

Smoke Testing

The Stark County Metropolitan Sewer District (SCMSD) regularly inspects sanitary sewers using a smoke test to help locate breaks and various other deficiencies throughout the sewer collection system. These deficiencies are then required to be eliminated or corrected. Smoke testing is a process by which a simulated, non-toxic smoke is forced into sewer mains through manholes and then personnel observe and document where the smoke exits the system – giving clues to where inflow is entering the system.

Normally smoke will be observed exiting from the roof vent (or roof stack). However, exiting smoke also typically indicates the location of a broken sewer pipe or manhole, or where roof drains, foundation drains, or catch basins are connected to the sanitary system. In some cases where smoke enters a home or building, this may indicate faulty plumbing or simply dry drain traps – however this should not be ignored as it is an indication that potentially harmful sewer gases and odors from the sanitary sewer may also be entering. If smoke enters the house or building, you are advised to contact a licensed plumber to further investigate and make any necessary corrections.

It is always good practice to keep drain traps ‘full’ by periodically pouring a 1/2 gallon of water in each basement floor drain and seldom used sinks or showers – this can help to keep them primed and prevent sewer gases from passing through them. Also, be sure to periodically flush any seldom used toilets for the same reason. If your plumbing is functioning properly, then no smoke should enter your home – in fact, most homes do not get smoke in them from smoke testing.

The correction of any defect in pipes or sewers on private property is the responsibility of the owner. Basement sump pumps, downspouts, footer drains, and yard drains are examples of illegal connections to the sanitary sewer that must be disconnected.

The simulated smoke is colorless, leaves no residue, and dissipates rather quickly. It will not cause a fire, it will not explode, it is non-hazardous, and it is non-flammable. Safety Data Sheets for the smoke fluid are available upon request.

For more information check out the SCMSD website at www.se.starkcountyohio.gov or contact us at:

1701 Mahoning Road NE
PO Box 9972
Canton, OH 44711-0972
Phone: (330) 451-2303
Email: scse-inflow@starkcountyohio.gov

↓ Inflow/Infiltration = ↓ Operations ↓ Treatment ↓ Labor ↓ Maintenance = ↑ Reliability

Working to efficiently serve our customers and protect our environment.

Smoke Testing – Frequently Asked Questions

What is the reason for smoke testing?

Answer: The Stark County Metropolitan Sewer District (SCMSD) uses smoke testing (among several other investigation methods) to search for sources of inflow and infiltration (I&I) that include broken sewer mains, leaking manholes, and illegal connections to the sanitary sewer systems such as sump pumps, downspouts, footer drains, or yard drains. Such I&I sources increase the resources needed to manage and treat the wastewater and I&I uses unnecessary capacity for which sanitary sewers are not designed to handle – especially during rainfall storm events. SCMSD then works to eliminate the identified I&I from its source.

What is smoke testing?

Answer: Smoke testing is a process by which a simulated, non-toxic smoke is forced by a blower into sewer mains through manholes and then SCMSD personnel observe, document, and measure where the smoke exits the system – providing clues to where I&I is entering the system.

Is the smoke hazardous?

Answer: No, the simulated smoke is not hazardous and is nontoxic. It is generally odorless, is colorless, is not flammable, and it dissipates quickly. It is not harmful to humans, pets, or plants.

How long does the smoke testing process take?

Answer: The entire procedure from setup to shutdown generally takes about 20-30 mins for each test depending on the size of the area being tested and the number of potential sources to be documented. However, the actual process of generating the simulated smoke is usually between 5-10 minutes.

How can residents prepare for smoke testing?

Answer: Owners should routinely make sure that all basement floor drains, and any seldom used sinks or showers do not have 'dry' p-traps. Prepare by pouring approximately 1/2 – 1 gallon down each trap. For the same reason, owners should periodically flush seldom used toilets to prevent those traps from drying out. The simulated smoke will not pass through a 'wet' p-trap.

Will smoke enter my house or business? What should I do if does?

Answer: The simulated smoke can pass 'dry' p-traps – see above for recommendations. The simulated smoke can also pass into a home or business through faulty or broken plumbing. If smoke does enter, open doors and windows to help ventilate the area and the smoke should dissipate quickly. Notify our smoke testing crew immediately. Contact a licensed plumber to investigate the cause and make any necessary corrections needed, as this condition could indicate that sewer gases might also be entering.

How do I identify SCMSD crews performing the tests?

Answer: SCMSD personnel carry proper identification, wear identifiable outerwear, and operate vehicles with proper SCMSD signage.

Will the county enter my home?

Answer: No, SCMSD has no need and will not enter your home during the testing process.

Will first responders be on standby in case of emergency?

Answer: Although the smoke is not flammable, SCMSD will notify local fire and police departments prior to conducting smoke testing so that they are fully aware and can be prepared to respond should an emergency occur.

Will I see smoke during the testing?

Answer: Yes. During the test, smoke may normally be observed exiting from manholes, roof vents, holes in the ground, etc. Please do not be alarmed as this is a simulated smoke and does not indicate any fire-related activity.

Where is the smoke testing being done?

Answer: SCMSD is continually performing smoke testing at various locations throughout our sanitary sewer system. Currently SCMSD operates and maintains over 4 million feet of sanitary sewers.

When is smoke testing being done?

Answer: SCMSD generally conducts smoke testing between the hours of 8:00 a.m. to 4:00 p.m., Monday – Friday.

Do I need to be home during smoke testing?

Answer: No. SCMSD performs the smoke testing directly from the sanitary sewer itself and then observes and documents the findings without the need to access any home.

Will I be contacted if SCSE notices a problem at my home?

Answer: Yes. Any observed problems will be documented. SCMSD will follow up with a letter being sent to the owner's mailing address detailing the findings and the required corrective action within a reasonable time frame.

What is a 'dry' trap?

Answer: Normally, each drain has a p-trap that holds water and thereby prevents the passage of sewer gases and odors. Drains that are not properly maintained or those that have not been used for extended periods of time may become 'dry' when the water inside evaporates.

What is a cleanout?

Answer: A cleanout is an access port with a removeable cap that is designed for entering, maintaining, and cleaning a sanitary lateral sewer. Cleanouts are usually located either inside the home near the point where the sewer line exits the home or outside near the wall. Oftentimes the cleanout caps are found to be damaged or missing altogether and must be replaced to prevent I&I from entering the sanitary sewer and/or prevent gases from entering the home.

How often does SCMSD plan to perform smoke tests in my neighborhood?

Answer: SCMSD plans to perform smoke testing in each area every 10 years.

I have a sump pump connected to my sanitary sewer lateral under the house. Will that be affected during the smoke test?

Answer: Under the Clean Water Act of 1972 it is illegal to connect a sump pump or similar source of clean water (such as downspouts, yard drains, basement footer drains) to the sanitary sewer system either directly or indirectly. The illegal sump pump (and other sources) connection to the sanitary sewer must be disconnected and redirected to storm sewers, ditches/drainage swales, or other increasingly popular reuse options such as rain barrels.

Who is responsible for correcting these problems?

Answer: Any problems found on the public portion of sanitary sewers (such as broken mains or leaking manholes) are the responsibility of SCMSD to correct and repair. However, any corrections or repairs needed on private property are the responsibility of the property owner. SCMSD recommends, and in some cases requires, the use of licensed plumbers or drain layers to make the necessary repairs.