

Runway Drainage Rehabilitation

Project called for 2,000 ft of new pipe to be installed each week.

The drainage system along the primary runway at Scott Air Force Base in Mascoutah, IL, was originally clay pipe and perforated corrugated metal pipe. After 50 years much of the pipe was either leaking severely or had deteriorated to the critical point where replacement was required. Plans called for nearly six miles of large diameter pipe to be installed, but within a strict time limit because the runway could only be shut down for a specific time period.

This project included removal and replacement of more than 31,000 ft of 12- to 36-in. diameter pipe. After being awarded to the contractor, a value engineering proposal was approved to use corrugated polypropylene pipe in accordance with ASTM F2736, F2881, and AASHTO M330. The high pipe stiffness and watertight joints of



Advanced Drainage Systems' corrugated polypropylene pipe was selected for the drainage project.

the pipe system allowed for a reduced amount of imported backfill and the subsequent reduced haul off of excavated material. Burial depth would be up to 13 ft. The selected pipe was ADS HP Storm, a product of Advanced Drainage Systems, Inc. (www.ads-pipe.com), a high-performance poly-propylene pipe for gravity-flow storm drainage applications. According to the company, the pipe couples advanced polypropylene resin technology with a proven, dual-wall profile design for reliable per-

formance and durability. The smooth interior wall offers additional strength and maximum, consistent flow. Also, this polypropylene pipe is approved for use by the Army Corps of Engineers for storm drainage applications under Section 33 40 00 of the Unified Facilities Guide Specifications. The pipe has a joint that meets or exceeds the 10.8-psi laboratory performance standards per ASTM D3212 requirements. The Federal Aviation Administration has approved polypropylene pipe for subsurface water collection and disposal at civilian airports.

Located 20 miles east of St. Louis, Scott Air Force Base is a global mobility and transportation hub for the Department of Defense. The 3,589-acre base is home to several command and control elements that represent logistics for the United States mili-

tary in an environment that brings together the Army, Navy, Air Force, Marines, and Coast Guard members—active duty, Guard, and Reserve. They are responsible for managing the global mobility missions around the world and also aeromedical evacuation, senior leader airlift, and aerial refueling capabilities for the Air Force and DoD. The base has more than 22,000 uniformed, civilian, and family personnel.

This is not the first time the base placed a tight dead-

line on contractors. According to the base's history, when it was built in 1917 the government gave the Unit Construction Company 60 days to erect about 60 buildings, lay a mile-long railroad spur, and level off an airfield with a 1,600-ft landing circle.

Contractors once again faced pressure to comply with a demanding project end date on the new stormwater pipeline. It had to be completed within the 16 weeks that the runway was to be shut down during the summer of 2014. The pipe's light weight, 20-ft length, the ability to nest different diameters of the pipe, and ease of handling allowed each of the contractor's two crews to install more than 400 ft a day on many days.

Each day the contractor was easily able to string out the pipe along the trench alignment and move as quickly as the excavator could remove the old pipes. Often, the crew could insert the pipe in the trench without the need of heavy equipment. The value engineering proposal saved more than \$30,000 while providing a sanitary-sewer grade polymer, pipe stiffness, and joint.

The preceding is courtesy of the Plastics Pipe Institute (PPI). For further information on the PPI, go to www.plasticpipe.org.



Easy installation helped contractors comply with a demanding project end date.



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