

## CASE STUDY



## PROJECT SNAPSHOT

### PROJECT

Guernsey County, OH  
Culvert Rehabilitation

### OWNER

ODOT

### LENGTH AND SIZE

- Diameter: 54"
- Length: 166 LF

### PROBLEM

Culvert installed in 1963. Invert was completely deteriorated and there was extensive corrosion on the inner pipe wall.

### APPLICATION

QLS spin-cast process, two passes of GeoKrete® totaling 1.5" thickness

### CONTRACTOR

Shelly & Sands Inc.

### SUB-CONTRACTOR

Quadex Lining Systems®

### COMPLETED

Summer 2016, only 3 days required.

# ODOT: 50+ Year-Old Culvert in Remote Location Structurally Restored with GeoKrete® Geopolymer

## OHIO DOT CULVERT REHABILITATION

**VORTEX PRODUCTS USED**

**1** GeoKrete®



### THE CHALLENGE

A 50+ year old CMP storm culvert pipe in Guernsey County, OH was found to be in very bad condition. The invert was nearly gone and corrosion inside the pipe threatened a complete failure in the near future.

The contractor recommended this section be relined with the Quadex Lining System® (QLS) process in order to address both the corrosion and structural integrity concerns. The pipe, 54" in diameter and 166' long, was located several hundred feet from the main road. The self-contained QLS rig and equipment were specifically designed for these kinds of projects, where access is limited and a small footprint is required. With no potable water nearby, the QLS crew also supplied its own water to mix the GeoKrete.

Once in place, the old culvert was cleaned, prepped and patched before the relining process started. In addition to rebuilding the invert, the QLS crew relined the 54" CMP pipe over period of three days. A total of two passes were made by QLS's advanced application sled, to achieve a thickness of 1.5".

When completely cured, the 54 year-old culvert is fully structural and ODOT can expect another 50 years of performance.



*This old CMP culvert was completely corroded through in many areas.*



*QLS GeoKrete® was spin-cast for a smooth, structural and corrosion resistant finish.*

## CASE STUDY



## PROJECT SNAPSHOT

### PROJECT

Loveland, Ohio 78" Culvert Rehabilitation

### OWNER

ODOT

### LENGTH AND SIZE

- Diameter: 78"
- Length: 60 LF

### PROBLEM

Culvert installed in 1954. Invert was in poor condition and existence of corrosion on pipe's inner walls. Running beneath a roadway, a full structural renewal was required.

### APPLICATION

QLS process, spray-applied GeoKrete® to achieve 2" thickness. Smooth finished with trowel.

### PRIME CONTRACTOR

RB Jergens Contractors, Inc.

### SUB-CONTRACTOR

Quadex Lining Systems®

### COMPLETED

Summer 2016, only 2 days required.

# Failing 62-Year-Old Corrugated Metal Pipe Gets New Life

## ODOT: 78" CULVERT RELINED WITH QUADEX LINING SYSTEM®

**VORTEX PRODUCTS USED**

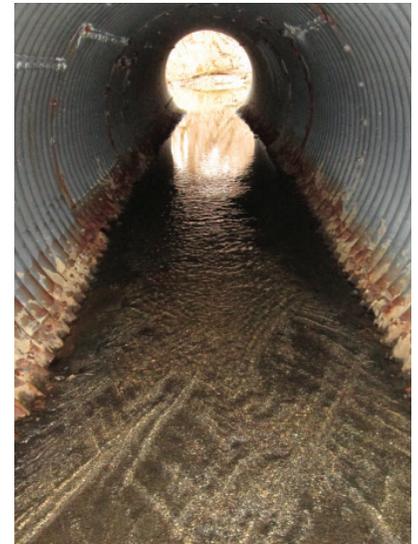
**1 GeoKrete®**



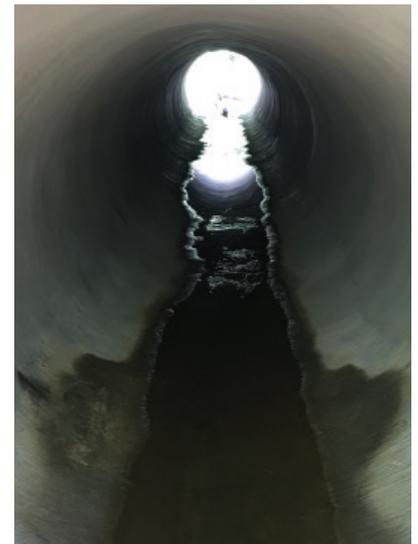
### THE CHALLENGE

A 78" CMP storm drain running beneath a road in Loveland, Ohio had begun to fail. With the invert in need of repair and corrosion eating at the inside, complete failure was imminent. The 62 year-old pipe had exceeded its design life and needed to be structurally restored, or ultimately it would need to be replaced.

RB Jergens, the prime contractor, recommended the Quadex Lining System® (QLS) as an alternative to replacement. The system features GeoKrete® Geopolymer and possesses both excellent corrosion resistance and structural properties. In this case, GeoKrete® was spray-applied to achieve a thickness of 2" to protect and restore the culvert to its original integrity. The roadway above was never closed, however a temporary traffic signal (to control traffic flow) was installed in conjunction with the lining work to ensure proper safety for all crews involved.



78" CMP was corroded and failing.



QLS GeoKrete® was spray-applied, then troweled to achieve a smooth consistent thickness.