



NORTH
TEXAS
MUNICIPAL
WATER
DISTRICT



North Texas Municipal Water District

LANDFILL ODOR MANAGEMENT

REGIONAL SERVICE THROUGH UNITY...MEETING OUR REGION'S NEEDS TODAY AND TOMORROW

North Texas Municipal Water District

Administration Building
501 East Brown St.
P.O. Box 2408
Wylie, TX 75098

972.442.5405
www.NTMWD.com

FAST FACTS:

80
COMMUNITIES
SERVED

SERVICE AREA:
2,220
SQUARE MILES IN
10 COUNTIES

1.7 MILLION
POPULATION
SERVED



WATER



WASTEWATER



SOLID WASTE

FREQUENTLY ASKED QUESTIONS (FAQ) ABOUT LANDFILL ODOR MANAGEMENT

Businesses, industries and residents all generate solid waste. The most environmentally sound approach to managing municipal solid waste is to reduce or reuse where possible, recycle or compost, and dispose of waste in landfills only when needed.

Although solid waste management is an essential service to the community, sometimes it produces an unpleasant side effect – smelly odors. Our transfer stations are cleared of waste every day, so odor complaints for those facilities are uncommon.

What's that smell?

Landfill gas is formed when buried solid waste decomposes. This process creates gases, the most common of which are methane (CH₄) and carbon dioxide (CO₂), which typically combine to make up more than 95% of the landfill gas. While these two gases are odorless, the unpleasant aromas are caused by the small percentage of other gases. The most common odors from the landfill are caused by hydrogen sulfide (H₂S) and volatile organic compounds (VOCs). Hydrogen sulfide is most commonly recognized as a strong "rotten egg" smell. The smell of volatile organics can vary, but typically have a somewhat sweetly pungent smell.

What does the landfill do to help control odor?

We operate 192 collection wells to capture landfill gas before it leaves the landfill, and have two mobile odor management systems located in the vicinity of the active disposal area. This is significantly above and beyond standard industry best management practices. Collected gas is routed to an on-site facility that cleans it to pipeline quality natural gas where it is sold as renewable energy.

Every day, employees spread and compact the solid waste in the active area of the landfill as it arrives. At the end of each day, it is then covered with a minimum 6-inch thick layer of clean soil. This cover helps to control the odor, prevent blowing litter around, prevent fires, and ward off scavenging animals.

An odor patrol assesses the presence of odors from 12 different locations in Melissa each day the landfill operates. Monthly, the landfill surface is walked and inspected for excessive release of landfill gas.



Figure 1: Gas Well



Figure 2: Morrow Renewable High BTU Gas Plant



LANDFILL ODOR MANAGEMENT FAQ

(CONTINUED)

Why does the strength of the smell vary from day to day?

The migration of landfill gas depends on a variety of atmospheric conditions:

- **Barometric Pressure/Rainfall**

On days when the barometric pressure is low or dropping, the gas pressure inside the landfill will be higher than the atmosphere. This causes the landfill gas to shift from the landfill to balance with the atmosphere. Barometric pressure drops are often associated with rainfall which is why odors may be noticeable before and after rainfall events.

- **Temperatures**

During colder months, temperature inversions may occur where warm air is trapped above cold air closer to the ground. This slows the normal rise of gas causing concentrations closer to the ground thereby creating a stronger smell.

- **Wind**

Wind helps spread any escaped gas and lessen their concentration, but days with little wind mean that odors may be more noticeable.

- **Moon Phases**

Certain moon phases also contribute to gas migration, similar to the influence the lunar pull has on tides. The pull of a New Moon or Full Moon can make it easier for landfill gas to migrate from the landfill.

On a cold, cloudy, windless day with low barometric pressure, the landfill gas and their associated odors will be hardest to control.

Does the smell pose any health risks?

Even when odors are strongest, the air's circulation significantly reduces the concentration of the gas to levels far below any that could be harmful by the time the smell is noticeable. See additional information provided in the links below.

How do I report landfill odors?

Contact Gary Higgs, NTMWD Landfill Manager at (972) 442-5405 or ghiggs@ntmwd.com for odor complaints so they may be investigated. This phone number is always staffed.

ADDITIONAL INFORMATION

EPA: Facts About Landfill Gas: [bit.ly/EPA-landfill-gas-facts](https://www.epa.gov/landfill/gas-facts)

TCEQ: Landfill Odors and Emissions: [bit.ly/TCEQ-odors-landfill](https://www.tceq.texas.gov/landfill/odors)

CITY OF MELISSA: Update on Odor Concerns: [bit.ly/Melissa-update](https://www.melissa.com/odors)

DID YOU KNOW

THERE ARE TWO ADDITIONAL SOURCES OF ODORS ADJACENT TO THE 121 REGIONAL DISPOSAL FACILITY (LANDFILL) IN MELISSA? WE ARE NEXT DOOR TO A FEEDLOT AND A COMPOST FACILITY WHICH EACH HAVE THEIR OWN UNIQUE ODORS.