

BRUSH CREEK SEWER PIPE REPLACEMENT

On a typical day, the aerial crossing over Kansas City's Brush Creek channels millions of gallons of wastewater through a 72-inch sewer line, which is protected against microbiologically influenced corrosion (MIC) by a 100 percent solids ceramic epoxy lining from Tnemec.

"Kansas City, Missouri, Water Services Department has standardized on Series 431 Perma-Shield PL for steel and ductile pipe used in severe sewer exposures," explained Scott Keilbey of Midwest Coating Consultants, Inc. "For the aerial crossing over Brush Creek, Series 431 was used on the inside and outside of the steel pipe segment measuring 450 linear feet."

The pipe replaced a nearly 100-year-old concrete sewer main that collapsed last summer due to erosion along Brush Creek. The overall project included the addition of a rock box to catch debris, added stabilization to prevent future erosion of the creek's embankment, the installation of new piers and construction of two new junction structures.

"The project attracted interest from various steel pipe suppliers and their applicators who made alternative suggestions for polyurethane coatings to be used," Keilbey recalled. "Kansas City Water Services and the design engineer, Burns & McConnell, stayed with their specification for Series 431 based on their prior experience with the product."

Series 431 is formulated to resist elevated levels of sewer gases, which can rapidly corrode pipes used in severe wastewater environments. The coating was shop-applied at 40 mils dry film thickness (DFT) by the pipe supplier, Northwest Pipe Company, using plural component (PC) spray equipment.

"Local contractor, Leath & Sons, erected the pipe, welded it together and repaired the weld seams," Keilbey shared. "The aerial crossing is visible from the Swope Parkway, so they decided to apply a polyurethane finish coat to the pipe's exterior to enhance its appearance."

The pipe exterior received a shop-applied finish of Series 1074U Endura-Shield II, an acrylic polyurethane finish coating containing a blend of ultraviolet light (UV) absorbers for enhanced color and gloss retention.

The Brush Creek watershed is dominated by single-family residential developments and commercial districts, including the Country Club Plaza, which is Kansas City's premier retail and entertainment destination.

FEATURED PRODUCTS

Series 431 Perma-Shield PL
Series 1074U Endura-Shield II



PROJECT INFORMATION

Project Location

Kansas City, Missouri

Project Completion Date

December 2016

Owner

Kansas City Water Services

Engineer

Burns & McDonnell
Kansas City, Missouri

Shop Applicator

Northwest Pipe Company
St. Louis, Missouri

Kansas City, Missouri, Water Services Department has standardized on utilizing Tnemec's innovative sewer pipe lining, Series 431 Perma-Shield PL, to protect its infrastructure from corrosion.

