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CASE HISTORY



UV Technology Saves Historic Home

Market Segment: Sewer Rehabilitation

Composite Application: CIPP for Clay Sewer

Resin: Vipel® unsaturated polyester specially formulated for UV cure

Host: Sanitary Sewer Clay

Manufacturing Process: Cured-in-place pipe

Diameters: 10 inches (25.4 centimeters)

Total length: 647 feet (197 meters)

Installed: 2009

Location: Penn Hills, Pennsylvania, USA



UV-cure technology was ideally suited for repairing pipe at the remote job site.

Ingenious underground pipe repair technology that uses ultraviolet (UV) light helped preserve an 18th Century home nestled among hills near Pittsburgh, Pennsylvania. The Reline America, Inc.® technology installed by Abel Recon also restored natural water flow to the picturesque creek that runs past the historic building. The Vipel® UV-cure resin system for the job was supplied by AOC

The problem was occurring in 647 feet (197 meters) of old 10-inch (25.4-centimeter) diameter clay sewer line that runs near the home and creek. Water that should naturally flow through the creek was entering the pipe through cracks and failing joints. The “infiltration and inflow” (I/I) problem left the creek bed dry. The extra water reduced the pipe’s capacity to carry wastewater and added to the workload of the treatment plant.



To eliminate excavation, the special Blue-Tek® slip sheet was guided into the host pipe through an existing manhole

UV Technology Saves Historic Home, continued

“By far the largest obstacle was the physical location and historic nature of the property,” said Tom West, Construction Technical Advisor for Reline America, Inc. “Once the sewer was repaired, the creek became one-third full in 24 hours.”

The solution was designed by Gateway Engineering Inc. for the Municipality of Penn Hills. Engineers specified a cured-in-place-pipe (CIPP) inside the existing pipe to eliminate trenches that would add costs, create delays and threaten the structural integrity of the historic home.

Shining a new light on CIPP

Abel Recon installed the new CIPP using Reline America’s “Blue-Tek®” technology. Pat Godwin, Business Development Manager for Abel Recon explained how this technology can provide advantages over conventional CIPP. “The I/I at the Penn Hills site was so severe that the pipe still had seven to ten percent flow even after the by-pass was installed,” said Godwin. Blue-Tek technology starts with a slip sheet that protects the resin-impregnated liner as the liner is winched into place.”

The liner was custom-made for the job in Reline America’s certified facility. Because UV-cure resin is not affected by temperature, the liner was shipped without costly refrigeration.

At the job site, the liner was pulled instead of inverted as is the case with most conventional CIPP. The Blue-Tek liner was then inflated, and a UV light “train” was introduced into the liner to initiate resin cure. A traditional cure would have taken two to three hours and would release styrene. The Penn Hills project cured at three to five feet per minute with no styrene release.

Superior liner and resin technology

Godwin pointed out, “The material for Blue-Tek liner is made of spirally-wound fiberglass. The finished product is a reinforced composite that is half as thick and at least four times stronger than a conventional felt-based liner.”

For resins used in Blue-Tek projects, Reline America’s Tom West emphasized the importance of professional technical support. “Bill Moore of AOC’s technical staff and AOC Sales Representative Berk Pleasants helped us formulate a resin specifically to the needs of the job. We work with AOC as a team to get consistent characteristics.”



The fiberglass liner was inflated on top of the slip sheet.

About Reline America

Reline America, Inc., of Saltville, VA, USA, uses Blue-Tek® ultraviolet light-cure, trenchless pipe rehabilitation technology developed by Brandenburger Co. of Landau, Germany. The technology has successfully rehabilitated approximately 10 million feet (3,048 kilometers) of pipeline in more than 24 countries worldwide. For more information, call Mike Burkhard at (276) 496- 4000, email mburkhard@relineamerica.com; or call Tom West at (276) 698-7008, e-mail twest@relineamerica.com; or visit www.relineamerica.com.

About Abel Recon

Specializing in infrastructure rehabilitation, Abel Recon, Mountville, PA, offers a wide variety of services for consulting engineers and governmental authorities. Abel Recon is the authorized installer of Blue-Tek® technology for Pennsylvania, Northeast Maryland, Delaware, Southern New Jersey, and Eastern Ohio. For more information about Abel Recon, call Hap Witmer, General Manager, at (717) 285-3103, e-mail hwitmer@abelrecon.com, or visit www.abelrecon.com.

About AOC

AOC is a leading global supplier of resins, gelcoats, colorants, additives and synergistic systems for composites and cast polymers. AOC knows technology, lives quality and delivers service better than any other supplier. For more information, e-mail CIPP@aoc-resins.com, phone (901) 854-2800 or go to AOC-RESINS.com.

