

Smoke testing



THE CITY OF SOLON
34200 BAINBRIDGE ROAD
SOLON, OHIO 44139

INFILTRATION AND INFLOW CONTROL PROGRAM

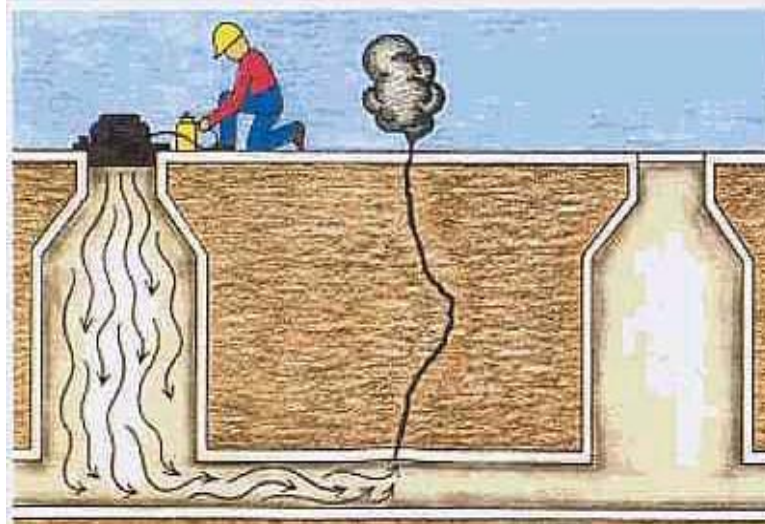
What is Smoke Testing?

And

Frequently Asked Questions



Smoke testing



The smoke will quickly reveal the source of any breaks or cracks in the sewer line

As a method of identifying and correcting problems in the City of Solon's sewer system, we will be conducting smoke testing in certain areas of the city.

Smoke Testing portions of the sanitary sewer pipes involves pumping smoke through sanitary sewers from utility holes in streets or within public easements and observing and documenting where smoke exits. Depending on the specific circumstances, the exiting smoke can indicate the location of a broken pipe, manhole, catch basin, or where roof or foundation drains might be connected to the sewer system, indicating where infiltration or inflow might enter the sanitary sewer system.

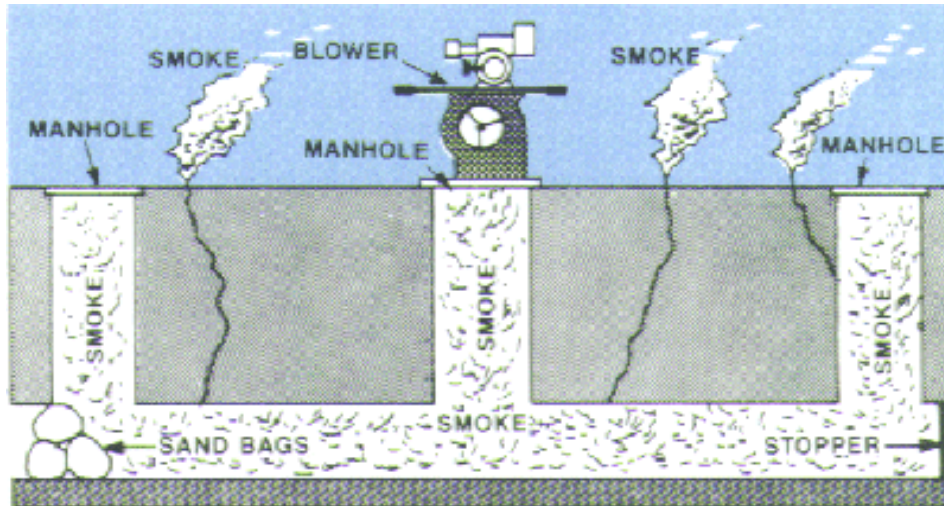
During the testing smoke will typically appear from roof drains, catch basins or yard drains connected to the sewer system. The smoke may also appear from cracks in the pavement above the sewer, from landscaping above private connecting sewers, and around homes with foundation drains connected to the sewer.

Under some conditions, smoke may also appear in basements through unused floor drains, disconnected or faulty plumbing fixtures, and other direct openings to connecting sewers. Before the scheduled day of smoke testing, residents in the pilot areas to be tested will be given notice and advised to pour one quart of water down all floor drains, sinks or other plumbing fixtures not used regularly. The smoke, manufactured for this purpose, leaves no residuals or stains and has no effects on plant and animal life. The smoke has a distinctive but not unpleasant odor. Visibility and odor last only a few minutes, where there is adequate ventilation. This smoke is nontoxic, harmless and creates no fire hazard.

Smoke testing involves the introduction of a non-toxic smoke into the sanitary sewer system for testing purposes. Once the smoke production is initiated, high powered blowers force the smoke through the segregated line segment being tested. Field technicians then observe for smoke exiting the sewer system through various locations. These leaks or intentional tie-ins, such as gutter downspouts, allow rainwater to enter the sewer, thus creating overflows, back-ups and additional wastewater treatment cost.



Frequently asked questions



What is smoke testing and why is it conducted?

Smoke testing is one of the most efficient and cost effective methods of locating sources of inflow and infiltration problems with sewers. The non-toxic "smoke" will help locate places where storm and other surface waters enter the sanitary sewers. It is conducted by placing a blower over a centrally located manhole and forcing non-toxic smoke-filled air through a sewer line. The smoke under pressure will fill the main line plus any connections, then follow the path of any leaks to the ground's surface, quickly revealing the source of inflow and infiltration (I&I) . I&I occurs when groundwater or rainwater enters the sewer lines through cracks, breaks, and/or areas not intended to drain to the sewer system, which robs the pipes of needed capacity and causes overflows and flooding. The smoke will be noticeable wherever there is a leak in a sanitary sewer pipe, such as a crack in a sewer pipe, a cross-connection between a storm sewer and a sanitary sewer, where a roof drain is connected to the sanitary sewer, from a broken cleanout cap, or from a defective or damaged manhole.

Is the smoke harmful?

No. The smoke is specially manufactured for testing and is not dangerous or toxic, it leaves no residue or stains, and should not affect plants or pets. Visible smoke and/or smoke odor will last only a few minutes in cases of proper ventilation. In the unlikely event that citizens come in direct contact with the smoke, there is a slight possibility for minor respiratory passage irritation. However, if there are people in your household or building that have emphysema, asthma, or other respiratory conditions, please notify the City of Solon Public Works Department so that the City can further discuss your situation and ensure your comfort and safety.



Frequently asked questions

What if smoke enters the house or building?

The smoke has a very distinctive, but not unpleasant, odor. During testing, do not be concerned if you see smoke coming from your rooftop sewer vents. This is normal. Smoke should exit the vent stacks of the surrounding properties within the testing area. If traces of smoke or its odor are detected in your building or home, it is an indication that gases from the sewer system could also be entering. Sewer gases can be dangerous, and some of these gases have no odor or color, and can enter a building undetected. If you observe smoke in your building during testing, the City urges you to contact your plumber to have him try to locate the source of the leak that you have witnessed and take the appropriate corrective measures. Location, identification, and correction of the source of smoke that enters your building should quickly be addressed.

Can smoke block the sewer?

No. Depending on the equipment being used, the smoke will be generated by lighting a smoke bomb (which does not explode; only emits a stream of smoke) or by utilizing liquid smoke. The smoke is a vaporous substance and cannot clog a sewer pipe.

How will I know when and if smoke testing is being conducted in my area?

The residents of the affected area will receive notices prior to testing. Contact numbers will be provided if you should have any questions or concerns.

What should I do to prepare for smoke testing?

To avoid smoke from unnecessarily entering your building, we suggest you run water into all of your drains for 5 minutes, the night prior to the date that smoke testing will be conducted in your area, especially those drains that are used infrequently, such as basement and garage drains. Make sure to crack windows for ventilation if pets are in the home.