

AquaBlok®

Installation Summary

Objective: Basin Rehabilitation

Location: Findlay, Ohio

Setting: Residential Pond

Project Status: Completed October 2009



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Photo 1. AquaBlok placement from a stone slinger truck through up to 8 feet of water to reinforce basin substrates and reduce losses associated with the permeable earthen basin. Note guide ropes to aid in uniformity of coverage

Project Objective: Apply a ~2-inch hydrated AquaBlok liner through standing water and atop the existing basin floor and side slopes to reduce permeability and achieve a net balance to hold the pond at full pool.

Background: Like many residential “farm” ponds, this ~1/3-acre basin served a variety of functions – among them swimming and fishing hole, wildlife attractant, and backyard getaway. However, time allowed for the accumulation of several feet of rich organic silt (and the cattails that often come with it), so the homeowner opted to drain the pond and “muck out” the soft sediment with an excavator. Portions of the basin were deepened to ~10-feet, but when water was reintroduced, the basin no longer held with depths of more than 6 to 7-feet. It appeared that the clay “liner” that originally maintained the water levels had been compromised, and there was no certainty as to how localized (or widespread) the problem might be.

Technical Challenges: Once localized vulnerabilities (e.g. pipe penetrations, failing dams, etc.) are eliminated as the root cause of water loss, basin-wide lining options have historically come down to (a) compacted clay, (b) amendment media such as granular bentonite blended and compacted into resident soils, or (c) a synthetic liner. In all three cases, the basin must be drained and dried to execute the remedy. The time, labor, expense, and disruption of any/all of these alternatives are often prohibitive.

AquaBlok Solution: 40 tons (two truckloads) of AquaBlok® 2080FW#8 (PONDSEAL™) were placed over 11,400 square feet of basin bottom/side slopes through standing water to reinforce the area that had been disturbed when the basin was excavated to remove excess organic material. The only portions not treated were the beach area and the upper-most portion of the side slopes (where rip-rap was added to protect against erosion).

Equipment Used: Stone slinger truck and tarped flatbed for material delivery; articulated flatbed-mounted crane for transloading into slinger truck; remote operated slinger truck for dry material conveyance; manual labor (equipped with steel rakes to float material and insure uniform coverage on land); high visibility nylon rope to serve as guide lines for material placement into the water.

Timeline: Once guide ropes were positioned, the first slinger load (20 tons) was applied in approximately 45 minutes; the balance of the product (20 tons) was applied from multiple locations over a period of about one

hour. The entire project (product delivery, site preparation, product placement, and cleanup) was completed in one morning.

Results: The impact of the application could not be seen until precipitation filled the pond over a period of approximately six weeks. A combination of rain and snow melt filled the pond to the intended high water elevation and the basin has been functioning as designed since.



Photo 2. Transloading AquaBlok from a 2,400lb bulk bag (standard shipping unit) to the bed/hopper of the application equipment - a stone slinger



Photo 3. AquaBlok placement from a shore-based stone slinger truck. Note rope dividing the basin to assist in uniform product coverage (each 17'x17' unit received 1 ton of product)



Photo 4. Shore-based stone slinger truck being controlled by operator. Note application up side slopes to transition between basin floor and rip-rap erosion protection



Photo 5. Leveling of dry AquaBlok on the shoreline, easily achieved using a concrete float or steel rake



Photo 6. AquaBlok placement from a shore-based stone slinger truck (maximum reach typically ~75' from back of truck)



Photo 7. Individual AquaBlok particles minutes after application/inundation. Note additional product was ultimately placed in the foreground (atop the thin layer of leaf debris)



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