



WATER • WASTEWATER • STORMWATER
SOLUTIONS

CASE STUDY

Volume 1, Number 5

TRENCH DAM INSTALLATION STABILIZES BACKFILL ALONG PIPELINE AT WORCESTER, MA REGIONAL AIRPORT

MOVING BEYOND THE PAST

The **P**roduct **A**dvancement **S**olutions **T**echnology

SITUATION

Important drainage issues needed to be resolved when the Worcester, Massachusetts Regional Airport's taxiway was extended in late 2017. Reinforced concrete pipe installations, in diameters up to 24 inches, required anti-seep collars, also known as trench dams or water stops, to be installed at regular intervals along the pipe runs. Project plans called for collars to be installed every 50 feet along the pipe runs, and also near every manhole structure.

Seeking an appropriate product to construct the collars in the field, Shawn Kersey from J. F. White Contracting of Framingham, Massachusetts contacted Team EJP's Shrewsbury, Massachusetts office. The team at Shrewsbury recommended AquaBlok®, a bentonite coated aggregate as a solution. Moisture expands the clay on contact, creating an impermeable barrier at each trench dam location. With time also being a factor, AquaBlok® was chosen and the first truckload arrived on the jobsite within two days of order placement.

CHALLENGES

- Traditional backfill methods can cause high soil permeability along pipelines.
- Resulting seepage can cause erosion.
- Backfill can be undermined.
- Cave-ins can cause breaches and safety issues.



SOLUTION

- Use AquaBlok® to create a watertight barrier at each trench dam location.



“We were having issues with the silt running through the stone in the trench. Since the install, there have been no signs of silt through the stone and under the pipes”

- Brian MacDonald
G.M., Field Operations
J.F. White Contracting
Framingham, MA

RESULTS

The product installation continued from late 2017 into the new year. A total of nine truckloads of the AquaBlok® material were delivered to the site. In all, some 360,000 pounds of the material were required to complete the project. By forming a watertight seal at each water stop location, the subsurface check dams will prevent future issues with subsurface soil movement and soil erosion.

Metal plates encased the product installation. Each check dam consumed six cubic yards of material. Sometimes known as nature’s duct tape, the bentonite coated aggregate is widely used in applications where water flow prevention is required. Leaky pond bottoms provide another very common use for the product.

Originally developed as a material to limit the spread of contamination, AquaBlok’s physical composition makes it the perfect solution to serve as a collar around pipe. The bentonite provides an erosion-resistant, permanent seal that provides structure and support for the exterior of the pipe.

