



### Where to apply:

#### In person:

The City of Calgary  
 Planning Services Counter  
 Third Floor, Calgary Municipal Building  
 800 Macleod Tr. S.E.  
 Calgary, Alberta T2P 2M5  
 Monday to Friday, 8 am to 4:30 pm

#### For more information:

#### By phone:

403-268-5311

#### Online:

calgary.ca/pd

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Brochures are updated periodically. Contact the Customer Service Centre to determine if you have the most recent edition.

## Sewer Connections

In the city of Calgary, there are two sewer systems: one is for the sanitary system, the other is for stormwater. If your home has weeping tile around the foundation and under the floor then you have storm sewer connections under your basement floor. As the installer of the plumbing system, you need to ensure you are connecting all the sanitary drainage to the proper sewer system. This can be achieved by opening up a clean out fitting and flushing water down a sink or flushing a toilet. If you see or hear the water in the pipe, you'll know you are in the right sewer system.

### Do I need a backwater valve?

To elaborate on the definition in the plumbing terminology section, a backwater valve is designed to stop the back flow or reverse flow of sewer systems that could be caused by a blockage or, in the case of storm sewer, by a large amount of water entering into the system. If you are installing any plumbing fixture below the level of the manholes, either in the street or lane, you must install a backwater valve. However, if your home was constructed with a fullport backwater, then a backwater valve on the branch line is not required. To find out if a fullport was installed, contact your home builder or plumbing contractor.

### What is the minimum grade for drains?

The minimum grade or slope on all drainage pipes is ¼-inch per foot. The drains must be supported by a firm base or hanger to ensure they remain in position.

### What is the total fall allowed from a fixture trap to the vent?

Except for a water closet, the total fall from the fixture trap to the vent must not exceed the diameter of the drainage pipe.

### What is the maximum distance between a fixture trap and vent connection?

The maximum distance between the trap and the vent connection depends on the size of the fixture trap. With a 1½-inch pipe, the maximum distance would be 6 feet. With 2 inch pipe, the distance is 8 feet. A water closet is 10 feet horizontally and 36 inches vertically.

### Where are clean outs required?

Approved clean out fittings must be installed at the following locations:

- As close as practicable to the point where the sewer enters the building.
- At the base of every soil or waste stack.
- Horizontal sections of a vent located below the flood level rim of a fixture.
- At every change of direction greater than a 120 degree bend.

### When are "T" and "Y" fittings used in a drainage system?

"T" fittings or 90 degree elbows must not be used in the horizontal portion of the drainage system except for toilets. All horizontal branches must be installed with a Y connection with 45 degree bends.

### When is an expansion fitting required?

The design and installation of every piping system must include means to accommodate expansion and contraction of the piping system caused by temperature change. So, where plastic pipe is used, expansion joints must be installed below the lowest fixture connection on the soil or waste stack.

### Can drainage or water pipe be installed in exterior walls?

Where piping may be subject to freezing conditions, it must be protected. No drainage or water piping can be installed in any exterior wall of a building. Vent pipes are permitted in exterior walls.

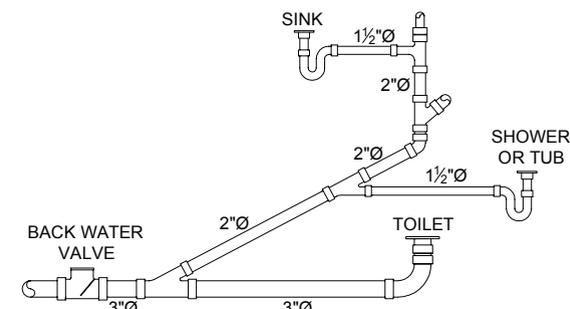


Diagram of typical basement bathroom piping

Calgary



# Homeowner's Plumbing Permits

## What you need to know

### Home Improvements

## Introduction

This brochure will assist homeowners wishing to obtain homeowner trade permits. A few moments reading this brochure could save you time and money and minimize your frustration. However, if you still have questions or need assistance after reading this brochure, call 3-1-1 to be transferred to the Technical Advisory Centre who will be pleased to help. Applicable provincial legislation will take precedence to any information in this brochure.

For the purpose of this brochure, we'll consider plumbing to be all or part of the drainage, venting and water systems in your house, including the fixtures. All plumbing in Alberta is subject to the requirements of the National Plumbing Code of Canada. If there is any conflict, inconsistency or difference between The National Plumbing Code of Canada and this brochure, The National Plumbing Code of Canada prevails.



## Plumbing Terminology

Generally, plumbing installation is easier when you understand the terminology. Here are definitions of some of the more commonly used terms:

**Backwater valve:** a backwater valve is a device installed on a branch of the building drain. It protects fixtures below grade against backflow and prevents the free flow of air through the plumbing system.

**Clean out:** a clean out is a pipe fitting with a removable plug, cap or cover to permit pipe cleaning. It is recommended at the base of every waste stack and every change of direction greater than 45 degrees.

**Downstream:** downstream is the direction that leads from a fixture towards a sewer line.

**Dry vent:** the dry vent pipe extends above any fixture in the system and up through the roof to the open air. It limits the pressure differential in a plumbing system (that is, it prevents those gurgling noises and knocking in the pipes) and allows sewer gases to vent outdoors.

**Full port backwater valve:** the full port backwater valve allows the free flow of air throughout the plumbing system. It also stops the flow of sewage when a backup occurs in the building sewer. This device is installed at the point where the building sewer enters the home.

**Potable water:** potable water is water that is fit and safe to drink.

**Sanitary Y:** a sanitary Y is a basic pipefitting used to connect horizontal waste lines to other horizontal waste lines.

**Sanitary TY:** a sanitary TY is a basic pipefitting used to connect a branch or trap arm from a horizontal waste line to a vertical waste stack.

**Safety Codes Officer (SCO):** a Safety Codes Officer is the inspector who reviews your work under the Safety Codes Act and the Building Permit Bylaw.

**Service line:** a service line is the pipe that connects the city's water system to your house. It's underground on your property.

**Stop-and-drain:** a stop-and-drain valve is appropriately named because it's the valve on a water line (with the "stop" handle) that lets you drain any water that remains in that line through the drain opening on the side of the valve.

**Trap:** a trap is a section of piping that forms a "U" at the outlet from basins, tubs, showers and sinks. Because of its shape, it is constantly filled with water, providing a barrier to prevent the return of sewer gas.

**Trap arm:** the trap arm is the piping between the trap and the waste stack or wet vent.

**Waste stack:** the waste stack is the vertical pipe leading away from your fixture. It carries away used dish water, toilet flushing, etc., to the sewer line.

**Water closet:** another word for water closet is toilet. It's usually indicated on a building plan as "WC."

**Wet vent:** a wet vent is a section of pipe serving as a combination waste pipe and vent pipe.

## General Information

### When is a plumbing permit required?

A plumbing permit is required when:

- A plumbing system is constructed or extended.
- Water and sewer lines in or around the home are replaced.

### When is a plumbing permit not required?

- To repair a leak in a water distribution or drainage system.
- To replace existing faucets, fixtures or a hot water tank.
- To remove blockage in the drainage system.

### Who is eligible to apply for a Homeowner's Plumbing Permit?

The only person permitted to apply for a Homeowner's Plumbing Permit is the owner of the dwelling unit (be prepared to provide proof of ownership) and only if the owner lives in the house and will be doing the plumbing work himself or herself.

If the home is being built or repaired for re-sale or rental purposes, you must hire a licensed plumbing contractor.

### Can a plumbing permit be transferred to an individual other than the original applicant?

No, the Plumbing Permit is not transferable.

### Can I hire someone to work under my permit?

No. When a homeowner applies for the permit, the work is his or her responsibility. Further, even if the plumbing has been previously roughed-in under another permit and only the fixtures are being installed, a plumbing permit is still required.

### What are the permit expiry conditions?

If you don't start work within 180 days of the permit being issued, the permit may expire. If the permit does expire, you must obtain a new permit before resuming work. To request an extension for a permit you must make a written application prior to the permit expiry date. You can submit this application to the Planning Services Counter or call 403-268-5311 for alternative options.

## Inspections

### What must be ready for the first inspection?

Before calling for your first inspection, please make sure all drains, vents and water lines are completed.

Do not cover your work until the Safety Codes Officer permits you to do so. If any part of the plumbing work is found deficient during the inspection, alterations or replacement must be made.

Most work done under a plumbing permit is allowed two inspections. The first inspection may have infractions that must be corrected before calling for the second (or final) inspection. If infractions are not corrected at the time of the second inspection, re-inspection fees may apply.

### What must be ready for final inspection?

Before the final inspection, all fixtures and equipment must be installed and ready for use. All piping designed for future fixture connections must be sealed with an approved plug or cap.

### Who do I call for inspections?

Call 311 prior to 2 pm the day before you wish to have a Safety Codes Officer inspect your installation.