

## 5012 Hampden Lane Forensic Investigation, Design Repairs & Quality Assurance during Construction



Un-repaired cracked foundation wall. Water infiltration, visible at cracks.



Epoxy injection of cracks and steel reinforcing grid complete.



Shotcrete was applied over the steel reinforcement.



View showing the completed, concrete reinforced basement wall.

Cracks developed in the concrete foundation wall of a single-family residence under construction, resulting in leaks and substantial inward bowing of the wall. The house is located in Bethesda, MD.

**Challenge:** Determine the cause of the cracks and leaks in the concrete foundation wall and design repairs.

**Value Added:** Davidson & Associates determined that premature backfilling compounded by insufficient strength concrete and a lack of vertical reinforcing steel caused the cracking. Structural repairs were designed by D&A to include urethane grout injection of the cracks to mitigate water infiltration, then epoxy grouting a reinforcing steel grid to the existing foundation and foundation wall and installing a shotcrete overlay.

**Service performed:** Forensic Investigation, Structural Repair Design, Quality Assurance – Construction Phase Services

**Client:** D. McGlynn

**Contractor:** PDI Sheetz