

# 2423 Pennington Bend Road Culvert Rehabilitation

## Existing Conditions

### Description:

The culvert structure consists of a 56' long 72" CMP culvert located adjacent to the feature address, 2423 Pennington Road. There is an area of roadway failure near the culvert outlet. The location of roadway failure has been temporarily mitigated with the installation of a steel road plate. Additionally, the outlet embankment has begun to destabilize, which is directly related to the roadway failure. The corrugated metal pipe has areas of heavy surface corrosion, section loss, and seam separation. The outlet end of the pipe has been deformed to form a vertically elliptical shape. Furthermore, the reinforced concrete inlet headwall has shear cracking on both sides of the pipe.

**Spans:** 1

**Length:** 56'

**Width:** 72"

**Rise:** 72"

### Reasons for Rehabilitation:

- ✓ Roadway Failure w/ Steel Road Plate
- ✓ Pipe Seam Separation
- ✓ Pipe Section Loss
- ✓ Embankment Destabilization



**Roadway Failure w/ Steel Road Plate**



**Seam Separation & Section Loss**



**Deformed Pipe @ Outlet**

# 2423 Pennington Bend Road Culvert Rehabilitation

## Proposed Conditions

### Description:

The proposed culvert rehabilitation will include pouring a concrete collar around the areas of seam separation, filling all voids under and around the pipe, paving the pipe invert, lining the pipe with a cementitious material, installing a reinforced concrete headwall at the outlet, and reconstructing the roadway. Additionally, the concrete damages to the inlet headwall will be repaired, and the guardrail shall be removed and replaced to current TDOT Specifications & Standards.

**Spans:** 1

**Length:** 56

**Width:** 72"

**Rise:** 72"

**Opinion of Probable Cost:** \$270,000

**Anticipated Construction Duration:** 1 Month

**Anticipated Schedule for Construction:**

August 22<sup>nd</sup> through September 16<sup>th</sup>

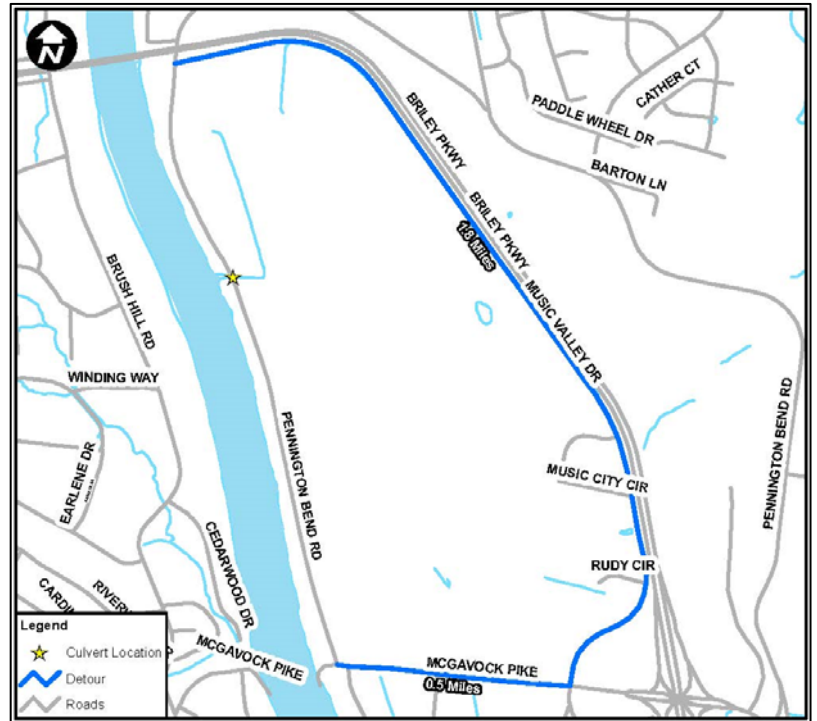
**Anticipated Road Closures:**

August 22<sup>nd</sup> through September 16<sup>th</sup>

**Project Status:** Ready for construction

**Construction Challenges:**

- ✓ Utility Bracing
- ✓ Depth of Excavation
- ✓ Site Maintenance
- ✓ Stormwater Management



**Detour Map**