

# PROJECT PROFILE

## An Affordable Wastewater Treatment Solution for Government Properties

### BEE RUN DAY USE AREA, WEST VIRGINIA

**Problem** A failing sand filter — which treated wastewater from a recreational day-use facility located on the edge of Sutton Lake, West Virginia — required replacement, quickly, before the busy summer season began.

**Solution** The U.S. Army Corps of Engineers (USACE) replaced the sand filter with an Orenco AdvanTex® Treatment System, using a fast, no-bid procurement process. In addition, USACE were able to utilize the existing NPDES permit allowing direct discharge into Sutton Lake, speeding the process even more.

### AdvanTex® System Boasts Quick Start-up

The U.S. Army Corps of Engineers (USACE) needed a wastewater treatment system to replace a failing subsurface sand filter that serviced a bathroom facility for the Bee Run boat launch and day use area, along Sutton Lake in West Virginia. Seasonal usage of the area required a treatment system that could start-up quickly when it was “powered on” after the long off-season months (December through May). USACE also wanted a system that could meet the requirements of the existing NPDES permit — 30/30 BOD<sub>5</sub>/TSS — which allowed direct discharge into Sutton Lake following UV disinfection.



Sutton Lake needed a wastewater system that could start up quickly after the off-season and meet NPDES discharge requirements. Photo: U.S. Army Corps of Engineers.

### Commercial — Government Market

#### Project Summary

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#### Design Parameters

- Bathroom facility for picnickers, boaters, and visitors to the marina
- Estimated peak flows: 6,000 gpd

#### Installation

- Spring 2009

#### Start-up

- June 2009

#### Collection System

- Gravity and force main flow from bathrooms to primary tank at treatment site

#### Treatment

- 12,000-gal. primary tank
- 5,000-gal. recirculation tankage
- 3 Orenco AdvanTex AX100 filter pods
- UV disinfection

#### Controls

- Orenco TCOM™ remote telemetry control panel

#### Discharge

- Direct discharge to Sutton Lake under NPDES permit
- Limits: 30/30 BOD<sub>5</sub>/TSS

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**Commercial —  
Government Market**

In an Orenco AdvanTex Treatment System, the USACE found a solution that not only starts up immediately but one that could meet the permit's strict discharge requirements. As a general rule, AdvanTex systems regularly produce effluent that meets limits of <10 mg/L BOD<sub>5</sub> and TSS, as well as reduce nitrogen by more than 60%, when properly designed and installed.\*

In this case, the selection of AdvanTex simplified installation as well. USACE's facilities crew at Sutton Lake were able to complete the AdvanTex installation themselves. Not only does the AdvanTex system have few moving parts, the facilities crew were able to set the modular AX100 filter pods directly on top of the failed sand filter, saving both time and money.

AdvanTex is also easily serviceable and does not require advanced operator training. Consequently, the facilities crew have been able to take charge of on-going operation and maintenance of the new treatment plant, in addition to their regular maintenance duties at other recreational sites on the lake.



The AdvanTex pods were installed directly on top of the sand filter site.

\* NSF® International Standard 40 Evaluation Report, April 2002. (Evaluation performed by NovaTec Consultants, Inc.)

For more information about effluent sewers, Orenco Sewers™ and AdvanTex® Treatment Systems, contact Orenco Systems®, Inc.

  
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Data used by Orenco to derive the representations and conclusions contained within this Project Profile were current as of January, 2011.