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## CITY OF MUSCATINE PRESS RELEASE

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### **HEATED RECYCLED ASPHALT BEING USED FOR STREET REPAIRS**

*New tool being used by Public Works in annual battle against pot holes in Muscatine*

**MUSCATINE, Iowa** – The Roadway Maintenance Division of the Department of Public Works (DPW) has a new tool in their arsenal to combat the numerous small street repair issues (pot holes, etc.) that are exposed every winter, a tool that that creates new hot asphalt mix using recycled asphalt.

Hot asphalt is usually not available during the winter months when the ground is not warm and dry enough. Hot asphalt is mixed at 300 degrees Fahrenheit but cool temperatures can cause the mix to cool too quickly and make it unusable as permanent asphalt. Manufacturing plants that create the hot asphalt mix normally shut down mid-November through March because of the cooler air and ground temperatures.

Muscatine, like most entities charged with roadway maintenance, uses a cold mix during the winter months. Cold mix does not require heat to become flexible and, with additives, stays soft when stockpiled for six months. However, this is a temporary patch that takes time to cure and not the best choice for high traffic areas.

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While cold mix will still be used, the purchase of a KM International T2 Asphalt Recycler and KM 8000TEDD Hotbox/Reclaimer by the City of Muscatine means that hot mix would be available for more permanent repairs in small pot holes.

“We do not have the capability to repair large areas with the hot mix but we will be able to do repairs to smaller pot holes in high traffic areas,” Brian Stineman, DPW Director said.

The process to create a limited supply of hot mix asphalt begins with asphalt millings (recycled asphalt). For the past several years the City of Muscatine has required contractors on street projects to separate the asphalt, concrete, bricks, and dirt as they remove old pavement. Each of these items are recycled in various ways by the City of Muscatine.

Reclaimed asphalt is crushed, or ground up, to create millings that are environmentally friendly (lower carbon footprint than fresh asphalt or other paving materials) with characteristics similar to fresh asphalt or gravel. They have been used as a subbase in certain parts of road projects and as a temporary road surface when needed.

Now, this recycled asphalt takes on a fourth life and one that is saving taxpayers money.

Chunks of recycled asphalt and/or millings are delivered by a front-end loader into the loading chute of the KM T2 Asphalt Recycler. The material falls into a rotating drum with seven steel agitators that breaks down the material while it is being heated by a 700,000 BTU burner pointed into the drum. The burner not only heats the material but also dries the material as it is being broken down.

Two bags of asphalt cement are added to act as a binding agent as the drum continues to rotate. Heat is once again added as the material mixes (up to 350 degrees Fahrenheit) allowing the asphalt cement to evenly encapsulate the aggregate. The mix is heated a third time before the material is offloaded into the front-end loader and transported to the KM 8000TEDD Hotbox/Reclaimer where it is kept at a temperature of 350 degrees Fahrenheit.

The Hotbox is then transported to the work site where the area to be repaired is cleaned and dried before the reclaimed asphalt hot mix is added. The Hotbox will keep the mix at temperature for most of the work day.

The Asphalt Recycler and Hotbox/Reclaimer were in use Wednesday (Feb. 26, 2020) for repairs on a section of Park Avenue West. One City crew prepared the area for repair while a second crew manned the Asphalt Recycler to “cook” new hot mix. The first application was moved into the Hotbox which was then transported to the work site.

The Hotbox keeps the hot mix at 350 degrees Fahrenheit as it is transported and then emptied into the repair area. Larger areas, such as the one being repaired Wednesday, take a second “cooking” of hot mix and transportation to the work site. Once completed, the “new” asphalt is compressed and allowed to cool and harden before opening the section to traffic.

Asphalt Recycler “cooking” hot mix demonstration is available on YouTube at <https://youtu.be/NNfjzdlHQcw>.

Recycled asphalt transported in Hot Box to work site and applied video is available on YouTube at <https://youtu.be/PC4bEE1zFp0>.

[Photo Gallery](#)