

Project Profile

World War II Memorial Project Groundwater Treatment System Washington, DC



Background

In 2003, AdEdge Technologies began working closely with EarthTech, the assigned engineering firm responsible for specifying and selecting the various water treatment systems serving the new National World War II Monument in Washington, DC. Stormwater and groundwater control and treatment are essential aspects of this project given the location of the site on the Mall adjacent to the reflecting pool and Washington Monuments. Based on experience and approach, AdEdge was subsequently contracted by Walsh Construction, the General Contractor to provide the integrated groundwater treatment system for this high profile project. The needs for treatment arise for shallow groundwater collected by the subsurface drainage system inside a bentonite slurry cut-off wall surrounding the 11 acre site. Primary contaminants for treatment include iron, manganese, and arsenic. Water must be extracted and treated to meet the NPDES permitted discharge limits prior to final conveyance to the Potomac River which are below EPA drinking water maximum contaminant levels. The systems are located 20 feet below the memorial in a secured concrete vault containing other conveyance piping, pumps, and support systems for the Memorial.



Treatment System

The AdEdge systems consist of two parallel skid mounted systems rated for 30 gallons per minute each capable of removing the contaminants of concern. Each treatment train includes an AdEdge AD26 iron removal system and an Arsenic Package Unit (APU) for arsenic treatment to attain the stringent discharge limits. The water is pumped from the groundwater feed pumps and enters the dual vessel AD26 system following in-line hypochlorite (chlorine) injection. Hypochlorite solution is fed in-line through a computer controlled metering and feed system capable of real time chlorine residual measurement and control. Iron and manganese are oxidized and filtered/adsorbed with the proprietary AD26 catalytic media based system. Treated water, free of iron and manganese from the AD26 systems, flow through their respective APU adsorption system containing the Bayoxide E/AD33 media. The media is an NSF 61 Certified, granular ferric oxide media specifically engineered for arsenic removal. Attractive features of the system(s) are their small footprint, long media life, simplicity and minimal operator attention required.

Each of the skid mounted systems are equipped with automatic controls, backwashing features, switches and sample ports for complete functioning packaged units. Instrumentation is provided on a control panel to measure critical operating parameters. Total gallon throughput and flow rate for each unit is measured continuously with a dedicated flow totalizing meter. The AdEdge adsorption system requires no chemicals, regeneration, and does not generate liquid or hazardous waste. Media, when spent, will be discarded as a non-hazardous solid waste. The system was placed into operation in early June, 2004 and will be operated by the National Park Service.

For More Information Contact

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