



Footing Drain Disconnection Program Frequently Asked Questions

Section 1: General Program Questions

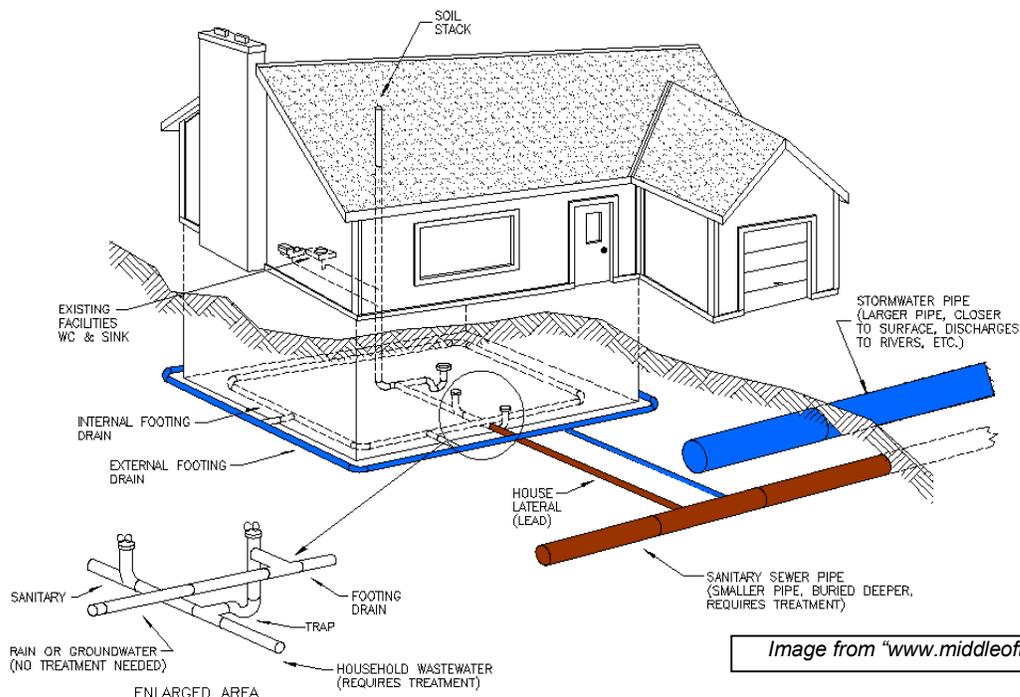
Why is the City of Midland considering a footing drain disconnection program?

In response to ongoing flooding and sewer system concerns, the City of Midland has proposed a footing drain disconnection program as part of the Concept 5 Sewer Improvement Plan. This plan was approved by the Midland City Council on March 10, 2021.

Homes in some areas of the city that experience sanitary sewer back-ups may be experiencing these back-ups due to their footing drains being connected to the sanitary sewer system and, even if they are not experiencing back-ups, are contributing to overuse of the sanitary sewer system. Eliminating these connections will help to increase capacity and improve the City's sanitary sewer system. This program will also help to avoid costly upgrades to the Wastewater Treatment Plant that would be required if another alternative to this program was pursued. Since 1987, it has been illegal in the City to connect a property's footing drain to the sanitary sewer system. (Sewer ordinance **Sec. 28-110.2.**)

What is a footing drain?

Footing drains are external drains outside the home and are typically buried near the home's foundation. They collect groundwater from around the foundation to keep it from entering the home. These are sometimes connected to an internal sump pump or may be connected to the sanitary sewer lateral line outside of the home.



Footing drains are not visible from within the house; however a licensed plumber can quickly run a scoping camera down the lateral to determine if there is a connection between the sanitary sewer line and a footing drain. The City is not equipped to perform this inspection.

Who is included in this program?

There are two projects that have been identified through flow monitoring and flow modeling: residences in the Moorland Drive and Whitewood Drive neighborhoods. Only homes that were built in or prior to 1987 that are suspected to have footing drain connections to the sanitary sewer are the focus for this program.

Why were the Moorland and Whitewood neighborhoods chosen for this program?

Sewer monitoring and modeling has been performed throughout the City and in each of these neighborhoods since 2018. Studies concluded that corrective actions for problems associated with basement back-ups in these areas in particular were needed. The studies also concluded that the Footing Drain Disconnection Program was the appropriate corrective action for these neighborhoods in conjunction with the upsizing of some sanitary sewer pipes, sanitary sewer lining, and manhole rehabilitation. By removing the clean water, this creates capacity for the collection system to convey the sewage, preventing back-ups into homes.

What are the potential impacts of connections like this to my property?

The primary danger of a sanitary sewer connection to your footing drain is the potential for a damaging, expensive sewer back-up to occur in your home. Excessive clean water entering the sanitary sewer collection system from footing drains and other illegal connections such as down spouts, yard drains, roofing drains, etc. in your neighborhood can overload the system and result in sewer back-ups through floor drains or fixtures. Back-ups can occur even if you do not have an illegal connection. For example, if your home has a sump pump connected to the sanitary sewer system, this set-up is also contributing to clean water entering the system and could be a potential outlet for sanitary sewage to enter your basement. In both situations, this issue needs to be corrected to prevent sanitary sewer back-ups.

What are the impacts of storm water and illegal connections to the sanitary sewer system?

Clean water sources, such as footing drains, take capacity away from and place stress on the sanitary sewer collection system. They can cause full pipes, or surcharges; require excessive pumping; and have avoidable cost for the electricity and chemicals used to treat unpolluted water. It also increases usage of and wear-and-tear to our Wastewater Treatment Plant. Ultimately, these issues all increase your bill as a utility rate payer.

When were footing drains removed from the sanitary system?

After October 26, 1987, any new installation of a down spout, weep tile, footing drain, sump pump discharge, or any other conduit that carries storm water or groundwater is no longer allowed to discharge into the sanitary sewer, building sanitary sewer, or lateral sewer.

What does this program aim to do?

Firstly, this program will assist homeowners in identifying if their footing drains are connected to the sanitary sewer system. Secondly, it will separate the footing drains and connect the drainage to the storm water system through the use of a sump pump.

My basement doesn't flood, so why do I need to participate in this program?

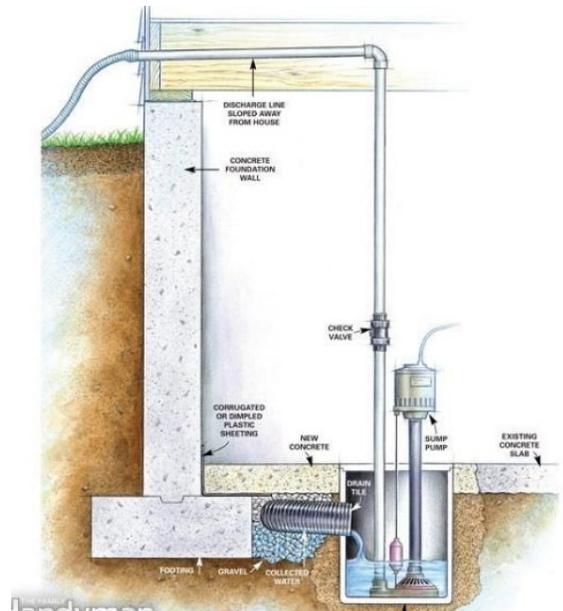
The program is being initiated as a community solution to a community problem. The Wastewater Treatment Plant (WWTP) is designed to collect and treat wastewater, not storm water or groundwater. The addition of storm water and groundwater can overload the system, causing back-ups in lower lying homes and/or sanitary sewer overflows (SSOs).

The more homes that are disconnected from the sanitary sewer system, the greater the protection for the system and all users of the system. By removing clean water, this creates capacity for the collection system to convey sewage, preventing back-ups into homes. This program also helps to avoid other costly upgrades at the WWTP, which would require increasing usage rates for all system users.

What is a sump pump and how does it work?

A sump pump collects storm water from the footing drain around the house, directing it into a crock, which is usually located in the basement. The sump pump lifts the water up past a backflow valve, discharging the water to the outside. During this process, water passes through an air gap and will flow by gravity into a buried 4" or 6" PVC pipe that will connect to the City's storm water system or discharge to a ditch or creek. The air gap protects the home in the event the storm water system is surcharged or flooded (in extreme cases) by allowing the sump to discharge to the exterior of the house and into the lawn. The backflow valve prevents water from flowing back into the home through the discharge pipe.

In the case of widespread overland flooding, it would prevent water from entering through the discharge pipe; however, at this point water would likely be entering the home through window wells or other vents instead.



Example: doesn't show 4" or 6" buried PVC line and associated air gap.

How does the process work for a home that will be disconnected through this program?

While the work may differ from home to home based on a number of factors, the basic elements of work will include:

- **Identification:** Initial inspection of the footing drain and the property, including a cost estimate for work to be completed.
- **Disconnection:** If the footing drain is connected to the sanitary sewer, it is disconnected and rerouted.
- **Sump pump installation:** A standard sump crock and sump pump are installed in the property's basement, along with a check valve and air gap.
- **Discharge installation:** Next, discharge piping will be installed for the sump pump to either the storm sewer system or to a draining area outside the home, depending upon the property.
- **Restoration:** Finally, basic restoration of the interior and exterior work areas will be provided, including lawn reseeding and, if necessary, restoring the floor, ceiling surface, or drywall patching as needed.

What kind of work can I expect to be done in my home?

Typically, the following work is involved to disconnect a home's footing drain from the sanitary sewer system:

- Basement floor demolition
- Sump crock installation
- Sump pump installation
- Electrical connections
- Footing drain tie-in to sump crock
- Sanitary lateral backflow preventer, if applicable
- Sump pump discharge piping, check valve, and shut-off valve installation
- Internal home restoration, as necessary
- Discharge air gap external to home
- Underground piping from air gap to property line connection to City-owned lateral
- Underground piping from air gap to drainage ditch daylight in backyard, when applicable, including rip-rap
- Turf re-establishment and basic landscaping repair
- Small tree and shrub removal, if applicable

All these items will be covered by the City within the \$7,500 cost threshold for the approved plumbing contractor.

Will my floor drain still work?

Yes. The floor drain will still be operational, unless it drains into the footing drains. If it does, the floor drain must be abandoned per plumbing code.

Who pays for disconnection work to be done?

The City will cover all costs for an approved plumbing contractor to perform the tasks associated with footing drain disconnection up to \$7,500.00. If an estimate comes back above \$7,500, the City will request that the homeowner obtains another quote or, if applicable, the designated program director will approve the higher quote on a house-by-house basis

Are backflow preventers effective for this program? Who pays for its installation and who is responsible for maintenance?

Backflow preventers help prevent sewage from backing up into the basement if the downstream sewer is full of water. If a homeowner desires a sanitary sewer lateral backflow preventer to be installed, the City will cover the costs for the contractor to install one at the time the disconnection is completed. Backflow preventers require routine maintenance and will be the responsibility of the homeowner to maintain.

What is the surcharge for homes that do not participate in the FDDP?

The surcharge for homes that elect to not participate was calculated based on two categories:

- Conveyance and treatment of clean water
- Additional capital costs needed to maintain the same level of capacity as a complete FDDP (i.e. what pipe size upgrades and/or lift station upgrades would be required to maintain the same pipe capacity within the system as will occur with a complete FDDP).

The total of these two categories would result in a surcharge of \$94.34 per month, which would be added to your current sewer bill.

What other communities have had success with the implementation of an FDDP?

Grand Rapids, Grandville, Georgetown Township, Durand, Monroe, Dundee, and Wakefield, Michigan have all introduced and implemented footing drain disconnection programs.

Where can I get more information?

Updates on the program, as well as action taken by the Midland City Council on the topic, will be made available online at www.cityofmidlandmi.gov/fddp.

Section 2: Detailed Homeowner Scenarios

I have a visible floor drain in my basement but no sump pump. Am I in compliance?

An inspection will be necessary to determine if there are footing drains connected to your floor drain and, in turn, if your floor drain is connected to the sanitary sewer system.

I have a visible sump pump and it discharges the water through my basement wall onto my yard (or into a ditch or creek). Am I in compliance?

Yes. A sump pump that discharges clean water to the exterior of the house into a drainage area or storm drain is permitted. Only sump pumps that discharge to the sanitary sewer line are illegal. However, a yard discharge cannot negatively affect a neighbor, sidewalk, or street, as they can cause ice build-up or ponding water.

If I have a newer home, am I in compliance?

Homes built after 1987 were required to have separated footing drains upon construction. Only homes built in 1987 and prior that are suspected to have footing drains connected are included in this program.

I currently experience water in my basement. Will the disconnection program solve this problem?

The disconnection program is designed to improve the level of service of the sanitary sewer system in the program's neighborhoods. It will protect homes that experience basement back-ups as a result of heavy rain, including 25-year/24-hour rain events, by eliminating sanitary sewer surcharges during these events. The disconnection program will not solve problems associated with leaks in basement walls or floors, poor site drainage, or blockages in footing drainage pipes. It will not protect from overland flooding events when surface water enters homes.

Is an exterior sump pump installation possible to minimize disruption to the interior of my home?

An exterior installation may be possible. This will need to be determined on a house-by-house basis by the plumbing contractor doing the initial investigation and providing the estimate. An interior installation is the preferred method, as it is easier for the homeowners to maintain and generally more economically feasible.

For more information on this topic, please visit www.cityofmidlandmi.gov/fddp or email footingdrains@midland-mi.org using the subject "FDDP."

This document last updated June 2022.