

CITY SEEKING STREET SOLUTIONS

The Asphalt Zipper company came to Hamilton last week to demonstrate what they claim to be “the most economical way to repair roads long term.”

The block of North Howard Street between West Henry and West Ross was closed Thursday for the demonstration. Department of Public Works employees manually spread 168 sixty-pound bags of Portland cement over the existing road surface. Then Barry Dill, Asphalt Zipper’s Southern States Area Manager, fired up the “Zipper”, which was mounted on a city front-end loader driven by Jeffrey Donahoo. Although there are larger models available, Dill brought a 4-foot-wide Zipper for the demonstration.

The Zipper is an asphalt grinding machine, with blades that pulverize the asphalt and blend it with the Portland cement. According to the company, the Zipper makes road projects easier and more cost-effective by turning existing asphalt into reusable material, and by reducing or eliminating the costs of new materials purchase, trucking and fuel. Dill claimed that asphalt maintenance projects that would normally take a week could be done in a day, for less than half the cost of traditional methods, and with better results.

It took about two hours for the Zipper to grind and blend the asphalt and cement mixture. This material was wet down, bladed into windrows, smoothed out, and wet down again. The damp material was then rolled, both to pack it down tightly and to form a crown in the road to shed water. While the compacted material would continue to cure for a month, within six hours it had cured sufficiently to drive on.

The results of the demonstration were not optimal. Using the city’s gravity-flow water truck with a hose attachment did not provide sufficient water to keep the pulverized material uniformly wet, resulting in the material starting to cure before it was completely smoothed out. Maybe the expectation of a smooth-as-concrete finish was unrealistic, especially since the Zipper is not a stand-alone process.

The Zipper creates a stabilized base that must either have an asphalt overlay or one or more layers of chip seal. A new overlay of asphalt typically costs between \$7 to \$10 per square yard, meaning an asphalt overlay for a typical 1,000-foot residential street would cost more than \$25,000. The cost of chip seal is typically \$1 - \$2 per square yard. To chip seal a typical 1,000-foot residential street would cost \$5,000. The tradeoff is that the asphalt overlay would last 10 - 15 years, while the life span of the chip seal is only 5 – 7 years.

For both the asphalt overlay and the chip seal process, a solid base is the key to durability. Erosion of the base is what leads to pot holes. The purpose of the Zipper is to build that solid base. Failure of a road has more to do with what happens below the road rather than due to the environmental stress above the road. Considerations in this process include the cost of the Asphalt Zipper, Portland cement, a water trailer and a roller.

While the Zipper is one option, the hunt for a solution continues.