



FACT SHEET

Brookhaven Landfill, Town of Brookhaven, New York

FEBRUARY 2019

INTRODUCTION

The New York State Department of Environmental Conservation (DEC) is publishing a regular series of fact sheets to share information with the community regarding actions taken by DEC and the Town of Brookhaven (Town) to improve air quality in the areas surrounding the Brookhaven Landfill. This fact sheet will provide an update of the activities that have occurred since the release of the previous fact sheets, which are available at <http://www.dec.ny.gov/public/111038.html>.

Facility Brief

The Town of Brookhaven Landfill (the landfill) is a DEC permitted facility located in the hamlet of Yaphank, Town of Brookhaven, Suffolk County. The landfill began operating in 1974 and initially accepted household waste, or municipal solid waste (MSW). This MSW was placed in cells (designated areas) 1-4. The disposal of MSW ceased in 1990 in compliance with the Long Island Landfill Law. Construction of cells 5 & 6 took place after 1990. Cell 5, which accepted construction and demolition (C&D) debris and ash from local resource recovery facilities, is currently being capped and prepared for closure. Cell 6, which lies adjacent to Woodside Ave between Station Road and Horseblock Road, is currently active and accepting C&D debris, ash, and other authorized material.

LANDFILL QUARTERLY UPDATE

Closure activities, such as placement of the geomembrane cap and activation of the gas extraction wells in the newly closed (capped) portion (a portion of cells 5 & 6, planned in Phase "G"), were significantly delayed due to unusually wet conditions during the last quarter of 2018. The weather affected the completion of geomembrane layer placement, and this in turn delayed the activation of the gas extraction wells. The extraction wells are an important component of managing the landfill gas in the capped portions of the landfill.

The delay in starting the landfill gas management system as planned in Phase "G", negatively impacted nearby communities, causing a surge of odor-related complaints during the months of November and December 2018. On multiple occasions, DEC staff inspected the surrounding neighborhoods during the early morning, day and late evening hours, and confirmed offsite hydrogen sulfide (H₂S) odors in the communities located downwind of the landfill.

The second week of January 2019, the Town completed placement of the geomembrane barrier followed by the activation of the gas extraction and management wells. DEC has since noted a downward trend in the number and frequency of complaints received at the DEC Odor Hotline.

DEC staff participates regularly in the construction progress meetings with the Town to monitor the project status and the effectiveness of the newly installed gas extraction wells and landfill cap, as well as the overall landfill gas management.

SUMMARY OF COMPLETED AND ONGOING ACTIVITIES

- Placement of the geomembrane layer was completed on January 12, 2019, and the newly constructed gas extraction wells are now connected to the existing landfill gas management system.

ODOR MANAGEMENT AND CORRECTIVE ACTION PLAN (CAP)

As outlined in the CAP, the Town is focusing on the following to improve conditions around the landfill and reduce offsite odors:

- Proceed with final capping and closure of the sections of landfill which are filled to capacity;
- Upgrade all existing and new landfill gas collection and flares; and
- Monitor the odor control measures implemented at the leachate collection system and the leachate storage tanks.

The following is an update on completed activities and the status of the focus areas.

Operating Landfill and Inactive Area Closure/Capping

Summary of Landfill Capping during this reporting period

- Geomembrane cap construction completed.
- Gas extraction wells in the newly closed (capped) portion activated.
- Placement of the sand layer (barrier protection layer) for the Phase “G” capping continues; topsoil placement and hydroseeding will be completed in spring of 2019.

Leachate Collection System Improvement

The Town previously completed the upgrades identified and detailed in the CAP by replacing key equipment to improve operational reliability. The Town continues the routine cleaning of the side riser and wet wells in accordance with the approved maintenance schedule. DEC continues to monitor the effectiveness of the upgrades and the routine maintenance activities to ensure peak performance of the leachate collection system.

Treatment of H₂S in Landfill Leachate

Dvirka & Bartilucci Engineers & Architects, the Town’s consultant, has completed installment of the leachate pretreatment system which uses hydrogen peroxide (H₂O₂) to treat and effectively reduce odors due to H₂S.

- Routine maintenance: During the last quarter, the leachate pretreatment used over 330,000 gallons of H₂O₂ at the established optimal dosing rate of 9.5-12.0 gallons per hour.
- Capital improvement: Contract for the construction of a spill containment wall for the permanent H₂O₂ tanks has been awarded. Construction has been delayed because of weather but will commence during the 1st quarter of 2019.

Landfill Gas Collection and Flaring

The Town hired SCS Engineers to continue the evaluation of the existing landfill gas collection and flare system. During this reporting period, they are progressively making operational changes to the existing gas collection network to minimize vacuum loss and blockage due to condensate formation with the overall goal of reducing odors. The following are a list of operational changes undertaken:

- Routine maintenance: All wellheads, hoses, vacuum lines, flanges and meter traps continue to be repaired or replaced in accordance to best management practices.
- Capital improvement: A new well head design was completed, and new well heads have been installed on ten risers connecting 29 horizontal/vertical landfill gas collectors. This new design has been effective in draining the liquid condensate, thus eliminating freezing of the lines which allows for a steady flow of landfill gas in the collection system. The town has committed to upgrading the remaining five risers that will connect an additional 20 horizontal collectors from the active uncapped portion of the landfill. Materials are scheduled for delivery in early February, and fabrication and construction will commence immediately thereafter.
- Major Capital improvement: The Town initiated the new flare system construction project on December 3, 2018. Professional services and funding have been secured. The new flare will represent the best available technology in landfill gas flare systems.

CONTINUOUS MONITORING OF OFFSITE H₂S BY DEC

Offsite continuous monitoring of H₂S was stopped in November 2018, as the accuracy of the instruments is affected by cold temperatures.

FOR MORE INFORMATION

Please contact Aphrodite Montalvo, Public Participation Specialist

Phone: (631) 444-0249

Email: R1info@dec.ny.gov

TO REPORT AN ODOR COMPLAINT

DEC Odor Hotline: (631) 444-0380

Please leave your name, phone number, date of call, location and description of odor.

Phase G Capping and Closure Activities



Vertical Gas Extraction Well: View of a completed gas extraction well after hook-up to the gas header pipes connected to the landfill gas flare system



Side Slopes: View after washout of sand layer after a major rain event that plagued the cap project during the construction period



View of the barrier protection layer: using fresh sand to replace sand that was washed out by rain



Upgraded horizontal gas collection headers connected to horizontal gas collection pipes at various elevations of the waste mass