

# Annapolis, Maryland

## Glenwood Culvert Replacement



Since 2005 the Housing Authority of the City of Annapolis has had a major problem on its hands. The parking lot of their Glenwood Highrise property was slowly disappearing. The sinkholes were continually being filled with asphalt but to no avail. Finally in 2007 they had no choice but to close of the parking area and lose 50% of the parking area for the 154 unit building.

The source of the problem was a 256' long, 120" diameter corrugated metal pipe culvert that was deteriorating and separating at the joints, allowing the surrounding soils to wash away and causing the parking lot to collapse. The Housing Authority and Newfields Consulting Engineers evaluated many options from creating an open channel to various pipe products. An open channel was ruled out leaving a new direct bury culvert as the solution. The culvert would convey College Creek into Cheasapeake Bay. Due to the wet shifting soil conditions associated with the site, the new pipe had to match the existing flows, be highly abrasion resistant and have joints that would not separate due to differential settlement. Existing site conditions would not allow a 120" pipe to replace the existing.

Newfields selected Weholite Profile Wall Pipe because it answered every challenge associated with the project. The engineers designed a twin 84" line that culminated with an 84" x 120" Reducing Wye fitting that connected the new culvert to the City of Annapolis' existing structure. Weholite's lightweight and ease of installation addressed the soft soil conditions. The extrusion welded, leak tight joints provided a continuous pipeline that would not separate unlike the other materials that were considered.



Sink holes from failed culvert

**Project:**  
Glenwood Culvert Replacement

**Owner:**  
Housing Authority of the City of Annapolis

**Application:**  
New twin 84" culvert with 84" x 120" Reducing Wye.

**Consultant:**  
Newfields Consulting Engineers

**Contractor:**  
Avon Corporation