



Scheduled Sanitary Sewer Smoke Testing

Residents in the immediate area of testing will be notified through front door hanger cards. City staff are uniformed, and operate out of vehicles marked with the City logo. Homeowners do not need to be home and staff will not enter residences.

For the test, smoke blowers are placed on manholes and smoke is blown through the sewer system. Anywhere smoke exits, there is potential for stormwater to enter the sewer system. In most buildings, the smoke will travel through the interior pipes and exit into the air through the vent pipe above the roof.

The smoke used for this process is nontoxic, odorless, does not leave a residue, and is white to gray in color. The “smoke” is actually a mist containing a large percentage of atmospheric moisture that is highly visible at low concentrations.

Smoke should not enter your home or building if it is properly plumbed, vented and the water traps contain water. Pour one (1) gallon of water down any fixtures (sinks, tubs, toilets, showers, floor drains) that are seldom used to ensure that a water barrier is maintained in the drain traps and prevent smoke from entering your home. If smoke gets into your home, ventilate and notify the staff who are conducting the test outside your home/building.

Following this overview is list of frequently asked questions regarding smoke testing.

Frequently Asked Questions

- 1. What is the purpose of smoke testing?**
- 2. Where will the smoke testing occur?**
- 3. When will testing occur?**
- 4. Who is conducting the test?**
- 5. How does smoke testing work?**
- 6. What are the benefits of smoke testing?**
- 7. What is the smoke?**
- 8. I am a pet owner and I will not be at home during the testing. Should I be concerned?**
- 9. Will smoke testing of the sewers allow smoke to get into my home?**
- 10. What should I do to prepare for smoke testing?**
- 11. What does it mean if smoke enters my house?**
- 12. What should I do if smoke gets into the house?**
- 13. What happens if staff finds a faulty sewer or lack of water traps in a home?**
- 14. How long will the testing take?**
- 15. Do I have to be home during testing?**
- 16. How will I know if smoke enters my house if I am not home during testing?**
- 17. Will rodents be smoked out?**
- 18. Can the smoke testing activate the smoke alarms?**

19. Can smoke plug the sewer?

20. Where does the smoke appear?

21. If you have any additional questions, clarifications or comments contact information

1. 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:

- 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
- Buildings that have downspout, cellar, yard or basement drains, and sump pumps illegally connected to the sanitary sewer

It is expensive to properly treat wastewater. Locating points of inflow and infiltration has the potential to have significant cost savings for the City of Warrenville.

2. Where will the smoke testing occur?



The testing area includes the following:

- Industrial Park
 - Barkley Avenue: Sunset Drive to Butterfield Frontage Road
 - Butterfield Frontage Road: West Dead End to Barkley Avenue
 - Calumet Avenue West: Talbot Avenue to Barkley Avenue
 - Talbot Avenue: Calumet Avenue West to Butterfield Frontage Road
 - Youghal Road: Talbot Avenue to Barkley Avenue
- Summer Lakes Subdivision
 - Bayview Court: North Cul de Sac to Lakeview Drive
 - Brookside Court: Lakeview Drive to South Cul de Sac
 - Harvest Court: Lakeview Drive to South Cul de Sac
 - Lakeview Court: Lakeview Drive to South Cul de Sac
 - Lakeview Drive: Barkley Avenue to Continental Drive
 - Sunset Court: Sunset Drive to West Cul de Sac
 - Sunset Drive: Barkley Avenue to Lakeview Drive
- Illinois Route 59: Continental Drive / Meadow Avenue to Batavia Road
- Timber Lakes subdivision
 - Meadow Avenue: Illinois Route 59 to Timber Drive
 - Timber Drive: Meadow Avenue to Grove Lane

3. When will testing occur?

This testing is scheduled to occur starting mid-July, between the hours of 8:00 a.m. to 5:00 p.m., and could be delayed due to weather conditions. Testing cannot be conducted during rainy periods or very windy conditions. The schedule could shift if more or fewer defects than expected are located and need to be documented. Public Works staff will notify residents in the immediate area of testing via door hangers, and will inform the Warrenville Police Department and Warrenville Fire Protection District of the testing schedule.

4. Who is conducting the test?

City of Warrenville staff will be conducting smoke testing of the sanitary sewer system. City staff are uniformed, and operate out of vehicles marked with the City logo.

5. How does smoke testing work?



During smoke testing, staff blow air and smoke into the sanitary sewer system in the street and monitor where smoke escapes the system. The smoke under pressure will fill the main line as well as any connections and then follow the path of any leak to the ground surface, quickly revealing the source of the problem.

For instance, if smoke permeates up through a street, it indicates breaks in the sewer line. Only enough force to overcome atmospheric pressure is required, and smoke should escape from building and residential roof vents. If you have any doubt as to the source of the smoke in your home or yard, phone 911 immediately.

Smoke Testing photo for informational purposes only.

6. What are the benefits of smoke testing?

- Smoke testing is an efficient and cost effective way to:
 - Locate where unauthorized water is entering the public portion of the sewer system;
 - Find areas of the sewer system that need improvement; and,
 - Identify plumbing leaks in buildings and residential areas.
- The smoke is nontoxic and will disappear after a few minutes.
- Potential for significant cost savings in wastewater treatment.

7. What is the smoke?

The "smoke" is not true smoke, but rather a mist containing a large percentage of atmospheric moisture that is highly visible at low concentrations. The smoke is nontoxic, odorless, does not leave a residue or stain, and should disappear in a few minutes.

The smoke being used is called LiquiSmoke obtained from Hurco Technologies, Inc.[®] To view a copy of the Safety Data Sheet and summary of reports on the smoke generated by Hurco's LiquiSmoke can be found here: [Scientific Evaluation of LiquiSmoke: SDS and Summary of Test Data \(PDF\)](#).

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

You do not need to be home, and the smoke is nontoxic. With proper ventilation, any smoke that enters the home will dissipate in a few minutes.

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

Since plumbing fixtures in your home/building 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:

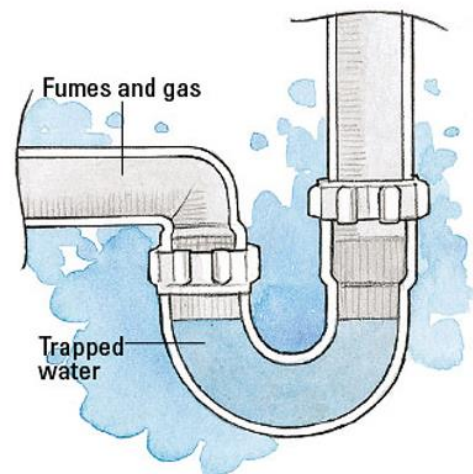
- Vents connected to your home's sewer pipes are inadequate, defective or improperly installed
- Traps under sinks, tubs, showers and other drains are dry, defective or improperly installed
- Pipes, connections or seals in the wastewater drain system in and/or under your building are damaged, defective,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

Smoke should not get into your home/building provided that plumbing is installed and functioning properly, and provided plumbing traps are filled with water.

10. What should I do to prepare for smoke testing?

Prior to testing, check to see that all drain traps under basins, washing facilities and floor drains contain water. Dry traps could allow sewer gases to enter the home. To prevent this, simply flush toilets and pour a gallon of water (or run water for about for a minute) into any drain that is rarely used to ensure that the trap is not dry. Dry traps are most commonly found in basement floor drains. Drains that are used frequently should be okay.

How a plumbing "trap" works (Photo of trap for informational purposes only). The gooseneck section of your drain pipe 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—the portion of pipe protruding from the roof of the home/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 the home/building. If there is no water in the trap, the trap is not functioning properly. Run water for a minute, or pour a gallon of water into building drains and fixtures prior to testing.

11. 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.

12. What should I do if smoke gets into the house?

- Open windows to allow ventilate and note the location of the smoke emission; smoke will clear in a few minutes
- Exit the home/building and notify smoke testing staff in the area. Exiting the home/building is a *precautionary* measure in case the smoke is due to a real fire rather than the smoke test, and also since smoke in your home/building from this test indicates other sewer gases may be entering.

13. What happens if staff finds a faulty sewer or lack of water traps in a home?

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

14. How long will the testing take?

While staff 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.

15. Do I have to be home during testing?

No, you do not have to be home during testing. Staff will not need to enter homes/buildings.

16. 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.

17. Will rodents be smoked out?

No, rodents will not be smoked out. However, the smoke may detect broken building sewers where there is a potential for rodent access.

18. 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.

19. Can smoke plug the sewer?

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

20. 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 staff that smoke has filled all sewers. Potential inflow/infiltration sources are illustrated below. Smoke testing assists with locating underground connections and defects that are otherwise difficult to detect.

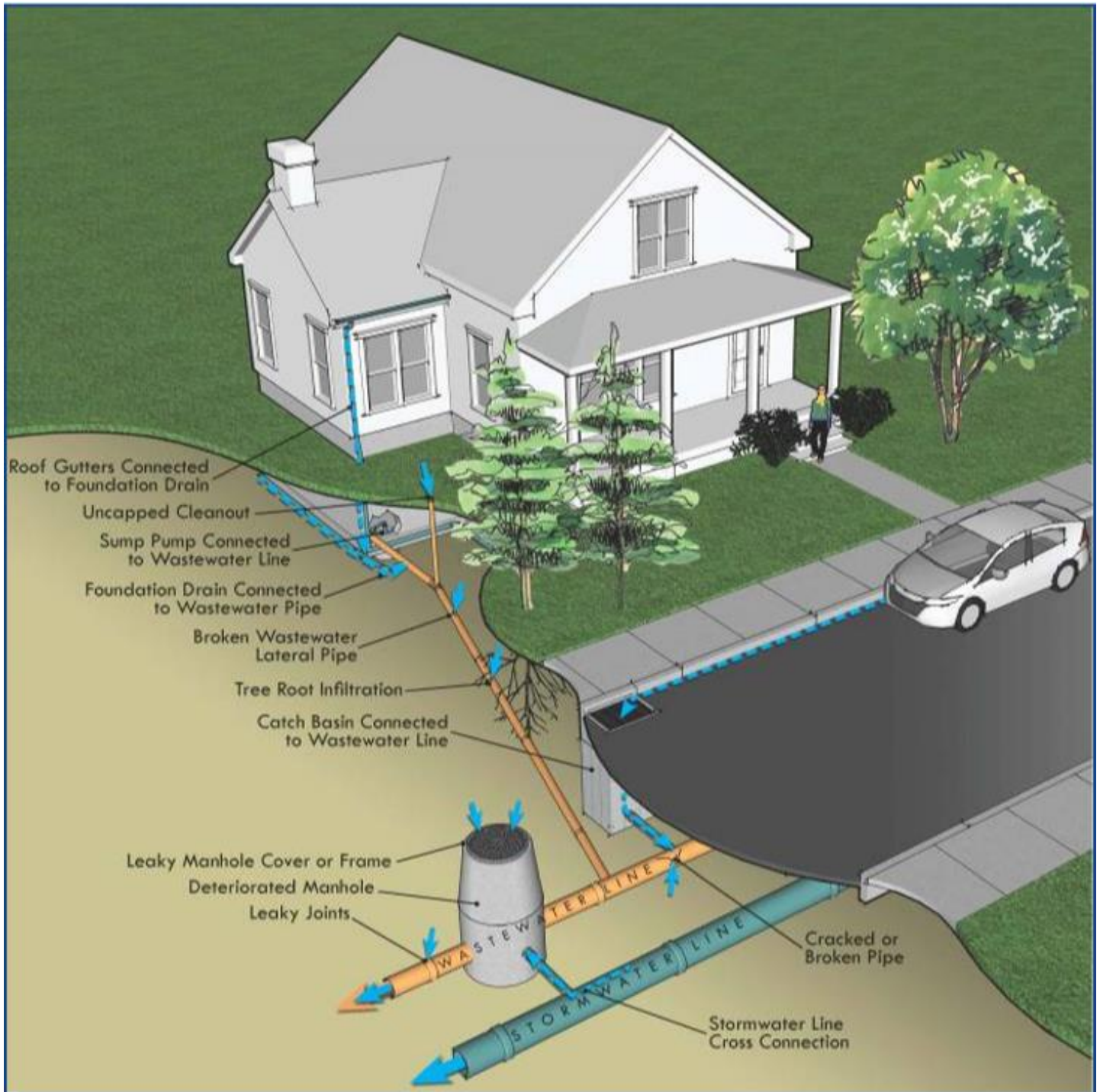


Photo for informational purposes only.

21. If you have any additional questions, clarifications or comments please contact:

Contact information:

John Satter | Utility Division Supervisor
630-836-3051