



CASE STUDY VOID FILL

Zero-Excavation Driveway Recovery via Poly Permeation Grout

A fire station access roadway developed cracking from subsurface voids caused by storm drain seam gaps that washed out soil during heavy rain, threatening daily emergency operations and pavement integrity.

Initial Assessment

CCTV and probing identified voids up to several inches beneath the asphalt and open joints along the drain, allowing soil migration. Excavation replacement was rejected due to weeks-long closure risk, higher cost, and potential future seam misalignment, making trenchless permeation grouting the viable path.



Proposed Solution

AP Fill 700 was chosen for hydrophobic, single-component injection with very low viscosity, and adjustable cure, enabling soil permeation, joint sealing, and formation of a water-tight bearing layer for traffic.

Procedures

1. Map defects and mark the injection grid along the pipe and pavement.
2. Drill ports; set packers to target joints and halo around pipe.
3. Inject AP Fill 700 to refusal, prioritizing seam sealing.
4. Permeate surrounding soils to fill voids and densify subgrade.
5. Monitor pressures/returns; adjust set times for water presence.
6. Verify with sounding/CCTV and traffic proof-load.

Results

- Restored structural support and sealed joints with zero operational downtime
- Completion in days vs weeks
- Approximately 95% cost savings compared to full excavation and pipe replacement

About Alchatek

Alchatek is an international leader in the manufacture and supply of chemical grouts and construction products for Geotechnical, Leak Seal, and Seawall Repair applications. Providing solutions from its headquarters in Tucker, Georgia and its manufacturing facility in Reno, Nevada, Alchatek specializes in advanced construction technologies for sealing leaks, stabilizing soils, lifting concrete, and protecting infrastructure and seawall structures. To best serve its customers, Alchatek is organized onto three divisions:

The Leak Seal Division combines a full system offering of polymer chemical grouts and equipment with perhaps the most experienced technical team in the industry. It specializes in preventing water ingress through concrete infrastructure including parking garages, culverts, basements and foundations, and sewer manholes.

The Geotechnical Division offers a complete line of single component products for soil stabilization as well as two component polyurethane foams for concrete lifting, void filling, and stabilization of infrastructure. This includes lifting sunken structures such as warehouse floors, back into place.

Seawall Repair Network® is the only national network of certified contractors in the repair, preservation, and protection of Seawalls waterfront barriers. Its proprietary methods and materials are environmentally friendly and safe for use in all marine environments and provide a non-destructive solution for seawall repair at 80% less than the cost of replacement.

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