



**City of Charlottetown
Water & Sewer Utility**

“NOTICE TO CUSTOMERS”

Inflow Reduction Program

The City of Charlottetown Water and Sewer Utility have instituted a program for the removal of "illegal" connections to the sanitary sewer system. Included here are answers to the questions typically asked about the program.

What is a sanitary sewer?

A sanitary sewer is a pipe located in the City right-of-ways that is designed solely to transport wastewater from sanitary fixtures inside your house or place of business to the City's Wastewater Treatment Plant. Sanitary sewers in your neighborhood are owned, operated and maintained by the Charlottetown Water and Sewer Utility.

What is a storm sewer?

A storm sewer is a pipe located in the City right-of-ways that is designed to carry storm-related water runoff. Storm sewers are normally much larger than sanitary sewers because they are designed to carry much larger amounts of flow. Storm sewers are owned, operated and maintained by the City of Charlottetown.

What is an illegal connection?

An illegal connection is a connection that permits ground and storm-related water (water from sources other than sanitary fixtures) to enter the sanitary sewer system. The ground and storm-related water is water that should be going to the storm sewer or allowed to soak into the ground without entering the sanitary sewer.

What are the different types of illegal connections?

Illegal connections include connections of roof drains and downspouts, sump pumps, sub-soil drainage, foundation drainage, and area drains to the house sanitary sewer lines. In addition, defective house sewer lines cause extraneous water to enter the sanitary sewers and thus they are also illegal connections.

Where should storm drainage from roof drains and downspouts, sump pump, and foundation drainage / or other drains be directed if it can't be discharged to the sanitary sewer?

Standards generally call for water from sump pump, area drains and the like to be diverted to the storm sewers, front or back yards or above ground drainage ditches.

Why is it important for everyone to remove illegal connections?

Removal of illegal connections will significantly reduce the flow of ground and storm-related water in the sanitary sewer system.

Illegal connections result in surcharging to the sanitary sewer, basement flooding and end up at the wastewater treatment plant.

Reducing the quantity of this water in the sanitary

sewer will reduce the customer's cost of treating this clean water.

How can surcharged sanitary sewers cause basement flooding?

A surcharged sewer flows at a level greater than the "normal" level. If the home has sanitary fixtures or floor drains at an elevation below the surcharge level, basement flooding can occur.

The sanitary sewers have been designed to collect and dispose of sanitary waste only. Ground and storm water flow added to the normal sanitary flow could exceed the capacity of the sanitary sewer resulting in a situation where the sanitary sewer is "surcharged."

Basically, surcharging occurs when the amount of flow trying to get through a pipe exceeds the maximum capacity of the pipe thus building up pressure in the pipe. When pressure builds up it seeks to relieve itself through any means possible, one of which is by backing up private sanitary services and filling basements and crawlspaces with the wastewater. Reducing these extraneous flow will reduce surcharging and sewer back-ups.

Do illegal connections really contribute large amounts of extraneous water to the sanitary sewer system?

Yes. For example, an eight-inch sanitary sewer can handle domestic wastewater flow from up to 465 homes; however, it takes only twelve sump pumps operating at full capacity to overload an eight inch sanitary sewer.

How does the City of Charlottetown identify illegal connections?

The City has completed studies conducted by an independent consultant for the purpose of confirming the existence of illegal connections to the sanitary

sewer lines. Such studies included smoke and dye testing of the sewers and house lines and house inspections.

The findings of these studies have identified that within the City of Charlottetown many illegal connections currently do exist.

How You as a Homeowner Can Reduce Inflow and Infiltration from Your Property

1. Check that roof drains, gutters and outside drainage is not connected to the sanitary sewer system. Disconnect any drains that are found to be connected and direct this drainage to proper storm sewer systems.
2. Ensure that basement sump pumps are not connected to the sanitary sewer system. Disconnect sump pump drains that are found to be connected and direct this drainage to proper storm sewer systems.
3. Avoid planting trees or shrubs over sewer laterals. Roots can cause damage to the pipe structure and cause leaks.

If I have an illegal connection what do I do to correct it?

It is suggested that you consult a licensed plumber to determine the most appropriate methods of removing a specific illegal connection.

The following are some possible solutions:

1. The sump pump pipe could be run overland to a ditch or swale that could drain to another location. Also, a long flexible tube that can be moved around the yard to avoid discharge in only one portion of the yard could be used.
2. The sump pump can be run underground through a 4" or 6" diameter perforated PVC

pipe, with holes at the bottom and backfilled with washed gravel. An overflow tube should be placed at the opposite end to allow the water to escape in the event that the volume of the pipe is exceeded. This pipe tube is located at a convenient area of the yard such as a garden. Another option could be to run it to a drywell.

3. Route the sump pump to a City storm sewer via a 4" or 6" pipe. If the homeowner chooses this option, a permit and street deposit may be required with proper inspections made by the City. To proceed with this option the homeowner is to contact the City's Public Works Department for specific requirements.

Note - Caution must always be taken to prevent freezing in pipes.

Some final thoughts!

I've never had basement flooding due to surcharged sewer. Why should I remove my illegal connections?

You may not have basement flooding due to surcharged sewers. But if your plumbing pumps or drains ground or storm-related water into the sanitary sewer, it may well be the cause of flooding in your neighbor's basement.

Is the requirement to remove illegal connections unique to Charlottetown?

No. In response to Provincial or State regulations, many local governments across North America have adopted ordinances or codes prohibiting the intrusion of extraneous ground and storm-related water into sanitary sewers.

**CHARLOTTETOWN WATER & SEWER UTILITY
GENERAL RULES & REGULATIONS**

Within the City of Charlottetown, illegal connections are addressed in the City of Charlottetown Water and Sewer Utility - General Rules and Regulations:

4.21 Prohibited Sewage

No person shall discharge or permit or cause to be discharged directly or indirectly into any sanitary or combined sewer any of the following:

(I) Storm water, surface water, ground water, roof run-off, surface drainage or the like.

(II) Matter having a temperature of more than 66°C.

(III) Gasoline, benzene, naphtha, fuel oil, motor oil, grease, acetone, solvents or other flammable or explosive matter.

(IV) Ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, cellulose, garbage, excluding properly shredded garbage, or other solids of a type or quantity capable of causing obstruction to the flow in sewers or other interference with the proper operation of pumping facilities or sewerage treatment equipment.

(V) Matter having a pH lower than 5.5 or higher than 9.5 or where the pH becomes lower than 5.5 or higher than 9.5 if the matter is diluted by any liquid.

(VI) Matter that may cause the death or injury to any person or capable of causing damage or hazard to structures, equipment or personnel of the sewage works.

(VII) Hydrogen sulphide, carbon bisulphide, ammonia, trichloroethylene, sulphur dioxide, formaldehyde, chlorine, bromine, pyridine or any other matter that has or may cause an offensive odour or is capable of creating a public nuisance.

(VIII) Any matter in which the BOD exceeds three hundred (300) parts per million.

(IX) Animal wastes such as hair, wool, fur, feathers, intestines or stomach casings, paunch manure, intestinal contents, hides or parts thereof, hooves toenails, horns, bones and fleshings.

(X) Matter containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment process of constituting a hazard to humans or animals. Included in this category are waters or wastes containing metals or chemicals such as cyanide, hexavalent chromium, phenols, copper whose concentrations are more than:

Chromium as CR	3 ppm
Cyanide as HCN	2 ppm
Phenol equivalents	50 ppm
Copper as Cu	1 ppm

**CITY OF CHARLOTTETOWN
WATER & SEWER UTILITY**

INFLOW REDUCTION PROGRAM



**City of Charlottetown
Water & Sewer Utility**

**P.O. Box 98
Charlottetown, PE
C1A 7K2**

Tel: 902-629-4014

Fax: 902-894-7094

**THANK YOU FOR YOUR ASSISTANCE
HELPING US SERVE YOU BETTER**