



Market
DOT

Challenge

Along State Route 350 in Clinton County, Ohio (ODOT District 8), a twin-barrel culvert, two 27-inch pipes side by side, had developed joint separation and a sinkhole near the inlet. A HydraTech Field Services inspection found six joints in each barrel (12 joints total), offsets averaging about 1.5 inches away from the sinkhole joint, and a roughly 5-inch gap at the joint under the sinkhole (about 7–10 feet from the inlet). Three to four inches of dirt and debris lined the pipes, with heavier buildup near the sinkhole, blocking access for repair.

Engineered Solution

HydraTech Field Services first restored access and flow with a jetter cleanout of both barrels, then sealed every joint with HydraTite internal joint seals manufactured for 27-inch I.D. pipe. The package used eleven Extra Wide EPDM seals (each furnished with two 2-piece 304 stainless steel retaining bands) and one Double Wide EPDM seal with a stainless steel backing plate and three 2-piece 304 stainless steel retaining bands at the sinkhole joint.



Scope

Work was ordered under ODOT's state contract as two purchase orders: culvert cleanout and internal joint seal pipe repair. Most days the crew consisted of 2 people.

Phase 1 — Cleanout (Field Services / jetter): In late August, a Field Services crew began preparing and jetting the pipes. Cleanout continued as seals went in: both culverts were jetted again in early September; finish cleanout of the District 8 culverts was marked completed in mid-September. The cleanout scope covered twin 27-inch barrels totaling 80 linear feet. This portion of the project took 4 onsite days.

Phase 2 — HydraTite installation: The crew installed the Double Wide seal with backing plate at the sinkhole joint. Then the crew installed 11 more seals. These 12 seals required 3 onsite days to install.

Solution

Jetter cleanout re-established workable access through both 27-inch barrels, and HydraTite seals were installed at all twelve joints, including a Double Wide seal with backing plate at the sinkhole joint. The work was completed once the internal cleanout and joint-seal repair were complete, both without excavating or replacing the twin barrels under the state route or disrupting traffic.



HydraTech Engineered Products, LLC
HydraTech Field Services, LLC
10448 Chester Road, Cincinnati, Ohio 45215
Phone: (513) 827-9169 Fax: (513) 827-9171
<http://www.hydratechllc.com>

