

A GUIDE FOR MONITORING WELL OWNERS

Having groundwater monitoring wells installed is a substantial investment that also comes with legal obligations. As with all drillers, Kodiak are required to install your wells using methods specified in Ontario law. The same legislation makes you, the well owner, responsible for maintaining the wells.

What is the Relevant Legislation?

Ontario wells are governed by the Ontario Water Resources Act and its Regulation 903, administered by the Ontario Ministry of Environment and Climate Change (MECP). You can find links on the Kodiak website.

The Well Owner's Chief Responsibilities Under Ontario Regulation 903:

Responsibility #1:

Maintain the condition of every well - inspect it regularly and keep it free of contaminants

Responsibility #2:

Remove any well that is no longer in use.

Responsibility #3:

Ensure that only licensed Ontario well contractors perform repairs, removals or other work on the wells.

Responsibility #4:

Do not damage or remove an identification tag that has been attached to a well.

The legislation is complex - which is one of the reasons that Ontario law requires that most of the substantial work on a well be performed only by licensed, experienced well contractors and technicians, like Kodiak Drilling and other similar companies.

How Would I Have Known There Are Wells On My Property?

Kodiak is legally required to provide the owner with a written well record - you should have received one. We are also required to provide the well construction details and location to the Province. If there is a future spill in the neighbourhood, Ministry of Environment and Climate Change staff may try to find the wells and ensure that they are protected. If you think that there may be unknown wells on your property, perhaps installed by a previous owner, information should be available from the Ministry database.



A damaged and open well plus multiple nearby contaminants means that groundwater at this property will soon be affected. Ironically the well was originally installed to demonstrate that the property is clean.

Why Worry About Groundwater in the City?

Wells are direct conduits to groundwater - a compromised well allows surface contaminants to reach groundwater within minutes. Nearby rivers, lakes, neighbouring property, or your own property, may be affected.

The clean-up costs incurred by a spill down a well may reach hundreds of thousands of dollars. Spills may make it hard to sell your property. They may make it difficult to renew a mortgage. Spills that migrate to neighbouring property may result in lawsuits and Provincial Offence charges. Protecting your wells is absolutely critical.

If your city takes its water supply from groundwater, the consequences of a spill can be deadly. Many aspects of Ontario's current water legislation are the result of a May 2000 tragedy in the town of Walkerton, where heavy rains washed cattle manure down a poorly sealed well, contaminating the town's drinking water supply. Half of the town's 5,000 residents became ill. Seven died. The financial costs were in the millions.

No Contamination on Your Property? That's Probably Wrong.

Every winter, most Ontario parking lots and all of our streets are awash in salt. Salting compounds are recognized by the Ministry of Environment as contaminants (along with fuels and oils that may spill from cars, visiting service trucks, lawn equipment and snow plows). A damaged monitoring well can funnel unlimited amounts of salty water directly into your property's groundwater supply, all winter long.

Even "clean" surface water is a hazard, since it carries microorganism populations that may rapidly bloom in the soil-rich, moderate temperature environments where groundwater is found.

What Sort of Damage Do I Need to Worry About Most?

Most monitoring wells installed by Kodiak and other drillers in southern Ontario are constructed of white PVC pipe and sealed with a removable cap. If the pipe protrudes above ground it is protected by a steel box or tube. If it was cutoff below ground level, it should be enclosed in a steel casing and plate. Unfortunately, even the best well constructions may be affected by time, weather and damage. Damage is often due to:

- frost heaving, pushing the well or casing (manhole) upwards
- subsidence, causing fluids to pool around the well
- rubber gaskets on caps that dry and shrink with age
- caps that are pushed off by internal pressures



Broken well pipe and a highly ineffective cap. This well was originally installed to test for contaminants on the property. The property is now far more vulnerable because the well wasn't maintained.

- damage by snow plows, vehicles and vandalism.



All of these actions may create pathways to groundwater.

This protective metal casing has been heaved upwards by frost. Both the casing and the well pipe inside will be broken off as soon as snow plowing starts next winter. Meanwhile, spills and surface water can pour in and pool in the space around the cylindrical casing.



The casing for this well has been lost - the cap is now vulnerable to physical damage, and surface water or spills will pool around it, waiting for a weakness.



Remarkably, we've observed that many asphaltting companies will pave over a client's wells without even bothering to ask. Not only is this a disservice to the property owner, who may have invested thousands (or tens of thousands) of dollars to install the wells, it is also illegal. You - the owner - could be fined. Next time you pave, remember to tell the contractor to preserve your wells.

Fulfilling Responsibility #1: Maintain the Well

The well owner shall maintain the well at all times...to prevent the entry into the well of surface water and other foreign materials.
Ontario Regulation 903, Subsection 20, Paragraph 1

Be prudent - do a visual check of your wells for signs of damage, particularly before and after winter months.

- ✓ Are there signs of upward heaving and danger from plows or vehicles?
- ✓ Are there signs of subsidence that would allow pooling of a spill?
- ✓ Have any chemicals, fuels or other contaminants been stored nearby?
- ✓ Have any protective steel coverings been removed? Are they loose?

Remember that Ontario law requires that any repairs be done by a licensed well technician, such as Kodiak Drilling personnel.

A well is a substantial investment. An unused well may accumulate microbial growth, affecting its performance. By having the well sampled twice a year, performance is less likely to suffer and there will be an environmental track record that might also make the property more attractive to a purchaser.

Fulfilling Responsibility #2: Remove Wells that Are No Longer In Use

The well owner shall immediately abandon the well if it is not being used or maintained for future use as a well.
Ontario Regulation 903, Subsection 21, Paragraph 3

The wells you purchased are an asset - if they are maintained, they can be sampled to provide a future snapshot of the environmental health of your property. But if monitoring is stopped or infrequent, the wells becomes a liability. If that happens, the law requires that you contract a licensed driller, to remove them (Kodiak has this licensing).

Fulfilling Responsibility #3: Do No Work Without a Contractor License

The Ontario Water Resources Act and the Wells regulation state that, except in unusual circumstances, only licensed well technicians working for a well contractor can construct, modify or remove wells. The Ministry (MECP) maintains a list of accredited and licensed contractors; Kodiak Drilling is one of them.



Fulfilling Responsibility #4: Do Not Damage Identification Tags

Well drillers are legally required to attach a steel identification tag to every well or group of wells that they install. The Wells regulation makes it illegal for anyone to remove, deface, alter, conceal or obstruct the tag, unless they are performing other activities according to the regulation.

The well tag is provided to Kodiak by the Province and includes a number that is unique to your group of wells.

Getting Help

A licensed Ontario well driller can provide periodic well inspections and repairs as part of a preventative maintenance program to keep your wells safe and functional. A licensed driller can also assist you by removing out-of-use wells. These are comparatively small expenses that could save you from a future crisis.