 FAX: (740) 385-6490
www.epa.state.oh.us

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

October 22, 2010

Re: Gallia County
Rio Grande Elementary
Storm Water Construction
Notice of Violation
0GC01198*AG

Mr. Jack Payton
Gallipolis City School District
61 State Street
Gallipolis, Ohio 45631

Mr. Rick Bowman
P.O. Box 197
Rio Grande, Ohio 45674

Gentlemen:

On September 22, 2010, I visited your site in Rio Grande. The purpose of the inspection was to determine the compliance of this site with the National Pollutant Discharge Elimination System (NPDES) permit for discharges of storm water associated with construction activity. The inspection was conducted under the provisions of Ohio's water pollution control statutes, Ohio Revised Code (ORC) Chapter 6111. The following areas need to be addressed:

Part III.G.2 e. Post-Construction Storm Water Management Requirements of the permit states.

So that the receiving stream's physical, chemical, and biological characteristics are protected and stream functions are maintained, post-construction storm water practices shall provide perpetual management of runoff quality and quantity. To meet the post-construction requirements of this permit, the SWP3 must contain a description of the post-construction BMPs that will be installed during construction for the site and the rationale for their selection. The rationale must address the anticipated impacts on the channel and floodplain morphology, hydrology, and water quality. Post-construction BMPs cannot be installed within a surface water of the State (e.g., wetland or stream) unless it's authorized by a CWA 401 water quality certification, CWA 404 permit, or Ohio EPA non-jurisdictional wetland/stream program approval.

Note: localities may have more stringent post-construction requirements. Detail drawings and maintenance plans must be provided for all postconstruction BMPs. Maintenance plans shall be provided by the permittee to the post-construction operator of the site (including homeowner associations) upon completion of construction

activities (prior to termination of permit coverage). For sites located within a community with a regulated municipal separate storm sewer system (MS4), the permittee, land owner, or other entity with legal control of the property may be required to develop and implement a maintenance plan to comply with the requirements of the MS4. Maintenance plans must ensure that pollutants collected within structural post-construction practices, be disposed of in accordance with local, state, and federal regulations. To ensure that storm water management systems function as they were designed and constructed, the post construction operation and maintenance plan must be a stand-alone document, which contains: (1) a designated entity for storm water inspection and maintenance responsibilities; (2) the routine and non-routine maintenance tasks to be undertaken; (3) a schedule for inspection and maintenance; (4) any necessary legally binding maintenance easements and agreements; and (5) a map showing all access and maintenance easements. Permittees are not responsible under this permit for operation and maintenance of postconstruction practices once coverage under this permit is terminated. Post-construction storm water BMPs that discharge pollutants from point sources once construction is completed, may in themselves, need authorization under a separate NPDES permit (one example is storm water discharges from regulated industrial sites).

Construction activities that do not include the installation of any impervious surface (e.g., soccer fields), abandoned mine land reclamation activities regulated by the Ohio Department of Natural Resources, stream and wetland restoration activities, and wetland mitigation activities are not required to comply with the conditions of Part III.G.2.e of this permit. Linear construction projects, (e.g., pipeline or utility line installation), which do not result in the installation of additional impervious surface, are not required to comply with the conditions of Part III.G.2.e of this permit. However, linear construction projects must be designed to minimize the number of stream crossings and the width of disturbance and achieve final stabilization of the disturbed area as defined in Part VII.H.1.

Large Construction Activities. For all large construction activities (involving the disturbance of five or more acres of land or will disturb less than five acres, but is a part of a larger common plan of development or sale which will disturb five or more acres of land), the post construction BMP(s) chosen must be able to detain storm water runoff for protection of the stream channels, stream erosion control, and improved water quality. The BMP(s) chosen must be compatible with site and soil conditions. Structural (designed) postconstruction storm water treatment practices shall be incorporated into the permanent drainage system for the site. The BMP(s) chosen must be sized to treat the water quality volume (WQv) and ensure compliance with Ohio's Water Quality Standards in OAC Chapter 3745-1.

The WQv shall be equivalent to the volume of runoff from a 0.75-inch rainfall and shall be determined according to the following equation:

$$WQv = C * P * A / 12$$

where:

WQv = water quality volume in acre-feet

C = runoff coefficient appropriate for storms less than 1 inch

(Either use the following formula: $C = 0.858i^3 - 0.78i^2 + 0.774i + 0.04$,

where i = fraction of post-construction impervious surface or use Table 1)

P = 0.75 inch precipitation depth

A = area draining into the BMP in acres

Table 1

Runoff Coefficients Based on the Type of Land Use Land Use Runoff Coefficient

Industrial & Commercial 0.8

High Density Residential (>8 dwellings/acre) 0.5

Medium Density Residential (4 to 8 dwellings/acre) 0.4

Low Density Residential (<4 dwellings/acre) 0.3

Open Space and Recreational Areas 0.2

Where the land use will be mixed, the runoff coefficient should be calculated using a weighted average. For example, if 60% of the contributing drainage area to the storm water treatment structure is Low Density Residential, 30% is High Density Residential, and 10% is Open Space, the runoff coefficient is calculated as follows $(0.6)(0.3) + (0.3)(0.5) + (0.1)(0.2) = 0.35$.

An additional volume equal to 20 percent of the WQv shall be incorporated into the BMP for sediment storage. Ohio EPA recommends that BMPs be designed according to the methodology included in the Rainwater and Land Development manual or in another design manual acceptable for use by Ohio EPA.

The BMPs listed in Table 2 below shall be considered standard BMPs approved for general use. However, communities with a regulated MS4 may limit the use of some of these BMPs. BMPs shall be designed such that the drain time is long enough to provide treatment, but short enough to provide storage for successive rainfall events and avoid the creation of nuisance conditions. The outlet structure for the post-construction BMP must not discharge more than the first half of the WQv or extended detention volume (EDv) in less than one-third of the drain time. The EDv is the volume of storm water runoff that must be detained by a structural post-construction BMP. The EDv is equal to 75 percent of the WQv for wet extended detention basins, but is equal to the WQv for all other BMPs listed in Table 2.

Table 2
Structural Post-Construction BMPs & Associated Drain (Drawdown) Times
Best Management Practice Drain Time of WQv

Infiltration Basin[^] 24 - 48 hours
Enhanced Water Quality Swale 24 hours
Dry Extended Detention Basin* 48 hours
Wet Extended Detention Basin** 24 hours
Constructed Wetland (above permanent pool)+ 24 hours
Sand & Other Media Filtration 40 hours
Bioretention Cell[^] 40 hours
Pocket Wetland# 24 hours
Vegetated Filter Strip 24 hours

* Dry basins must include forebay and micropool each sized at 10% of the WQv

** Provide both a permanent pool and an EDv above the permanent pool, each sized at 0.75

* WQv

+ Extended detention shall be provided for the full WQv above the permanent water pool.

[^] The WQv shall completely infiltrate within 48 hours so there is no standing or residual water in the BMP.

Pocket wetlands must have a wet pool equal to the WQv, with 25% of the WQv in a pool and 75% in marshes. The EDv above the permanent pool must be equal to the WQv.

The permittee may request approval from Ohio EPA to use alternative post-construction BMPs if the permittee can demonstrate that the alternative BMPs are equivalent in effectiveness to those listed in Table 2 above. Construction activities shall be exempt from this condition if it can be demonstrated that the WQv is provided within an existing structural post-construction BMP that is part of a larger common plan of development or if structural post-construction BMPs are addressed in a regional or local storm water management plan. A municipally operated regional storm water BMP can be used as a post-construction BMP provided that the BMP can detain the WQv from its entire drainage area and release it over a 24 hour period.

The above wording is directly from the permit and is provided for your information. During our inspection it was agreed that the discharge structure would be moved to facilitate more settling time in the pond and that the appropriate discharge orifice would be installed on the discharge structure. I have sent you an email containing an excel document that will aid in your selection of an appropriate orifice size. Please forward the excel document to your design engineer.

Sediment and erosion controls for your site must meet the guidelines and design criteria set forth in the above mentioned *Rainwater and Land Development* manual. A copy of this manual may be obtained by contacting the Ohio Department of Natural Resources, Division of Soil and Water Conservation, at (614) 265-6610.

Within fourteen (14) days of receipt of this letter, please submit to me at this office a written notification as to actions taken or proposed to eliminate violations of the permit. Your response should include the dates, either actual or proposed, for the completion of the actions. If you have any questions please contact me at (740) 380-5277.

Sincerely,



Aaron Wolfe
Storm Water Section
Division of Surface Water

AMW/dh