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CASE STUDY



Deep Foundations   Civil Construction   High Density Polyurethane Foam Technology   Erosion Control   Ground Improvement   Concrete Restoration   Earth Retention

## Culvert Rehabilitation - Resin-Based Spray Liner

### Wyandot County Culvert, Crawford Township, Ohio

**Situation:** Twin culverts beneath Route 23, south east of Route 103 in Adrian, Ohio (Wyandot County) were damaged, filling with debris and water and needed to be repaired in order to avoid future erosion and potential replacement. (fig.1, 3, 4). Miller Brothers Construction removed the decaying ends of both 96" diameter concrete culvert pipes and replaced them (fig.2). Following the replacement, the new and existing culverts (totaling 640') needed to be preserved in order to prevent future erosion and extend the overall service life of the structure.

**Geotech Services Solution:** Geotech Services, Inc. was contracted by Miller Brothers to repair and renew the culverts overall structural strength and chemical, abrasion, and impact resistance using a resin-based liner.

Preparation included:

- Diverting water from the culvert being repaired
- Completely removing debris and dirt
- Repairing cracks, holes, and joints using hydraulic cement (fig. 5)
- Completely sealing the pipe to stop water intrusion
- Air and heat drying the pipe to remove all moisture

Following preparation, a resin-based liner was sprayed throughout the culvert pipes at a required thickness of 300 MILS. The properties of the spray enabled:

- Fast cure (tack free in under 30 seconds)
- A seamless, high build liner
- High flexibility and toughness
- Chemical, abrasion, and impact resistance
- Insensitivity to the environment

The finished result (fig. 6, 7) was a poly-lined, sealed culvert without exposed seams and less susceptible to future corrosion and decay.



Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6

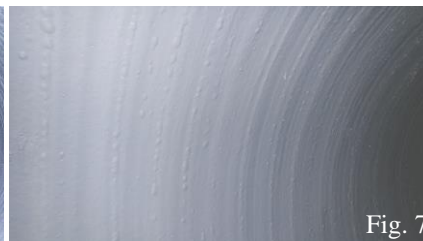


Fig. 7

For more information about  
resin-based liners from  
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