

PROJECT:

ARCO Wellsville

**LOCATION**

Wellsville, New York

PROJECT TYPE

Groundwater Remediation

COMPLETION DATE

2008

DESIGN FLOW

280,000 gpd

1,060 m³/d

TREATMENT

Sedimentation Pond,
Surface Flow Wetlands,
Oxic Limestone Drains

**NEED**

Until 1958, the Sinclair Oil Company operated a refinery on property currently home to the State University of New York's Wellsville campus. As a result of the former refinery's historical operations, legacy groundwater contaminants, including petroleum hydrocarbons, metals and chlorinated solvents remain at the site

The site is adjacent to the Genesee River, which is susceptible to contaminated water. Atlantic Richfield (ARCO), the current property owner, needed a treatment system that could operate for at least 100 years with minimal maintenance requirements. ARCO also wanted a treatment system that could benefit and be part of the Wellsville community.

SOLUTION

A passive wetland system was designed as a long-term solution to treat 280,000 gallons per day (1,060 cubic meters per day) of contaminated groundwater. The treatment system consists of a cascade aerator, sedimentation pond, parallel surface flow wetlands, parallel vertical flow oxic limestone drains, and sand drying beds for iron precipitate dewatering. The system, operated by On-Site Technical Services, removes >99% of aniline and nitrobenzene from the groundwater, without the use of added chemicals.

BENEFIT

The design also incorporates an upgrade of the adjacent rails to trails path, restoration of the adjacent river swale, and a 20-acre site plan using entirely native plants (tress, shrubs, wildflowers, grasses and wetland plants). The site plan also incorporates a trail system adjacent to the wetlands for observation

The system has successfully treated over 720,000,000 gallons (2,725,200 m³) of water to date and uses no electricity other than that used to pump groundwater from the recovery wells to the treatment wetlands.

