



AquaBlok®

Installation Summary

Objective: Leachate Collection Structure Seal

Location: Ohio

Setting: Waste Disposal Facility

Project Status: Completed June 2011

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Photo 1. AquaBlok placement from a bulk bag (standard shipping unit for bulk material) using a compact excavator. Note free flow of dry product into trench surrounding the poured concrete pad/precast leachate collection structure.

Project Objective: Seal a problematic transition/void between a poured concrete pad and a precast leachate collection structure that was allowing surface water runoff (infiltration) into the treatment system.

Background: Constructed to collect and convey leachate (liquid waste) from an adjacent waste disposal facility, the precast concrete structure was capped by a 12" poured concrete pad that was designed to prevent input from precipitation and associated surface water run-off from higher elevations nearby. An approximately 3/4" void between the two concrete surfaces (sub-grade) allowed infiltration (i.e. unwanted stormwater run-off) particularly after significant rains and/or extensive thaw events – leading to higher volumes of leachate to be treated and increased operating costs.

Technical Challenges: A variety of different caulks and gaskets had been used without success in the problem area (due to separation/lack of adhesion through time). Local clay was compacted against the void space but it simply cracked and separated away from the concrete during extended dry periods.

AquaBlok Solution: Two cubic yards (2 bulk bags or 4,800-lbs) of AquaBlok® 2080FW#8 (PONDSEAL™) were placed to fully encircle the semicircular concrete pad. The overall trench dimension was approximately 18'L x 1'D x 1.5'W. Additional product was added to specific areas of subsidence caused by erosion and an animal (groundhog) burrow adjacent to the structure. Hydration was jump-started by wetting the entire body of product with a garden hose (optional) prior to re-grading the surface with native soil.

Equipment Used: Trailer for material delivery; compact excavator (with 12" bucket) and hand spade for trench excavation and AquaBlok placement.

Timeline: Trench excavation, material placement, re-grading, and seeding were all completed in approximately four hours. AquaBlok placement itself took less than 30 minutes after the site was prepared.

Results: Site managers have documented a marked and sustained reduction in the total volume of leachate collected and conveyed by the pump station. Data compared after multiple significant rain events, post-AquaBlok application (versus pre-treatment) demonstrate the reductions as compared to volume levels in the historical data following comparable.



Photo 2. Poured concrete pad adjacent to leachate collection pump station. Collection basin (See Photos 3 and 7) lies beneath pad at base of disposed cell.



Photo 3. Leachate collection basin beneath poured concrete pad (See Photos 2-6) showing surface water flow between top of precast concrete structure and bottom of pad (compare to Photo 7).



Photo 4. Excavation around concrete pad exposing seam between precast structure and pad.



Photo 5. Apron of AquaBlok approximately 1'W x 1'D surrounding both the structure and the pad (See Photo 1 for application from bulk bag). Note product has been hydrated.



Photo 6. Placement of topsoil atop AquaBlok prior to finish grading and seeding.



Photo 7. Leachate collection basin beneath poured concrete pad showing lack of surface water flow between top of precast concrete structure and bottom of pad (compare to Photo 3).



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Last Revised: May 2016