

Sanitary Sewer Smoke Testing Frequently Asked Questions

What is the purpose of smoke testing?

The purpose of smoke testing is to find potential points of inflow and infiltration in the public portion of the sanitary sewer system that could lead to high flows during storms and snow melt events. Smoke testing can also help locate the following:

- Buildings that have downspouts, cellars, yard or basement drains, and sump pumps
- Points of groundwater or surface water intrusion into the sewer
- Any cross connections between sanitary sewers and storm drains
- Defective sewer connections that could allow sewer gases into a building

How does smoke testing work?

During smoke testing, field crews blow air and smoke into the sanitary sewer system in the street and monitor where smoke escapes from the system. The smoke will fill the main line, as well as any connections, and then follow the path of any leaks to the ground surface, revealing the source of any problems. For instance, if smoke permeates up through a yard, it indicates breaks in the sewer line. While the smoke is under pressure during the testing, only enough pressure will be used to overcome atmospheric pressure, and smoke should escape from building roof vents. If you have any doubt as to the source of the smoke in your home or yard, phone 911 immediately.

What are the benefits of smoke testing?

Smoke testing is an efficient and cost-effective way to locate and identify problems with the public portion of the sewer system. The smoke is harmless and will disappear after only a few minutes. The testing is also a cost-effective way to find areas of the sewer system that need improvement. Smoke testing will also help identify plumbing leaks in buildings. Sewer gases can cause health problems for building occupants. Smoke testing is becoming a requirement nationwide for locating unauthorized water problems that are threatening the ability to properly treat wastewater and can cost wastewater treatment facilities millions of dollars.

Is the smoke harmful?

NO. The "smoke" is not true smoke, but rather a mist containing a large percentage of atmospheric moisture that is highly visible at low concentrations. It will not harm your health or leave a stain, and it will disappear rapidly without leaving an odor. Since any vapor can be an irritant, direct contact with the "smoke" may cause minor respiratory irritation in some people and should be avoided. If the smoke enters your home, it may make you cough, but the smoke is non-toxic, non-staining, and odorless. It is harmless to humans, pets, plants, food, and material goods, and it creates no fire hazard.

I am a pet owner, and I will not be at home during the testing. Should I be concerned?

The smoke is not harmful to pets. If windows are left open, any smoke that enters the building will dissipate in a few minutes.

Will smoke testing of the sewers allow smoke to get into my home?

No, provided that your plumbing is installed and functioning properly - and provided your "traps" are filled with water - drains that are used frequently should be okay. If you are not sure, simply run water down the drain for a minute to ensure that the trap is not dry. It is important to locate dry traps as they could allow sewer gases to enter the home. Dry traps are most likely found in basement floor drains that are used only during rare flood events or in unused fixtures. Please thoroughly check your home.

What does it mean if smoke enters my house?

If smoke enters your home during the test, it may indicate there are deficiencies in the plumbing that may allow potentially dangerous sewer gas to enter.

How may the smoke enter my house?

Since plumbing fixtures in your home or business are connected to the sanitary sewer system, there is the potential for the smoke to enter if the drains are not connected properly. This happens particularly under the following circumstances:

- The vents connected to your building's sewer pipes are inadequate, defective, or improperly installed
- The traps under sinks, tubs, basins, showers, and other drains are dry, defective, or improperly installed
- The pipes, connections, or seals in the wastewater drain system in and/or under your building are damaged, defective, have plugs missing or are improperly installed

What should I do if smoke gets into the house?

Do not become alarmed. Open windows to allow ventilation, and note the location of the smoke emission. Smoke will clear within a few minutes. Exit the building and notify smoke testing personnel in the area.

If the smoke is not harmful, why do you recommend evacuating the structure?

We recommend evacuating as a precautionary measure in case the smoke is due to a real fire rather than a test. Smoke in your house resulting from this testing may indicate that other sewer gases are entering the building.

How is a plumbing “trap” supposed to work?

The “gooseneck” or “snake” section of your drainpipe is the “trap.” The trap allows water to fill that section of the pipe completely. Since vapor and gas cannot travel through water unless under pressure, this effectively “traps” the gas in the sewer portion of the pipe. The vent on your system (i.e., the portion of pipe protruding from the roof of the building) prevents the gas from becoming pressurized and allows it to escape outside the structure. These two systems function together to keep potentially harmful sewer gases from entering your structure. If there is no water in the trap, the trap is not functioning properly. We recommend dumping water into building drains and fixtures prior to testing.

What happens if the inspection crews find a faulty sewer or lack of water traps in a home?

If smoke is seen within a house or structure, our crews will attempt to notify the homeowners of these potential defects. Owners will be responsible for repairs to private property plumbing.

How long will the testing take?

While crews might be in your area for a few hours, each actual smoke test setup takes approximately 15 minutes to complete. Most houses will only be within the testing area for one or two tests.

What should I do to prepare for smoke testing?

When you receive notice that smoke testing will take place, you should:

- Check to see that all drain traps under basins, washing facilities and floor drains contain water
- Flush toilets and run or pour water into all drains, including unused fixtures and floor drains

Do I have to be home during testing?

No. Inspection crews will not need to enter your home unless smoke is present and you want them to help identify the defect. You are not required to allow entry to our crews.

How will I know if smoke enters my house if I am not home during testing?

The purpose of the smoke test is to identify sources of unauthorized water entering the public portion of the sewer system. While it is also beneficial to note deficient plumbing connections on private property, this is not the main intent of the smoke test. It is the homeowner's responsibility to maintain private plumbing connections.

Why can't you tell me in advance exactly what date my home will be tested?

This testing cannot be conducted during rainy periods or very windy conditions, so it can sometimes be delayed. Also, other activities in the project may take less time than anticipated, so it can sometimes be sooner than expected. The schedule may also shift if more or fewer defects than expected are located and need to be documented.

Will rodents be smoked out?

No. However, the smoke may detect broken building sewers where there is a potential for rodent access.

Can the smoke testing activate the smoke alarms?

Yes. Smoke alarms may be activated during smoke testing. If possible, open windows and/or doors for ventilation. If you have any doubts about the origin of the smoke, please call 911.

Can smoke plug the sewer?

There is no way smoke can plug the sewer. The smoke is made up of a vaporized substance.

Where does the smoke appear?

Smoke may be seen coming from roof vents, building foundations, manhole covers, or yard cleanouts. Smoke coming from roof vents on the roof of homes is a normal occurrence and indicates to the crews that smoke has filled all sewers.

This work is being conducted as part of an infrastructure assessment and master planning process for the New City neighborhood. The project is being led by the Easthampton Planning Department with funding through a Community Development Block Grant. If you have additional questions, please contact:
planning@easthamptonma.gov