



The Road Newsletter, Volume 6, Issue 9

September 2016

No-Dig Culvert Repairs

The Road Commission has recently experimented with a no-dig approach to rehabilitate a failing culvert by using a trenchless technology. The American Association of State Highway Transportation (AASHTO) has approved this method of culvert lining to rehabilitate culverts in certain situations instead of replacement.

This approach results in minimal training and no specialized equipment to complete the project successfully. Simple installation results in an economical solution that is quick and minimizes road closures and detours for the motoring public.



The process first involves excavating around the end of the deteriorated culvert. Then a piece of plastic culvert liner pipe is lowered into position and inserted in the end of the culvert. A gasket is installed on the next piece of culvert liner pipe to assure a watertight seal when connected. The second piece of pipe is lowered into position, and lined up with the first piece. This is shown on the photo to the left. Using chains and pressure from the excavator, the two pieces of pipe are “snapped” together. The process is repeated until all the connected sections of liner pipe are pushed through the culvert.

Once the culvert liner has been installed, different length PVC pipes, are placed at each end of the culvert to deliver grout flow and then both ends are sealed. As shown in the photo on the right, a low density grout is pumped into the PVC pipes filling all voids between the culvert liner and the existing culvert.



Road Commission crews installed a culvert liner system to rehabilitate a culvert along 96th Avenue between Quincy Street and Riley Street as a pilot project. The final results are shown on the photo to the left. Most of the work was done off the shoulder of 96th Avenue, which provided a safer environment for the work crews and motoring public. The cost for the work was approximately \$27,000 which was determined to be comparable to a complete culvert replacement cost.

Comments Encouraged for Strategic Improvement Plan

The Road Commission is pleased to present a draft 2017-2022 Strategic Improvement Plan (SIP) for review and comment. A copy of the draft plan can be found on our website at www.ottawacorc.com.

On an annual basis, the Road Commission reviews the SIP to manage county road assets, identify improvement needs, and determine economical methods to finance improvement projects. The review of these factors helps determine the appropriate replacement, repair, and maintenance action/method to be incorporated into the SIP.

A public hearing for the 2017-2022 SIP has been scheduled for September 29th at 10:00am at the Road Commission administrative office. Written comments, whether mailed or emailed to the Road Commission, are encouraged and can be received any time prior to the public hearing.

The Wash-Board Effect

Have you ever driven down a gravel road and suddenly felt like you'd just ran over a series of speed bumps? Did you wonder “why this is happening” to a road that seems to be in the middle of nowhere? The popular term for this condition is “wash-boarding.” It is an appropriate description because driving on a corrugated gravel surface is much like driving over a giant washboard.

The major causes of gravel road wash-boarding are:



Lack of moisture. Prolonged dry weather like we have experienced this summer can cause wash-boarding of the gravel road surface, even with relatively low traffic.

Traffic Volumes & Vehicle Suspensions. A vehicle's suspension system distributes the shock and energy of road irregularities with a bouncing rhythm called harmonic oscillation. At each down-stroke the wheels exert extra force on the road, causing the particles in the road to either pack or displace at regular intervals. Once a pattern of ruts starts to establish itself, it becomes self-reinforcing due to what engineers call forced oscillation. As more vehicles hit the same irregularities in the road and bounce at the same rate, causing the pattern to become more and more defined.

Wash-boarding is inevitable in any gravel road that is dry and/or has moderate traffic volumes. The local Townships assist the Road Commission by purchasing dust control materials, selecting a contractor, and determining the frequency and location of applications. The Road Commission will then grade the gravel road prior to the contractor's placement of the dust control material.

Important Dates

Thursday – September 1, 2016 | 9AM | Board Meeting

Thursday – September 15, 2016 | 9AM | Board Meeting

Thursday – September 29, 2016 | 9AM | Board Meeting



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STAY CONNECTED. SUBSCRIBE:

The Ottawa County Road Commissioners: Tom Bird | Tom Elhart | Betty Gajewski | Tim Grifhorst | Jim Miedema
Managing Director: Brett Laughlin

Who manages the roads and how are they funded? The Ottawa County Road Commission manages the roads--not the Ottawa County Board of Commissioners or County staff. The Ottawa County Road Commission is primarily funded by fuel taxes and vehicle registrations. Concerns about roads should be directed to the Ottawa County Road Commission. Questions? [Contact Us](#)

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