

COLUMBIA GAS OF MARYLAND CIPP



LARGE-DIAMETER STORMWATER PIPE REHABILITATION USING CIPP

Columbia Gas of Maryland required a reliable solution to rehabilitate a large-diameter stormwater pipe located on a sensitive site with a history of fuel storage for a former power plant. The existing 48-inch reinforced concrete pipe (RCP) stormwater sewer posed a risk of allowing groundwater from the site to infiltrate the stormwater system—creating potential environmental and regulatory concerns.

To address these challenges without extensive excavation or disruption, Columbia Gas of Maryland engaged Savy & Sons for our expertise in large-diameter cured-in-place pipe (CIPP) lining and stormwater pipe rehabilitation. Our team developed a controlled, trenchless solution designed to seal the pipe, prevent infiltration, and protect the surrounding environment.

PROBLEM

The project site had previously been used for fuel storage in support of a power plant, making environmental protection a critical priority. The existing 48-inch diameter RCP stormwater pipe showed signs of deterioration that allowed external groundwater to infiltrate the system. This infiltration raised concerns about site water leaching into the stormwater network and required immediate attention.

Columbia Gas of Maryland needed a solution that would:

- Seal the large-diameter stormwater pipe from external water infiltration
- Limit excavation and surface disruption
- Meet strict environmental handling and disposal requirements
- Restore the integrity of the stormwater system efficiently

SOLUTION

Savy & Sons implemented a trenchless cured-in-place pipe (CIPP) lining solution to rehabilitate approximately 315 linear feet of existing 48-inch diameter stormwater pipe. This approach created a new, seamless pipe within the existing structure, effectively sealing it from groundwater infiltration while extending the pipe's service life.

Key elements of the solution included:

- **Large-Diameter CIPP Lining:** Installation of 315 linear feet of cured-in-place pipe liner using an OMEGA liner system, specifically suited for large-diameter stormwater applications.
- **Targeted Access via Doghouse Manhole:** Construction of a precast doghouse manhole over the existing 48-inch RCP pipe, installed in accordance with City of Hagerstown requirements, to provide controlled access for lining operations.
- **Environmental Controls:** All water used during pipe cleaning was collected and properly disposed of, and all excavated material from the manhole installation was handled and disposed of in compliance with environmental requirements.



PROJECT EXECUTION

The project was completed over a 10-day period using a controlled, trenchless approach. Work included CCTV inspection, cleaning of the existing 48-inch stormwater pipe, installation of approximately 315 feet of cured-in-place pipe liner, and post-installation verification. All water used during cleaning was collected and properly disposed of, and a precast doghouse manhole was installed to provide access in accordance with City of Hagerstown requirements. Upon completion, the area was backfilled, brought to finish grade, and surface repairs were completed, with strict environmental controls maintained throughout the project.

RESULTS

The large-diameter stormwater pipe rehabilitation project was completed successfully, delivering long-term value and risk reduction for Columbia Gas of Maryland.

Key results included:

- **Elimination of Groundwater Infiltration:** The CIPP liner sealed the 48-inch stormwater pipe from external water intrusion, protecting the stormwater system from site-related contamination.
- **Extended Pipe Service Life:** The cured-in-place liner restored structural integrity and significantly extended the lifespan of the existing RCP pipe.
- **Environmental Compliance:** All cleaning water and excavated materials were properly collected and disposed of in accordance with site-specific environmental requirements.
- **Minimal Surface Disruption:** The trenchless approach avoided full pipe replacement and limited excavation to a single access point.
- **Efficient Timeline:** The entire project was completed in just 10 days.

CONCLUSION

The Columbia Gas of Maryland large-diameter CIPP project was completed successfully within the 10-day timeline, providing a long-term solution for rehabilitating the existing 48-inch stormwater pipe. By utilizing trenchless cured-in-place pipe lining, Savy & Sons was able to seal the pipe from external groundwater infiltration while minimizing excavation and surface disruption.

The project required careful planning and strict environmental controls due to the site's history and sensitivity. Through controlled access, proper material handling, and detailed inspections before and after installation, the stormwater system was rehabilitated in a manner that met both operational and environmental requirements.

This project demonstrates the effectiveness of large-diameter CIPP lining as a practical solution for extending the service life of stormwater infrastructure in complex and environmentally sensitive settings.

