CALGARY PLUMBING PRO

Backwater Valves, Sumps & Flooding

Backwater valves, sump pumps, weeping tile, basement flooding prevention and what to do after a sewer backup in Calgary

4 Expert Answers from Plumbing IQ

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Q1

Does a backwater valve stop groundwater in a Calgary basement?

A backwater valve does one specific job: it blocks sewage from flowing backward through the drain pipe into your basement when the city's sewer main surcharges during a heavy storm. It does nothing to stop groundwater, and if your basement is getting wet from seeping soil water, a backwater valve will not help.

What each problem actually is

Sewer backup arrives through floor drains, toilets or laundry tubs, usually during intense rainfall when the sewer system is overwhelmed. A backwater valve, installed on the sewer pipe where it leaves the house, automatically closes when flow reverses, keeping that sewage out.

Groundwater intrusion is a different problem entirely. Water seeps through cracks in the foundation wall or floor slab, through deteriorating parging, through window wells, or up through the floor drain when the water table rises during spring melt or prolonged rain. A sump pump and weeping tile system manage that water by collecting it and pumping it away before it builds pressure against the foundation. The City of Calgary advises that sump pump discharge should clear the backfill zone around the foundation, and that a battery or generator backup, a check valve and a moisture alarm are all worth having. The City recommends replacing the pump roughly every ten years.

Some basements need both systems, because the two problems can happen in the same storm.

Installing a backwater valve on the sewer line does not reduce groundwater pressure, and a sump pump does nothing to stop a sewer surcharge. Getting the diagnosis right before spending money is the most important step.

A drain camera inspection, typically $200 to $600 in Calgary, can confirm whether your floor drain is connected to the sanitary sewer, the storm system or both, and whether the sewer line itself has any defects contributing to the problem. If you have had water come up through a floor drain during a storm, the City of Calgary can run a snake to the sewer main at no charge to determine whether a blockage is on the City's side or yours.

On the permit side, installing a backwater valve in Calgary requires a plumbing permit from the City of Calgary. A homeowner who owns and lives in the home may apply for that permit if they do the work themselves; the job involves cutting concrete and working on the main drain line, and when you hire a plumber, the plumber takes it out. The price depends heavily on how deep the pipe sits and how much concrete has to be removed; get an itemized quote rather than a single total, and check the City of Calgary's website before counting on any rebate; we could not find a current City subsidy for backwater valves.

For a sump pump installation, costs typically run $800 to $3,000 for the pump itself, plus $200 to $500 for a battery backup. Ask whether a plumbing permit is needed for the sump connection in your specific situation.

When comparing quotes, ask each contractor to break out the concrete cutting and patching separately, since that line is where the final bill most often climbs past the original number.

Q2

Backwater valve versus sump pump, which does a Calgary basement need?

These two devices solve different problems, and some basements need both rather than one or the other.

A backwater valve sits on the sanitary sewer line and stops sewage from flowing back into the house when the City's main is overwhelmed during a heavy storm. A sump pump removes groundwater that seeps through the foundation or rises through the weeping tile, discharging it away from the house. One blocks sewage coming in; the other pumps clean groundwater out. They work on separate systems and do not substitute for each other.

Which problem does your basement actually have?

If your basement has flooded with sewage smell and dark water during a rainstorm, a backwater valve is the priority. The City of Calgary recommends one on the sewer pipe or on basement fixtures. New houses in the floodway, flood fringe, or overland flow areas are required to have one; outside those zones it is a recommendation, not a city-wide rule. A permit from the City of Calgary is required to install a backwater valve, and the price depends on how deep the sewer line sits and how much concrete must be cut. Get an itemized quote that includes the permit before agreeing to anything.

If water seeps in through the floor or walls during spring melt or heavy rain, that is a groundwater problem and a sump pump addresses it. The City recommends a backup pump with battery or generator power, a check valve, and a moisture alarm. The discharge pipe should clear the backfill around the foundation, not drain right next to it. Under the City of Calgary's Drainage Bylaw, weeping tile and sump pump water may go to the storm system. A sump pump installed runs roughly $800 to $3,000, plus $200 to $500 for a battery backup, depending on the pit size, the pump capacity, and whether a backup unit is added.

If your basement faces both risks, ask whether both can be done in one visit while the concrete is open.

A backwater valve that is never tested or a sump pump that has never been run is a false sense of security. Lift the access cover on the backwater valve a few times a year to confirm the flap moves freely. Pour water into the sump pit periodically to confirm the pump activates. The City recommends replacing a sump pump every ten years

or sooner.

On the permit side, the City of Calgary requires a plumbing permit for a backwater valve installation. A homeowner who owns and lives in the home may apply for that permit if they do the work themselves; when you hire a plumber, the plumber takes it out. Gas is not involved in either device, so there is no gas permit question here.

A plumber should camera-inspect the sewer line before quoting a backwater valve installation; the footage shows the line's depth, condition, and where the valve should sit, and it protects you if there is a dispute about what was found.

The two lines that decide whether quotes are comparable here are concrete cutting and patching, and the permit.

Q3

After the 2013 flood, what should Calgary homeowners install?

The City of Calgary's flood-protection advice centres on two installations: backwater valves and sump pumps. A backwater valve sits on the sewer line and prevents sewage from flowing back into the house during an overloaded main; a sump pump removes groundwater that collects in the pit beneath the basement floor. Together they address the two main paths water takes into a basement during a heavy rain or rapid snowmelt event.

What each system does and what it costs

A backwater valve requires a plumbing permit from the City of Calgary, and the price depends heavily on how deep the sewer line sits and how much concrete has to be cut to reach it. There is no reliable flat range for this job, so get an itemized quote that separates labour, the valve itself, concrete cutting and patching, and the permit. The City of Calgary recommends a backwater valve on the sewer pipe or on basement fixtures; in homes built in the floodway, flood fringe or overland flow areas, new construction is required to have one.

A sump pump installed typically runs $800 to $3,000 in Calgary, with a battery backup adding roughly $200 to $500. The City of Calgary advises a backup pump with battery or generator power, a check valve and a moisture alarm. Discharge should clear the backfill around the foundation, not drain right next to it. Calgary's drainage bylaw allows weeping tile and sump water to go to the storm system. Replace the pump roughly every ten years, and test it before spring melt each year.

A plumbing permit from the City of Calgary is required for a backwater valve installation. A homeowner who owns and lives in the home may apply for that permit if they do the work themselves; when you hire a plumber, the plumber takes it out. For sump pump work, ask the City whether your particular job needs a permit.

The plumber must be a certified journeyperson or a registered apprentice working under one. Before signing anything, ask to see the trade certificate and a WCB-Alberta clearance letter confirming the contractor's account is in good standing. If any deposit is taken before the work is finished, the contractor must hold an Alberta prepaid contracting licence issued by Service Alberta; check that before handing over any money.

A written contract for work over $200 arranged at your home must include a detailed description of the scope, itemized prices, start and completion dates, and your 10-day cancellation rights. Get a copy when you sign.

Check the City of Calgary's website before counting on any rebate for a backwater valve; we found no current City subsidy for this work.

When you set two quotes side by side, compare the valve model and sump pump model by name, whether the permit and inspection fee are included, who patches the concrete and what that finish looks like, and what warranty each contractor puts in writing on both parts and labour.

Q4

Backwater valve closed and toilets won't flush in Calgary, why?

A closed backwater valve and toilets that won't flush almost always mean the same thing: sewage is backing up from the city sewer main toward your house, and the valve has done exactly what it was installed to do, sealing shut to keep that sewage out. The toilets won't flush because there is nowhere for the water to go.

What is actually happening

Your backwater valve sits on the sewer line where it leaves your house. When the main sewer is overwhelmed, typically during a heavy rainstorm or a spring melt event, sewage can reverse direction and flow back toward homes on the street. The valve's flap closes automatically when flow reverses, blocking that sewage from entering your basement. While it is closed, your home's drain system is essentially sealed: toilets, floor drains and basement fixtures cannot drain, so flushing pushes water with nowhere to go.

The right response right now is to stop using water in the house. Do not flush toilets, run the dishwasher or do laundry. If sewage has already entered the basement, keep people away from it and arrange proper cleanup; sewage exposure is a health hazard and is not a straightforward DIY job.

Once the city sewer pressure drops, the valve flap should open on its own and normal drainage will resume. You can check the valve's access cover in your basement floor to see whether the flap has returned to the open position before you start using fixtures again.

Check with the City of Calgary first. The City can send a crew to run a steel snake to the sewer main at no charge to determine whether the blockage is on the City's side or your private sewer line. If it is on the City's side, they handle it. If the blockage turns out to be on your private line, they will tell you to call a plumber. That free assessment is worth doing before you pay anyone.

If the valve itself is damaged, stuck closed after the event, or has never been serviced, a plumber will inspect and clean or replace it. Installing or replacing a backwater valve in Calgary requires a plumbing permit from the City of Calgary. The price depends on how deep the valve sits and how much concrete has to be cut to reach it, so get an itemized quote rather than a single number.

A certified plumber should do any work on the valve or the sewer line. Before hiring, ask to see their trade certificate, a WCB-Alberta clearance letter confirming their account is in good standing, and, if you are paying a deposit before the work is finished, confirm they hold an Alberta prepaid contracting licence through Service Alberta.

When you compare quotes, ask each plumber to break out the permit fee, concrete cutting and patching, and disposal separately, because that is where the gap between a low headline number and the final invoice tends to hide.

Disclaimer: This guide is provided for informational purposes only by Calgary Plumbing Pro. It does not constitute professional advice. Always consult qualified, licensed contractors and your local building authority (the City of Calgary or your own municipality) before starting any plumbing or gas project. Information is current as of November 15, 2026 and may change. Visit **calgaryplumbingpro.com** for the latest answers.