



DUAL MEDIA VESSELS OFFER NEW ENGLAND TOWN A FLEXIBLE FUTURE

Norwell, MA Installs Two GAC and IX Compatible Systems to Meet PFAS6 Guidelines

BACKGROUND

Located in Plymouth County, Massachusetts, the Town of Norwell has prioritized protecting its over 11,000 citizens from the impacts of PFAS. In early 2020, the town took advantage of funds from the state's Department of Environmental Protection to test against the state maximum contaminant level (MCL) for PFAS6. The results were above the limit of 20 parts per trillion, sitting at 29 ppt. A temporary mitigation solution of blending and demand management was effective in the short term, but a long-term solution was required to ensure future compliance with federal mandates.

The design process began in January 2022 intending to install remediation filters in a new building adjacent to the existing plant. After an initial bid that returned a minimal amount of competition from suppliers, the project was rebid in August 2022 with an expedited delivery timeline of 90 days and the intent of placing the new system within the town's existing Greensand plant.

Norwell was approved for \$2.9 million in State Revolving Fund loans, providing the town with 0% interest funding for the lifespan of the loan and the potential of partial principal forgiveness.

AV PROJECT SCOPE

The adjustment to the project scope resulted in a win for both Norwell and AqueoUS Vets® (AV), as AV LowPro® vessels enabled the town to utilize existing infrastructure. The vessels were ready for delivery within the contractually obligated 90-day period and, in discussions with the engineer, AV was able to propose a dual media solution: The vessels were outfitted to allow either granular activated carbon (GAC) or ion exchange (IX) resin to be used, depending on the needs of the town.

Upon request of Norwell, AV stored the finished vessel system for about a year to accommodate the supplemental SRF funding timeline submitted for installation and piping modification to the existing building. Currently, two AV LowPro® vessels have been installed and AV has been awarded the initial GAC fill through a subsequent bid. They are expected to go online in the Spring of 2024. A pilot of alternate commercially available media (including GAC, IX, and a novel adsorbent) is planned to determine the most cost-effective, long-term media to achieve the desired water quality. An additional dual media AV LowPro® system has been approved for funding to expand the town's drinking water supply capacity.

**CONTACT
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AqueoUSVETS®



KEY GAC SYSTEM DESIGN & OPERATIONAL PARAMETERS	GAC TREATMENT VALUE
Number of Systems/Vessels per System	1/2
Operating Configuration	Parallel/Lead-Lag
Carbon Capacity/Volume per Vessel ft ³	714 ft ³
Carbon Type	Bituminous Coal
Design Flow Rate	500 gpm
Hydraulic Loading	4.4 gpm/ft ²
Empty Bed Contact Time per Vessel	10 Minutes
Underdrain	External Ring Header
Overall System Height to Top of Pipe	14'-6"

PROJECT LOCATION
Norwell, MA

PROJECT TIMEFRAME
January 2022 –
November 2023

AV[®] SCOPE OF WORK
2 – GAC/IX Dual Media
Vessels

GENERAL CONTRACTOR
Winston Builders
Corporation

PROJECT TYPE
Design, Supply

PROJECT PHASE
In Process

END USER
Town of Norwell

DESIGN ENGINEER
H2Olson Engineering

