

R18-9-D306. 3.06 General Permit: Constructed Wetlands to Treat Acid Rock Drainage at Mining Sites

- A. A 3.06 General Permit allows the operation of constructed wetlands that receive, with the intent to treat, acid rock drainage from a closed facility.
- B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit a design, including information on the quality of the influent, the treatment process to be used, the expected quality of the wastewater, and the nutrients and other constituents that will indicate wetland performance.
- C. Design, construction, and installation. An applicant shall:
 - 1. Ensure that:
 - a. Water released into the wetland is compatible with construction materials and vegetation;
 - b. Water released from the wetland meets numeric Aquifer Water Quality Standards, pH is between 6.0 and 9.0, and sulfate concentration is less than 1000 mg/l.; and
 - c. Water released from the wetland complies with and is released under an individual permit and a National Pollution Discharge Elimination System Permit, if required.
 - 2. Construct the treatment wetland with a liner, using low hydraulic conductivity artificial liner material, site-specific liner material, or both, to achieve a calculated seepage rate of less than 550 gallons per acre per day. The applicant shall:
 - a. Ensure that, if an artificial liner material is used, such as geomembrane, the material is underlain by at least six inches of prepared and compacted subgrade;
 - b. Anchor the liner along the perimeter of the wetland; and
 - c. Manage the plants in the wetland to prevent species with root penetration that impairs liner performance.
 - 3. Design the treatment wetland for optimum:
 - a. Sizing appropriate for the anticipated treatment,
 - b. Cell configuration,
 - c. Vegetative species composition, and
 - d. Berm configuration.
 - 4. Construct and locate the treatment wetland so that it:
 - a. Maintains physical integrity during a 100-year, 24-hour storm event; and
 - b. Operates properly during a 25-year, 24-hour storm event.
 - 5. Ensure that the bottom of the treatment wetland is at least 20 feet above the seasonal high groundwater table.
 - 6. If public access to the wetland is anticipated or encouraged, post signs at points of access and every 250 feet along the perimeter of the wetland stating, "CAUTION. THESE WETLANDS CONTAIN MINE DRAINAGE WATER. DO NOT DRINK." The permittee shall ensure that the signs are in English and Spanish, or in English with inclusion of the international "do not drink" symbol.
- D. Operational requirements.
 - 1. The permittee shall monitor the water leaving the wetlands at least quarterly for the standards specified in subsection (C)(1)(b). Monitoring shall include nutrients or other constituents used as indicators of wetland performance.
 - 2. The permittee shall submit to the Department and implement a Best Management Practices Plan for operation of the wetland. The Best Management Practices Plan shall include:
 - a. A site plan showing the wetland footprint, point of inflow, storm water drainage, and placement of vegetation;
 - b. A contingency plan to address problems, including treatment performance, wash-out and vegetation die-off, and a plan to apply for an individual permit if the wetland is unable to achieve the treatment standards in subsection (C)(1)(b) on a continued basis;
 - c. Management of flows into and through the wetland to minimize erosion and damage to vegetation;
 - d. A description of the measures for restricting access to the wetlands by the public;
 - e. A management plan for vector control; and
 - f. A plan or criteria for enhancing or supplementing wetland vegetation.
 - 3. The permittee shall perform quarterly inspections to review the bank and liner integrity, erosion evidence, and the condition of signage and vegetation, and correct any problems noted.

- E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:
1. Construction drawings and as-built drawings, if available; and
 2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure.
- F. Reporting requirements.
1. If preliminary laboratory result indicates that the quality of the water leaving the wetlands does not meet the standards specified in subsection (C)(1)(b), the permittee may request that the laboratory re-analyze the sample before reporting the results to the Department. The permittee shall:
 - a. Conduct verification sampling within 15 days of receiving final laboratory results,
 - b. Conduct verification sampling only for parameters that are present in concentrations greater than the standards specified in subsection (C)(1)(b), and
 - c. Notify the Department in writing within five days of receiving final laboratory results.
 2. If the final laboratory result confirms that the quality of the water leaving the wetlands does not meet the standards in subsection (C)(1)(b), the permittee shall implement the contingency plan required by subsection (D)(2)(b) and notify the Department that the plan is being implemented.
 3. The permittee shall provide the Department with an annual assessment of the biological condition of the wetland, including the volume of inflow to the wetland in the past year.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).