

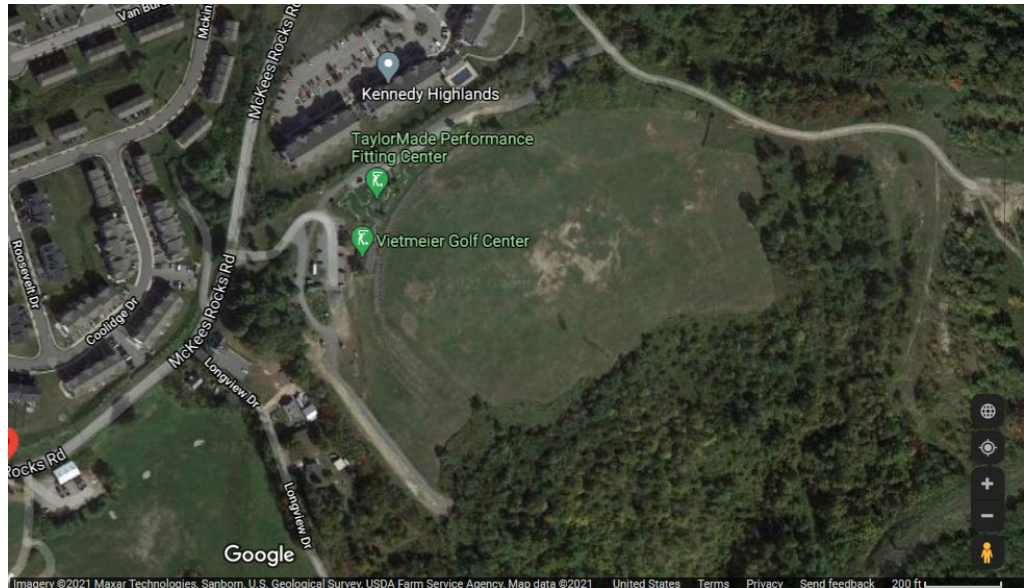
Mazzaro-McKees Rocks Landfill Hazardous Sites Cleanup Act (HSCA) Prompt Interim Response

SITE INFORMATION

Mazzaro-McKees Rocks Landfill
McKees Rocks Road, Kennedy
Township, Allegheny County

HISTORY and BACKGROUND

The site consists of approximately 242 acres, of which waste disposal areas comprise approximately 70 acres. Following surface and underground mining of the Pittsburgh Coal seam, municipal (garbage), medical, and industrial wastes were disposed in the landfill from the 1940s to the early 1970s.



In 2006, the Pennsylvania Department of Environmental (DEP) conducted an initial prompt interim response to remove exposed waste and drums from a portion of the site. A remedial investigation was also conducted as described in a 2007 report. To address later indications of landfill gas (LFG), DEP performed a supplemental investigation to delineate conditions in the subsurface at onsite and off-site locations. The work indicated the presence of LFG including methane on-site, which partly extended beyond the landfill towards adjacent residential buildings.

DEP installed several vents along the property lines to intercept the gas, following industry standards. A second set of vents was later installed to improve upon the performance of the first set. While the vertical venting system is partially effective, it was determined that some offsite LFG migration was still occurring. To address this concern, DEP conducted a pilot test and engineering studies which indicated that horizontal trenches will more effectively intercept the gas, considering the unique subsurface conditions associated with the site. The Allegheny County Health Department (ACHD) reviewed and approved the series of LFG control designs, including methods described in a 2018 analysis of alternatives for areas along the northern and western property boundaries. Final pre-design field work was then completed to direct the 2020 engineering design and to optimize performance within the subsurface conditions present. DEP implemented full construction in 2020 and completed the installation of both trench systems in March 2021.

PROMPT INTERIM RESPONSE

Work by DEP and its contractors has demonstrated that landfill gas (LFG), including methane, exists within the site and potentially beyond the boundaries of the site at levels that exceed standards established in Pennsylvania for combustible gas monitoring, off-site migration, and mitigation at municipal waste landfill sites. To address this condition, DEP recently installed two (2) linear gas interceptor trenches as a second prompt interim response. Post-construction monitoring will occur to evaluate the efficacy of the system for mitigating offsite LFG migration.

DEP considered the following six alternatives to address the potential for LFG migration from the site:

1. take no action,
2. installation of an enhanced gas venting system,
3. Installation of a passive trench venting system,
4. installation of a semi-active trench venting system,
5. Installation of an active trench system, or
6. installation of impermeable barriers.

DEP chose alternative number 3, the installation of a passive trench venting system, because it complies with the applicable or relevant and appropriate requirements (ARARs) and is the most cost-effective. DEP's HSCA program elected to use the Pennsylvania permitted municipal waste landfill criteria for combustible gas as an ARAR.

This design included the installation of gravel-filled linear trenches sealed with compacted clay and synthetic liner material at the surface, with vertical piping to direct the flow of gas. The installed trenches are approximately 500 linear feet each along both the northern and western property boundaries. The installation depths ranged from about 20-25 feet and generally corresponded with the base of waste/fill and/or the depth of to the base of the Pittsburgh Coal seam, depending on the location. Excavated materials were profiled and disposed of at a licensed offsite landfill to avoid placement back on the property. The system relies on gas pressure and concentration gradients to drive migrating gas into the trench system, and no electric power service is needed. If needed, the system can be incrementally modified from passive operation to semi-active or active operation to increase effectiveness in LFG migration prevention.

The horizontal trench design is a more effective means to intercept LFG at the property boundaries compared to vertical vent methods, where the effective radius of influence and capture areas is variable at this particular location, owing to heterogeneous subsurface conditions. DEP's professional engineering, geologic, and LFG-expert contractors indicate that there is reasonable likelihood that the passive trench system will effectively mitigate elevated gas levels from within the target response areas, leading to compliance with applicable, relevant, and appropriate requirements [Sections 501(a) and 505(b) of the HSCA (35 P.S. §§6020.501(a) and 6020-505(b))]. Post-remedial construction monitoring will be conducted to assess LFG levels to ascertain attainment of the criteria.

The original 2016 estimated cost for system construction along the northern and western property areas was \$1,650,000 excluding design, contingencies, and other investigative activities. The final anticipated budget as of March 2021 is expected to be approximately five percent (5%) above this preliminary estimate owing to contingent items, while being below the actual authorized budget.

PUBLIC COMMENTS

The Administrative Record is open for review and comment until 4:00 PM on May 21, 2021. Additional information on this issue, including a digital copy of the Administrative Record, is available on DEP's regional webpage, at www.dep.pa.gov/southwest under the Mazzaro-McKees Rocks Landfill HSCA Response tab. Written comments on the Administrative Record may be submitted by email to RA-EPSW-HSCA@pa.gov or by mail to Pennsylvania Department of Environmental Protection, Southwest Regional Office, HSCA Program, 400 Waterfront Drive, Pittsburgh, PA 15222.