
To: Mike Miller - Oxford Township Supervisor
From: Bob Uelmen/Steve Winter
Subject: Pigeon Loft Road, Oxford Township
Date: August 31, 2022

As requested, MSA reviewed Pigeon Loft Road and the Dust Suppressant that was used on the roadway this summer. Residents on the roadway attended the August Township meeting to voice their unfavorable opinion on the dust control used. The dust control used on the roadway is called Dustlock. Dustlock is a vegetable oil by-product and is environmentally friendlier than historically used chloride products. Dustlock works by penetrating into the bed of the material and 'bonds' to make a barrier that is naturally biodegradable.

Pigeon Loft Rd is a challenge due to the tree canopy. Less heat from the sun means more time to cure and dry the oil. When bidding the Township projects, Dustlock representatives chose to use sand over other aggregates as a cover because it was less expensive to meet budgetary constraints. The oil did not cure due to the lack of sunlight and vehicle tires picked up the sand. The township received complaints and asked the contractor to blade the roadway and remove the peanut butter consistency from the roadway. Dustlock was notified about the oil/sand issue. After reviewing the site closer, Dustlock said a better alternative to the sand is 3/8" chips either limestone, trap rock, or quartzite to keep the surface dry longer as the road cures out. The aggregate would not be picked up by vehicle tires.

Dustlock was asked to correct the problem. On Tuesday, August 30th Mike Miller (Oxford Township), Bob Uelmen (MSA), and Bart Perkins (local contractor) witnessed the corrective measures. Dan Feige and Bob Weerts were on-site representing Dustlock. Bart supplied/operated a motor grader used to rough up the roadway surface (short test area). Dan Feige felt that the motor grader was not necessary and preferred to use a spreader truck with an underbody scraper attachment to fine grade the roadway. The truck shaped and removed the wash boarding on Pigeon Loft Road. The township supplied 3/8" trap rock to cover the roadway. The spreader truck placed four loads (approx. 15 tons/load) of 3/8" trap rock on the roadway. The Pigeon Loft Road was compacted with a skid steer with a vibratory roller attachment supplied by Bart Perkins.

Mike asked MSA to provide additional options for dust control on gravel roadways in the township. MSA has reached out both internally and externally to discuss additional options. The general consensus is paving the road or the application of a chloride based product are the most effective at dust control.

Three suggestions/options:

- 1.) The Dustlock oil seems to work on roadways that have more sunlight and the oil will cure out regardless of using sand or aggregate cover. Dustlock has learned from Pigeon Loft Road and in future bids plan to use 3/8" aggregate chips on roadways with limited amounts of sunlight for curing.
- 2.) Magnesium/calcium chloride have been used historically. Chloride draws water from the air keeping the surface damp. The chloride concerns include:
 - a. Harmful to roadside vegetation
 - b. May leech into shallow drinking water wells.
 - c. Corrosive especially if the salt is more concentrated.

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- d. Washes off readily with rain/snow.
- 3.) Pave gravel roadways. Asphalt pavement could be paved at a 2-inch thickness in order to reduce the project costs. Asphalt is a permanent solution to dust and grading costs of gravel roadways.