Metro Waste Authority
We Know Where It Should Go

July 1st, 2024

Bill Gross
Iowa Department of Natural Resources, Field Office #5
6200 Park Avenue
Suite 200
Des Moines, Iowa 50321

RE: Sanitary Disposal Project Inspection – IDNR Report
Metro Park East Sanitary Landfill,12181 NE University Avenue, Mitchellville, IA 50169
Permit No. 77-SDP-01-72P-MLF

Dear Mr. Gross,

This letter is a response to the Iowa Department of Natural Resources' request for Metro Waste Authority to submit a plan for removal of the shingle pile at Metro Park East Landfill to comply with state recycling law [Chapter 455D.4A, Code of Iowa]. We have estimated the unground shingles to be roughly 30,000 cubic yards in total. Information regarding internal and external methods of disposal is detailed below.

External Shingle Outlets

Metro Waste Authority has explored multiple alternatives of disposal to reduce waste going directly into our landfill to meet the initial goals when the diversion of shingles at our facility began. The options explored included use as an alternative fuel source for cement kilns, grinding down to a suitable spec for use in asphalt mixes, and ground shingle blends as an alternative subbase for construction projects. In exploring all these areas of potential use, we have come across roadblocks that have not led to a viable outlet outside of our facility in the near term.

When we reached out to asphalt companies for use of ground product for street paving projects, no market demand has been found. Only one of the many companies contacted reached back out to us but stated that they do not see any supply-side economic viability for this recycled product for the next two years minimum. The main hang-up in grinding of shingles is the removal of nails that cannot be picked up by magnets. Also, heat generated by a grinder when operating during the warmer months has been a major issue. This heat can cause the machine to get gummed up with shingle material and become inoperable until parts are cleaned or replaced. Grinding is most easily managed in the winter months when equipment can maintain a lower operating temperature.

When contacting cement companies for use as an alternative fuel in cement kilns, no cement kilns were found to be in operation in central Iowa and had the ability to handle shingles as an alternative fuel source. Rather, most companies are utilizing rail trains to import the main product produced by cement kilns in their mixes. Long distance transport of shingles to a facility able to utilize this material as an

alternative fuel source would not be economically viable and would result in a significant amount of greenhouse gas emissions from transport trucks to move materials across the state.

When searching for construction projects to use an alternative sub-base, the project use consistency was too variable to have a guaranteed/consistent stream for disposal. Other alternatives, such as recycled concrete, are cheaper subbases to use and have a predictable compaction with just as much longevity.

Internal Shingle Outlets

The roadblocks on external shingle disposal methods have led Metro Waste Authority to turn to finding internal uses for the shingles onsite. To avoid direct burying in the landfill, we have laid out plans for onsite use here. The different use cases for these shingles at our Metro Park East facility include alternative road base during new cell construction, wet weather pad expansion subbase coinciding with the new cells being constructed, and as an “as needed” material during routine road maintenance work from heavy truck traffic in the facility.

When new cell construction for Cell F begins in Spring 2025, we plan to extend the east perimeter access road for vehicle traffic another 0.25 miles (1,320 feet) at a width of 30 feet. When doing this, we will excavate down two feet and use compacted shingles as a subbase that will be capped with ground recycled concrete. The number of shingles estimated to be used in this road expansion is 3000 cubic yards, or more depending on the rate of compaction achieved during installation. We will utilize a sheepsfoot rolled pulled by a Caterpillar Dozer or a Caterpillar landfill compactor to achieve higher levels of material density. This will use up approximately 10% of the shingle pile in this single project in Spring 2025.

When the expansion of the current wet weather pad commences in 2025, we intend to expand the pad by another roughly 5.75 acres (500 feet by 500 feet) following the completion of Cell F construction. Shingles will be used as an alternative subbase in this area at a depth of 24 inches and then compacted by a landfill trash compactor. The area and depth of shingle use on this pad is estimated to use 18,500 cubic yards of shingles, using up another 61.5% of the pile and bringing the total remaining pile after this work is completed down to 28.5%, or 8,550 cubic yards.

In the period following the construction of Cell F and wet weather pad expansion, shingles will be used on an as-needed basis for road maintenance for unpaved areas leading to the active face and the wet weather disposal pad. Heavy vehicle traffic in the facility during poor weather conditions leads to wear and tear on access roads that is less predictable regarding volume of shingles and timelines for use on-site.

Around 2028-2030, Metro Park East Landfill is slated to begin construction of Cell G to the direct South of Cell B West. In doing this construction, the wet weather pad will be extended to reach this area and will be expanded again by another 5.75 acres at a depth of up-to 24 inches to use up the remainder of the shingle pile. Under these parameters, another 18,500 cubic yards of shingles would bring the total

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utilized shingles to 133%. We will adjust depth of shingle placed during this pad expansion to coincide with the real volume remaining at time of construction.

Conclusion

Metro Park East was well intended with plans of diverting shingles for alternative uses when the program was initiated. Due to a striking change in market conditions since shingle accumulation began, ground asphalt shingles on a tonnage basis are no longer economically viable in the recycled construction materials industry. Despite this unfortunate outcome, Metro Park East has still been able to find alternative on-site uses for the shingles that prolonged their life as a beneficial material and ultimately reduced the volume of waste being directly disposed on in our facility.

Metro Waste Authority appreciates the Iowa Department of Natural Resources' understanding and concern on the issue, as well as recognizing the importance of trying to divert recyclable material when it makes sense to do so. Please contact Matthew Morris (515-333-4450; mmo@mwatoday.com) with any follow-up questions or comments you have from the plan outlined here.

Sincerely,

Digitally signed by
Matthew Morris
Date: 2024.07.01
08:14:22 -05'00'

Matthew J. Morris
Compliance Coordinator

CC: Becky Jolly, Land Quality Bureau, Iowa DNR
Mike Smith, Land Quality Bureau, Iowa DNR
Andrew Phillips, MWA
Michael McCoy, MWA
Brian Wambold, MWA