

# AquaBlok® Installation Profiles



**Site Location:** US EPA Region 5

I-475 Jeep Pkwy. Interchange, Toledo, Ohio

**Project Status:** Completed September 2012

**Setting / Purpose:** Construction of an interstate highway expansion resulted in a release of arsenic bearing water. The seep occurred on a slope that was to be reinforced and expanded to support lane widening. Objective is to provide both adsorptive treatment materials in combination with a low-permeability cap to limit the migration of residual contaminants within the slope.



**Contaminant(s) of Concern:** Arsenic from historic accumulation of fill material.

## AquaBlok Design / Site Area:

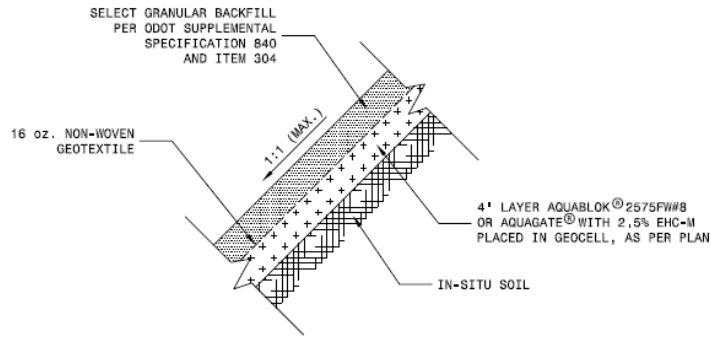
The design utilizes a “funnel & gate” treatment approach to direct and apply reactive, treatment materials to address the potential spread of the contaminant of concern from the seep zone. To accomplish this, a low-permeability layer of AquaBlok was placed on the slope to minimize migration and direct residual seep downward to the base of the slope. At the base of the slope, a permeable treatment zone was constructed using AquaGate+EHC-M materials. EHC®-M is a proprietary treatment material supplied by FMC Environmental. It has been tested and utilized in applications to remove metals and other contaminants from water. Due to the steep slope (approximately 1:1), a cellular slope stability material was used to maintain the AquaBlok prior to backfill.



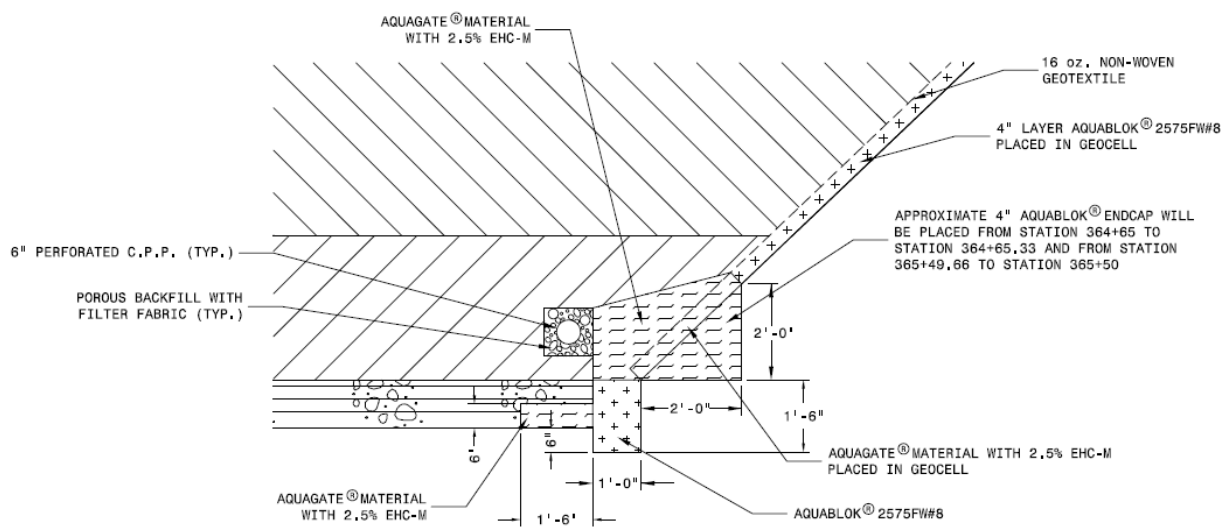
Above: AquaGate Placement into Form at Base of Slope

Below: Installation of Cellular Slope Stability Material (Geocell)





**2 SIDESLOPE DETAIL**  
NOT TO SCALE



**3 PROPOSED INTERIM REMEDIATION DETAIL FOR STA. 364+65 TO 365+50**  
SCALE: 1"=2'



Above: AquaBlok Placement into Cellular Slope Stability Material

Below: Completed Installation with Geotextile Cover – For Protection Prior to Backfill of Slope



Results – Post-Placement Sampling:

# Use of AquaGate+EHC-M for Treatment of Arsenic Seep Zone



## RCRA Metals

	<u>Before</u>	<u>June13'</u>	<u>Aug13'</u>	<u>March14'</u>
Arsenic	60 mg/L	ND mg/L	ND mg/L	ND mg/L
Barium	0.15 mg/L	0.12 mg/L	ND mg/L	0.1mg/L
Cadmium	0.0033 mg/L	ND mg/L	ND mg/L	ND mg/L
Chromium	0.067 mg/L	ND mg/L	ND mg/L	0.043 mg/L
Lead	0.17 mg/L	ND mg/L	ND mg/L	ND mg/L
Selenium	0.81 mg/L	ND mg/L	ND mg/L	ND mg/L
Silver	0.0034 mg/L	ND mg/L	ND mg/L	ND mg/L
Mercury	ND mg/L	ND mg/L	ND mg/L	ND mg/L