

When video inspection is not enough

In the summer of 2019 Aquazen Services was hired to oversee the lining of a 45-year old 150mm ductile iron pipe for a Condo Corporation in Mississauga, ON. The Condo Corporation elected to use a lining technique because of the pipe depth burial, proximity of storm drain, effluent pipe and other underground infrastructure made replacement too difficult. Additionally, since the pipe was only 63m in length, solicitation for replacement and CIPP was met without any bids. Aquazen hired Envirolitics Inc to perform a clean and line the section using their patented Tomahawk System. The airborne, trenchless, solution seemed like an ideal solution. It was cost effective and only scheduled for 2.5 days on-site. The Board of the Condo Corporation approved the recommendation. Access pits were dug, temporary water bypass set-up and Envirolitics arrived on-site and set up the Tomahawk System and began cleaning. The pipe had cement mortar lining, so the pipe was not too tuberculated, so cleaning was performed within 2 hours.

After the cleaning was performed, Envirolitics did a video inspection and the pipe looked to be in decent condition, one suitable for a non-structural liner. Before lining commenced, Envirolitics decided to run its new live-streaming RFEC probe through the pipe called the Detective. The Detective is an integral part of Envirolitics new Clean, Evaluate, Line and Protect (CELP) offering. All parties were shocked when the pipe indicated that it had 9 areas of wall loss greater than 50 % in 63m! Historically the pipe did not leak and had only one failure. If the Detective was not utilized, normal lining would have occurred because the video inspection indicated that the pipe was in decent shape, even though the pipe is in imminent failure mode.

Envirolitics took a section of removed pipe and sandblasted it to reveal numerous clusters of graphitic corrosion and the Detective was calibrated on this section verifying its in-field results.

Aquazen then approached the Board and notified them of their problem. After consultation with Envirolitics, the Board decided to fully institute the CELP program and elected for an additional application of BluKote to add some additional lining and thicken the coat to over 1mm.

Envirolitics returned and completed the lining portion of the project and hired CP Systems to provide cathodic protection. It was decided that an anode be placed on each pipe joint to halt exterior corrosion. The project was completed, and the pipe is currently holding pressure and has not had any failures.