

# CAMDEN WASTEWATER TREATMENT PLANT

At the wastewater treatment plant (WWTP) for the City of Camden, Tennessee, average daily flow capacity increased dramatically from 0.5 MGD to 1.5 MGD with the completion of new, energy-efficient infrastructure protected by high performance coating systems from Tnemec.

"The project involved new construction that used Tnemec protective coatings on various surfaces," explained Tom Williams, Tnemec Representative, NexGen Coating Resources, Inc. "The engineer wanted the best wastewater coatings on the market to protect the various substrates from corrosion."

Included in the expansion was a new energy-efficient influent pump station, influent force main, expanded disinfection system, effluent weir and controls, and a Supervisory Control and Data Acquisition (SCADA) system that allows real-time notification of plant operating status. A land application site for treated effluent was also included in the project.

The plant's ductile iron pipe was coated in-shop with Series 431 PermaShield PL, a 100 percent solids, ceramic-modified epoxy liner specifically designed for wastewater immersion and fume environments. Spray-applied using plural component (PC) equipment at 40 mils dry film thickness (DFT), Series 431 resists elevated levels of hydrogen sulfide gas (H<sub>2</sub>S) and other sewer gases, which can rapidly corrode pipes used in wastewater environments.

Concrete infrastructure was prepared in accordance with SSPC-SP13/NACE No. 6, ICRI-CSP5 and resurfaced with Series 218 MortarClad, an epoxy-modified cementitious mortar. The surface was then topcoated with Series 436 Perma-Shield FR, a fiber-reinforced, 100 percent solids modified polyamine epoxy. The reinforcement in Series 436 offers superior physical strength and high film build for excellent resistance to H<sub>2</sub>S gas permeation.

Secondary containment areas were coated with Series 239SC ChemBloc, a highly chemical resistant novolac polyamine epoxy for use with Series 211-0215 Fiberglass Mat, followed by a finish coat of Series 282 Tneme-Glaze, a polyamine novolac epoxy. The coating system protects against harsh chemicals, thermal cycling, impact and abrasion.

Exterior concrete block received two coats of Series 156 Enviro-Crete, a modified waterborne acrylate coating that offers excellent elastomeric protection against driving rain, alternate freezing-thawing and ultraviolet (UV) light. Internal concrete masonry units (CMU) received two coats of Series 104 H.S. Epoxy, a cycloaliphatic amine epoxy that offers superior abrasion and stain resistance.

In addition to complying with National Pollutant Discharge Elimination System (NPDES) requirements, the expansion enabled the City of Camden to provide services to additional commercial and residential customers while improving efficiency.

## FEATURED PRODUCTS

Series 104 H.S. Epoxy  
Series 156 Enviro-Crete  
Series 218 MortarClad  
Series 239SC ChemBloc

Series 282 Tneme-Glaze  
Series 431 Perma-Shield PL  
Series 436 Perma-Shield FR



## PROJECT INFORMATION

### Project Location

Camden, Tennessee

### Project Completion Date

March 2016

### Owner

City of Camden

### Architect / Engineer

Civil Infrastructure Associates - Murfreesboro, Tennessee

### Field Applicator

Commercial Painting, Inc. - Nashville, Tennessee

### Shop Applicator

Consolidated Pipe & Supply Co. - Bessemer, Alabama

Various interior and exterior surfaces at the Camden Wastewater Treatment Plant are protected by Tnemec coatings and linings designed for wastewater environments.

