



October 13, 2023

Gary Schwerin, Lansing and Jackson District Supervisor
Michigan Department of Environment, Great Lakes, and Energy
Materials Management Division
Jackson District Office
301 East Louis Glick Highway
Jackson, MI 49201-1556

Sent via email

Re:Response to MMD October 10, 2023, Violation Notice (SRN: N2688)

Dear Mr. Schwerin:

Arbor Hills Landfill, Inc. (Arbor Hills) provides this letter in accordance with Section 5.17 of the Consent Judgment and in response to the Violation Notice dated October 10, 2023, which was issued by the Michigan Department of Environment, Great Lakes, and Energy, (EGLE) Material Management Division (MMD). This response is being made within 72 hours after Arbor Hills received the VN.

The VN alleges:

Observations made during the odor inspections on October 5, 2023, verified odors in violation of R299.4433(1)(c) on 6-Mile Road between Napier Road and Crestbrook Drive, as well as on Napier Road near the northeast corner of the Landfill.

Observations made during the odor inspection on October 6, 2023, verified odors in violation of R299.4433(1)(c) on Napier Road near the northeast corner of the Landfill.

Commencement of Investigation and Root Cause Analysis

Prior to receiving the VN, Arbor Hills had already commenced a root cause investigation into the origin of the alleged violation. While conducting the investigation, Arbor Hills used a checklist of suspected causes of odors based on its past operating experience.

Report on Results of Investigation, Evidence Obtained, and Remedial Measures Taken

Arbor Hills first detected unusual odors coming from new Cell 6A in early September when perimeter monitors indicated higher than acceptable concentration limits. These readings are available in quarterly perimeter monitoring root cause analysis reports. Immediately after detection, Arbor Hills has been investigating and exploring appropriate remedial measures to correct the conditions causing the odors. Below is a summary of Arbor Hills' investigation efforts, findings and remedial efforts associated with each event.

- On September 7, 2023, Arbor Hills staff walked the area where back trajectories indicated a potential source area. Arbor Hills utilized onsite equipment (i.e., a Jerome Meter for H₂S) to quantify near-surface concentrations of landfill gas that could be contributing to the odors.
 - Arbor Hills staff identified a potential odor source in the low-lying area adjacent to Cell 6A at the northeast corner of the site. Arbor Hills staff placed an approximate one-foot layer of clay along the surface to help limit landfill gas (LFG) emissions in the area.
- On September 11, 2023, Arbor Hills contracted Sniffer Robotics to conduct a non-routine surface scan of areas in and around Cell 6A to aid in identifying any areas of concern for odor. Sniffer identified 2 areas: the eastern and southern edge of Cell 6A.
 - Data confirmed that the area adjacent to Cell 6A was a potential odor source, based on exceedances noted from the Sniffer Robotics non-routine scan. Arbor Hills staff placed an additional one-foot layer of clay in the area adjacent to Cell 6A. Moreover, Arbor Hills placed approximately 5,000 – 7,000 square feet of geosynthetic clay liner (GCL) and clay cover over the pea gravel portions and the extends over the anchor trench areas of the slope north of the waste boundary on the east side of Cell 6A. Upon completion of the clay placement, Arbor Hills compacted the clay fill with a smooth drum roller. These initial efforts appeared to mitigate the odors for a period. However, Arbor Hills recognized that the landfill gas odors were finding the path of least resistance as the site conducted remedial efforts.
 - On September 15, 2023, Arbor Hills installed approximately 200-feet of 6-inch perforated horizontal gas collection pipe along the eastern toe of the Cell 6 slope to capture landfill gas in this area. The horizontal collector was

installed in new waste, wrapped in fabric, covered with GCL, and backfilled with clean soil. Vacuum was applied upon completion of the horizontal installation. Arbor Hills placed additional clay cover to this area on September 16, 2023 to help seal the area. This effort helped mitigate the odor but did not eliminate the source completely.

- On September 20, 2023, Arbor Hills concluded that the corrective measures required to completely mitigate the ongoing perimeter monitor alarming would require a large-scale project to complete. *Arbor Hills submitted a 120-day extension request to EGLE, until January 18, 2024, to complete a design, procure a third-party contractor, and install vacuum lines to the caisson wells currently installed in Cell 6A. EGLE approved the extension request on September 28, 2023 and this design work is in progress.*
- On September 21, 2023, Arbor Hills identified another potential source of the odors. The leachate cleanout risers located on the east side of Cell 6A revealed that landfill gas was coming to the surface following the pipe path from the bottom of the cell. Arbor Hills spoke with EGLE staff and informed them that Arbor Hills staff is constructing pipe and a temporary vacuum line that will be connected to cleanouts as soon as possible.
 - On September 24, 2023, Arbor Hills began welding and constructing connections to allow installation of gas collection piping to the three leachate cleanout risers utilizing 3-inch transmission piping. Final connections and temporary vacuum were completed on September 28, 2023.
 - On October 9, 2023, Arbor Hills upgraded the 3-inch transmission lines to 6-inch transmission lines to allow for increased available vacuum and increased gas collection.
 - On October 11, 2023, Arbor Hills placed a large sheet of liner over the entire leachate cleanout collection area and installed a 3-inch vacuum line to maintain negative pressure to keep the “tent” from ballooning. This mitigation effort essentially addresses the penetrations around the leachate cleanout riser piping network.

The combined efforts of all the remedial construction conducted by the Arbor Hills staff appears to have eliminated the odor source. As always, Arbor Hills will continue to be diligent and responsive to future odor concerns that may arise.

Plan to Remediate the Identified Site Condition(s) that Caused the Alleged Violation

As detailed above, Arbor Hills has already implemented the plan to remediate the conditions that it believes led to the Alleged Violation. Should Arbor Hills find that remedial

actions are necessary in addition to the those identified above, we will notify EGLE. Barring unforeseen developments, Arbor Hills will submit documentation of the completion of the remedial actions in the next seven days. In addition, Arbor Hills intends to exercise an enhanced degree of vigilance in this area. We are closely monitoring odorous conditions in the area and have available onsite an additional 10,000 feet of 6-inch HDPE piping, along with necessary ancillary parts and pieces, to respond to any future odor concerns.

Lastly, pursuant to paragraph 5.8(C) of Consent Judgement No. 2020-0593-CE dated March 7, 2023 (CJ), Arbor Hills is required to commence with active gas collection in future cells, with a landfill gas collection infrastructure designed to ensure compliance with the National Emission Standards for Hazardous Air Pollutants for Municipal Solid Waste (NESHAP), within 18 months after initial waste placement or methane in excess of 500 ppm based on results of quarterly SEM or drone SEM, whichever is earlier. Waste placement commenced in Cell 6A in July 2023. Because there have not been any SEM exceedances identified within the new cell, Arbor Hills would not be required to commence active gas collection until January 2025, at the latest. The approved 120-day extension will accelerate the active gas collection in Cell 6A by nearly a year.

We appreciate your assistance with this matter. In preparing this response, we have attempted to track the elements of Section 5.17 of the Consent Judgment. If EGLE requires additional information, or has any questions, please contact me at (567) 230-7373.

Sincerely

Arbor Hills Landfill, Inc.



David Seegert
General Manager

cc: Jenine Camilleri, Enforcement Unit Manager, Air Quality Division
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