USACE, SAVANNAH DISTRICT

TAC-X HYDROPNEUMATIC TANK IN-KIND REPLACEMENT

Fort Stewart, Georgia

PROJECT HIGHLIGHTS

CLIENT PROFILE

The U.S. Army Corps of Engineers (USACE) Savannah District oversees various programs at 11 military installations in Georgia and North Carolina and manages the water resources of the Coastal Georgia region. The District provides expertise and management for a broad variety of disciplines including engineering, architecture, design, construction, master planning, subsurface exploration, hydropower, and environmental stewardship. Fort Stewart is the home of the 3rd Infantry Division of the U.S. Army and the largest armor training facility east of the Mississippi.

PROJECT OVERVIEW

Fort Stewart operates a public water system at the tactical exercise (TAC-X) facility in accordance with Georgia Department of Natural Resources Environmental Protection Division's (EPD) Safe Drinking Water Act of 1977 and Chapter 391-3-5. The drinking water system includes a groundwater supply well, 5,000-gallon steel hydropneumatic tank, and a chlorination system. The tank, which had been in service for more than 30 years, increasingly required maintenance for corrosion leaks. A survey revealed that the tank had a lead-based paint exterior coating and asbestos-containing insulation and, as a result, the firm was retained to provide the design/build of an-kind replacement of the tank.

The 3E (now MSE Group) field crew worked multiple weekends and holidays to ensure the public water system was functional before the remobilization of U.S. military troops.

CHALLENGES

- Hazardous building materials associated with the tank.
- Site and construction access available only during the holiday period, complicating coordination with subcontractors and vendors.
- Compressed implementation schedule.
- Requirement that all repairs and materials be properly disinfected so that bacteria could not enter the drinking water system.
- Unknown hazardous materials content at TAC-X.
- Changed conditions at TAC-X due to unknown utilities in substandard condition.

THE MSE GROUP APPROACH

The firm completed extensive hazardous materials testing and subsurface utility investigations to fully characterize existing conditions and prepare for in-field modifications to meet the project's goal and comply with budget and time constraints. The design phase incorporated current State of Georgia rules and regulations that were not provided with the original tank system. The construction phase involved removal and off-site disposal of the asbestos and lead-coated tank, followed by installation of a new 5,000-gallon steel hydropneumatic tank. The project also included installation of compliant ancillary drinking water supply systems, which had been identified as unknown conditions during construction.

ACCOMPLISHMENTS

- Performed in-kind tank replacement over the facility holiday shut down and successfully initiated water service prior to the troop remobilization to the facility.
- Upgraded encountered, unknown water distribution network at TAC-X at no extra cost to the Government.

AREAS OF EXPERTISE

- Compliance engineering
- Design/build
- Geophysics
- Hazardous building materials
- Construction services