



McFarland Johnson

Innovative Solutions / Sustainable Results

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November 9, 2015

Mr. Todd Odit
Town of Jericho
PO Box 39
Jericho, VT 05465

RE: CRITICAL CULVERT DEFICIENCY
Jericho Bridge B36 - Raceway Road multi-plate steel culvert

Dear Mr. Odit,

During our recent inspection of town-wide bridge/culvert inspections, the following critical culvert deficiency was noted:

The invert (floor) of the steel multi-plate culvert exhibits severe corrosion with some locations of the invert with **100% section loss** and distortion of corroded steel edges. Other invert locations exhibit moderate to severe corrosion with corrosion holes and perforations. There are signs of water flowing beneath the deteriorated culvert floor and undermining of the culvert bedding material.

At locations of 100% invert section loss there is zero capacity for carrying load. The structure is likely relying on soil-structure interaction and arching of soil around the culvert to prevent further culvert deformation or failure. However, the soil-structure interaction condition could change at any time and completely fail the culvert through a progressive collapse mechanism.

We strongly recommend that this bridge be immediately posted '**BRIDGE CLOSED**' and the road barricaded on both sides of the structure.

A potential repair technique for this pipe could be 'invert paving'. Invert paving is a rehabilitation technique where a reinforced concrete floor is installed over the deteriorated floor of a metal pipe and attached to the sound portions of the existing pipe.

We are enclosing a copy of the inspection form and photos for your use. We are also willing to meet with you to discuss the culvert condition and potential rehabilitation or replacement alternatives.

Very truly yours,

Joshua Lund, P.E.