



CASE STUDY - FILLFOAM USED FOR STORM PIPE ANNULAR GROUTING

Wisconsin

During an expansion project at an industrial food processing facility, an existing 18-inch diameter concrete storm pipe had deteriorated and needed to be rehabilitated. Instead of removing and replacing the approximately 40-foot section of pipe, a new 13-inch diameter liner pipe was installed inside the existing concrete pipe to serve as the new storm drain. This created an annular void between the new liner and the deteriorated host pipe.

The annular space needed to be filled to support the existing pipe around the liner, help protect the new pipe from potential damage caused by further deterioration of the surrounding concrete pipe, and prevent the open space from creating an unintended pathway for water. The general contractor hired an HMI contractor to perform the annular grouting, with FillFoam® selected as the grout for the application.



THE PROBLEM

- Fill the annular space between an existing 18-inch concrete host pipe and 13-inch liner
- Reach the full approximately 40-foot length of the pipe
- Fill irregular voids created by deterioration of the existing concrete pipe
- Provide support around the new liner
- Help prevent unintended water movement through the annular space
- Be installed efficiently without removing the existing pipe or creating additional excavation





THE SOLUTION

Because the pipe run was approximately 40 feet long, a placement hose was extended through the annular space to the far end of the pipe. FillFoam was produced onsite and pumped through the hose. As material was placed, the hose was progressively withdrawn, allowing the annular space to be filled along the length of the pipe rather than attempting to push material through the full 40-foot run from a single injection point.

Once placement was complete, the accessible end of the annular space was sealed with a spray-applied bulkhead made with HMI dual-component polyurethane foam. FillFoam's lightweight, pre-expanded formulation made it well suited for filling the irregular annular void while avoiding the additional weight associated with traditional cementitious fill materials.



THE SUMMARY

- Approximately 40 feet of annular space filled
- Existing deteriorated concrete pipe remained in place
- New liner supported within the existing host pipe
- Irregular void space surrounding the liner filled
- Open annular pathway for potential water movement addressed
- No extensive removal of the existing storm pipe required
- FillFoam produced onsite for an efficient installation

Why FillFoam?

This project demonstrates how FillFoam can be used for annular grouting applications where new infrastructure is installed within an existing pipe or conduit. By producing the material onsite and placing it progressively through a retractable hose, the project team was able to fill the annular space along the approximately 40-foot run without removing the deteriorated host pipe. For pipe rehabilitation, abandonment, backfill, and other large-void applications, FillFoam provides a lightweight solution that can be produced onsite and placed where conventional fill materials may be difficult or disruptive to install.

