

Region of Halton's Contractor Information Package

Date of last revision: January 12th 2012

General Information:

To schedule all inspections, taps, testing, shutdowns, valve turnings, etc, Permit Applicants/ Contractors/ Property Owners/ Property Developers (*herein referred to as the 'Applicant'*) must contact and coordinate with the appropriate Services Permit Inspector (*herein referred to as the 'Inspector'*) A minimum of 72 hours notice must be given. (more notice required during peak months) Leaving a phone message is not a confirmed appointment. **When calling anyone in the Services Permit Group, please quote your Regional Services Permit Number, it's found at the top of your Regional Services Permit.**

In most cases, the Applicant must obtain various Permits from the local Municipality, and co-ordinate their work with them as well. Some Regional inspections may overlap with the inspections of the Local Municipality. It is the Applicant's responsibility to coordinate both jurisdictions.

All water main and wastewater main installations must conform to the latest revisions of the Ontario Provincial Standards Drawings (OPSD) and Ontario Provincial Standards & Specifications (OPSS) as amended by the Regional Municipality of Halton. All water services/mains must comply with AWWA Standard C651-99.

Your Inspector does not provide 'as-built' drawing research, this is obtained by contacting the Data Management Group at 905-825-6032. Your Inspector does not schedule or co-ordinate 'Locates', this can be arranged by calling Public Works at 905-825-6000 ext.7667. Having locates of all existing services performed prior to excavation is mandatory. Water meters are issued after full testing by contacting Public Works at 905-825-6000 ext.7538.

Applicants must ensure they have read and fully understand the procedures for water testing, and are aware of the strict criteria to have water turned on to the site.

If you propose a design change, 4 prints of a revised drawing must be submitted to the Services Permit Technician for review and approval – PRIOR to the Applicant doing the work. A revision to the Permit, and additional fees may be required.

Warning to all Applicants: **No trench box, No shoring – No tap.** Regional forces have been instructed by their Supervisors not to go into any trench without proper, engineered trench protection. Without proper protection, the Crew will leave the site and the work must be rescheduled at the Applicant's expense. The Applicant is *NOT* permitted to perform their own water or wastewater taps.

The Region of Halton urges the Applicant to comply with all Occupational Health and Safety legislation, requiring workers at all times to wear personal protective equipment, including but not limited to reflective safety vests, hardhats, eye protection, and safety approved footwear.

All new water services are to have **2.5 meters minimum horizontal separation** from sanitary and storm sewers, and a minimum of 1.7 meters cover. Sanitary services shall have a minimum finish cover of 2.15 meters and a maximum of 2.75 meters at the property line. Both water and wastewater service laterals are to be built perpendicular to the property line, without horizontal bends.

All street valves and property line valves are the property of, and are to be operated only by Regional Crewmen. Applicants are *NOT* authorized to turn valves to obtain water, or to turn off water at any time. This is a direct violation, and the Applicant may be fined. Valve operation is scheduled through the Inspector, and is a separate, chargeable item. Public Works will require a billing address for invoicing.

It is not permissible for Applicants to operate any fire hydrant, be it public or private, to obtain water for any use, at any time. It is a contravention of By-Law 42-04, and is subject up to a \$5,000 fine.

Permits Inspector Contact Information:

For Services Permits in <i>OAKVILLE</i> : Contact Russell McCrae cell: 905-208-1609 office: 905-825-6000 ext.7561	For Services Permits in <i>BURLINGTON</i> : Contact Sean Ferris cell: 905-208-1610 office: 905-825-6000 ext.7778
For Services Permits in <i>MILTON or HALTON HILLS</i> : Contact Tim Skrins cell: 289-259-3149 office: 905-825-6000 ext.7701	

When calling anyone in the Services Permit Group, please quote your Regional Services Permit Number, it's found at the top of your Regional Services Permit.

When to call your Services Permit Inspector: [ie. What we want to see]

- To schedule any water main or wastewater main taps or inspections.
- When constructing water or wastewater services from the main to the property line.
- During a time when backflow testing is taking place by an independant testing contractor.
- When performing any water or wastewater connections to existing services at the property line.
- When disconnecting any existing water or wastewater service lateral at the main.
- To schedule a Regional Crew to turn valves for swabbing, flushing or shutdowns.
- To schedule a sanitary TV inspection.
- To schedule a water service pressure test, swabbing inspection or water sampling.

Water Services/Mains:

Residential & Commercial water services:

25mm (1") service requirements: saddle for PVC mains, mainstop, curbstop and box with extension rod, type "K" copper, 5.5kg anode, and any other fittings or appurtenances required.

No pressure testing, no swabbing, no sampling.

40mm (1-1/2") service requirements: a dual strap saddle, (supplied and installed by the Applicant prior to the time of the tap) mainstop, curbstop and box with extension rod, type "K" copper, and 5.5kg anode.

No pressure testing, but swabbing is required, and 2 bacti sample sets are required.

50mm (2") service requirements: a dual strap saddle (supplied and installed by Applicant prior to the time of the tap) mainstop, curbstop and box with extension rod, type "K" copper, and 5.5kg anode.

No pressure testing, but swabbing is required, and 2 bacti sample sets are required.

Services to be built without bends outside the property line. Couplings will not be permitted between the mainstop and curbstop unless the service length exceeds 20 meters. Temporary blow-offs are not permitted between the mainstop and curbstop.

Any existing water service proposed for re-use must be inspected at the property line by the Inspector, and must meet current Regional standards. Undersized services must be disconnected at the main, and re-constructed at the Applicant's expense.

Water Services/Mains:

Commercial & Industrial water services:

100mm and Larger requirements: a tapping sleeve, tapping valve and red rubber gasket, (not paper, supplied, installed and pressure tested by the Applicant immediately prior to the scheduled tap) property line valve, Buffalo boxes, mechanical restraints, 11kg anodes, 10-gauge solid tracer wire, (installed up the outside, then into the Buffalo boxes) class 150 SDR-18 pipe and any other fittings or appurtenances required. Also may include hydrant boot, anchor tee, and hydrant valve and Buffalo box. **Swabbing, pressure testing, chlorination, flushing and two consecutive passing sets of bacterial water sample sets are required. Physical separation from the live system is required for all testing purposes.**

Approved mechanical restraints must be used on all standard bends, valves, fittings and hydrants. Sigma One-Lok is most commonly used.

Corrosion protection is required for all metallic pipes, fittings, hydrants, services and valves. Approved cathodic protection is zinc anodes as per Halton's Design Criteria, Standard Drawings & Specifications manual. Anodes to be cad-welded to the fittings.

All fire hydrants are to be raised at the bottom boot, and must maintain 1.7 meters cover. Approved hydrants are Canada Valve, Century or Darling B-50B. Existing Regional hydrants and valves affected by the Applicant's change in grade, must be raised to the Region's satisfaction at the Applicant's expense.

In the event of any proposed watermain shutdown due to construction, the Contractor must coordinate with the Region of Halton Services Permit Inspector, who will notify all Residents and Businesses via a Region of Halton 'door-knocker' card. A minimum of 48 hours notice in advance of the proposed shutdown is required.

Water Service Taps:

All water service taps are to be performed by Region of Halton forces only. When a water service tap is scheduled by the Applicant, it is imperative that that actual 'tap' begin at that scheduled time. The Applicant is expected to have all excavating, installing of shoring, installation of the tapping sleeve, and pressure testing of that tapping sleeve, etc., completed to the satisfaction of the Inspector PRIOR to the scheduled tapping time. If the tap of the main is delayed by 45 minutes, deposit fees will be deducted, and the Regional tapping crew will leave the site. The tap will require rescheduling at the Applicant's expense.

Disconnections:

All Applicants will be required to disconnect all old services first. We will not schedule any other work related to any Permit until the services are disconnected. Disconnection of existing unused water services are to be performed by the Applicant, and witnessed by the Inspector prior to backfilling. Domestic water service disconnections require the existing mainstop to be turned off at the main and the copper service either pulled out of the mainstop or cut, and the removal of the existing curbstop. The existing copper water service is not to be removed. Larger water services are to have the 'T' cut out of the existing main during a time of watermain shutdown, and the removal of the existing property line valve and box.

Valve boxes that are removed are to have granular backfill and complete restoration. Valve chambers to be removed are to have the chamber broken down to 1.0 meter below final grade, backfilled with granular material and complete restoration. All existing hydrants to be removed are to be returned to Regional Stores at 1179 Bronte Rd., unless otherwise specified.

**Procedures for the Construction and Testing
of new water services:**

As a result of the safe drinking water act, MOE regulations, and at the request of the Region's designated overall responsible Operator, the following standards must be complied with for the construction of new water services/mains.

During the initial construction of new water services/mains 100mm and up, the Applicant may not immediately connect the pipe to the tapping valve.

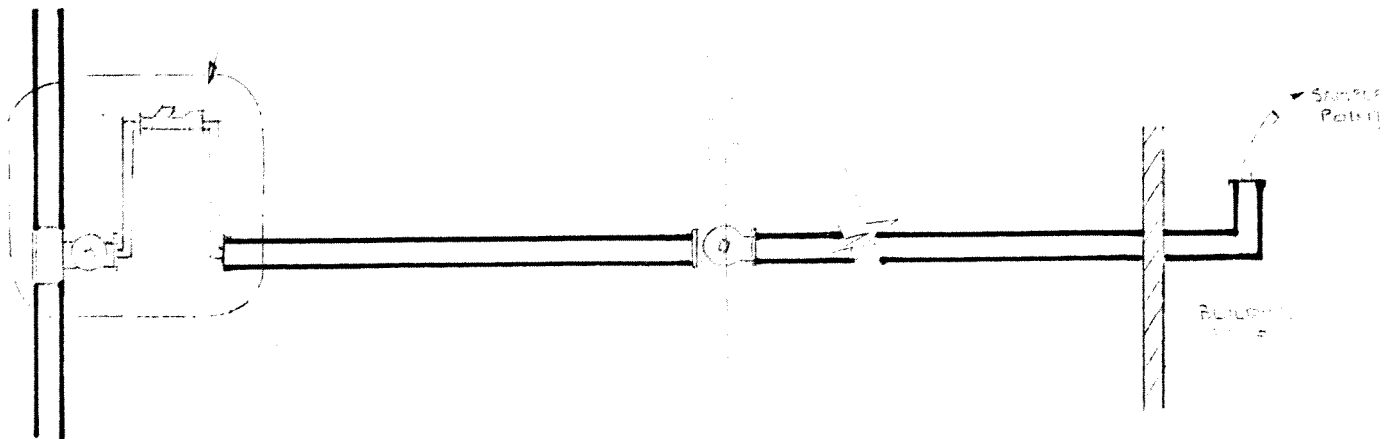
Physical separation from the live system is required for all testing purposes.

Scenario #1

(Physical separation at the main)

- Region of Halton performs the water main tap. (or tee and valve cut-in by Applicant)
- Applicant provides physical separation w/approved **RPZ Backflow Preventor** and field testing according to CAN/CSA-B-64.10.1-01 The Regional System Operator at the direction of the Inspector will open the valve for the Applicant to perform the field test of the backflow preventor, however water will only be allowed to remain on if the test passes, and the testing paperwork is provided to the Inspector.
- Applicant utilizes road plates and/or fencing to ensure the area remains accessible during testing.
- Applicant builds services complete, into new building.
- Inspector coordinates Swabbing, Pressure testing, Chlorination and Bacti sampling (2 passing samples are required) of all new water services/mains.
- If the backflow preventor is moved from it's tested position, it must be re-tested and have paperwork made available.
- Applicant may then connect to the tapping valve and complete backfill at the main.

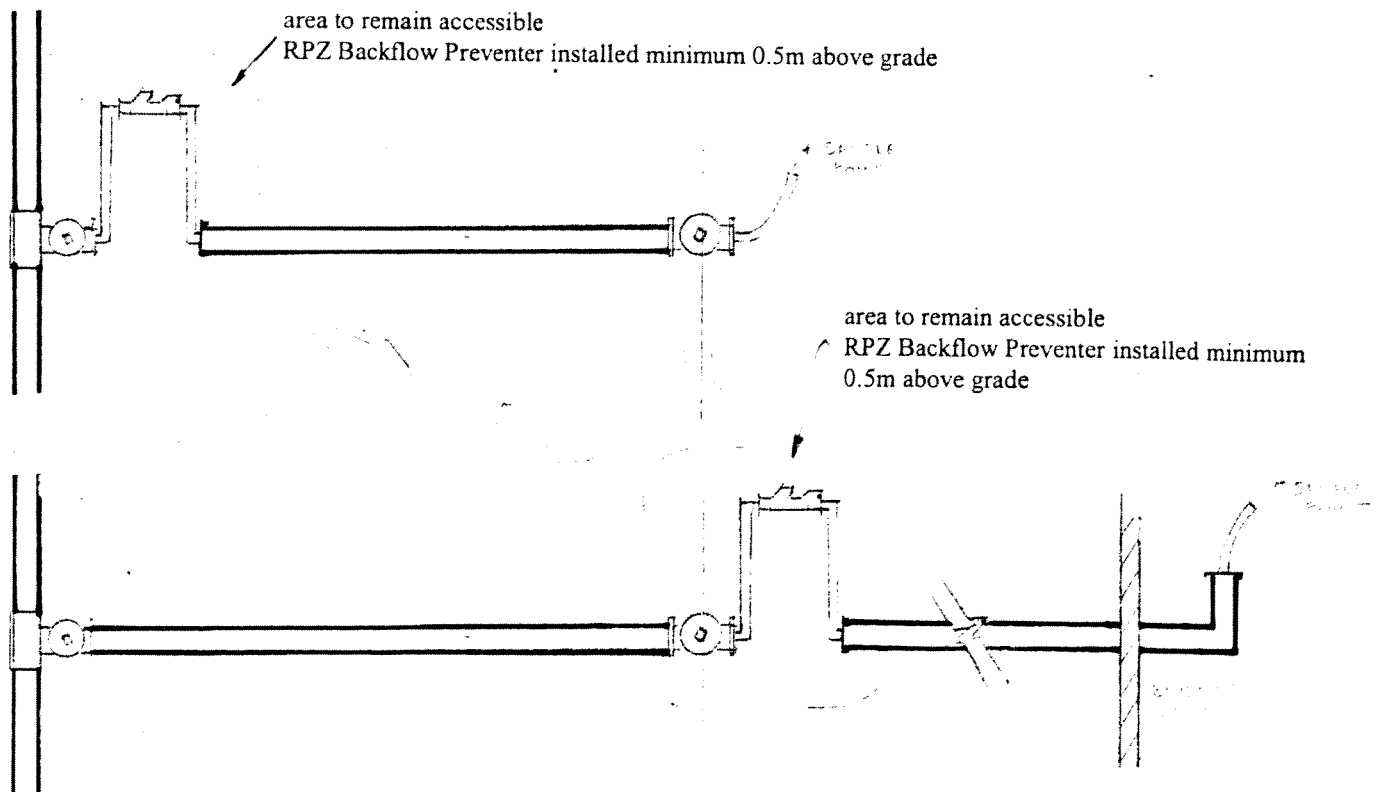
area to remain accessible
RPZ Backflow Preventer installed minimum 0.5m above grade



Scenario #2

(Physical separation at the main, fully test services up to property line, then move physical separation to past property line)

- Region of Halton performs the water main tap. (or tee and valve cut-in by Contractor)
- Applicant provides physical separation w/approved **RPZ Backflow Preventor** and field testing according to CAN/CSA-B-64.10.1-01 The Regional System Operator at the direction of the Inspector will open the valve for the Applicant to perform the field test of the backflow preventor, however water will only be allowed to remain on if the test passes, and the testing paperwork is provided to the Inspector.
- Applicant utilizes road plates and/or fencing to ensure the area remains accessible during testing,
- Applicant builds new services/mains to a point past the property line.
- Inspector coordinates Swabbing, Pressure testing, Chlorination and Bacti sampling. (2 passing samples are required)
- Applicant may then connect to the tapping valve and complete backfill at the main.
- Again, the Applicant must provide physical separation w/approved RP backflow preventor and field testing according to CAN/CSA-B-64.10.1-01 at a point past the property line valve(s). The Regional System Operator will open the valve for the Applicant to perform the field test of the backflow preventor, however water will only be allowed to remain on if the test passes, and the testing paperwork is provided to the Inspector.
- Applicant builds services/mains complete on private side, into new building.
- Inspector coordinates Swabbing, Pressure testing, Chlorination and Bacti sampling (2 passing samples are required) of all new water services/mains.
- If the backflow preventor is moved from it's tested position, it must be re-tested and have paperwork made available.
- Applicant may then connect to the property line valve(s) and complete backfill.



Notes:

If the situation allows, and if the Applicant chooses, he may forgo utilizing a backflow preventor altogether by obtaining his own water supply from a Region-approved water truck, or paying for a fire hydrant meter cabinet rented from the Region's Services Permit Group IF AVAILABLE.

Testing and Sampling:

Physical separation from the live water system is required for all testing purposes. Contact your Regional Inspector for information regarding Regional-approved Testers.

RPZ Backflow Preventor Field Testing:

The Applicant's Tester must contact the Inspector to schedule. On the scheduled date & time, the Inspector and a System Operator will meet the Tester on-site.

The System Operator will open the valve(s) for the Tester to perform the field test of the backflow preventor. If the test is successful, and testing paperwork is provided, the Pressure test may then immediately continue.

Pressure Testing:

The Applicant's Tester will be allowed to flush the services and obtain water to perform the pressure test. The System Operator will then turn the valve(s) off. Services shall be pressure tested by the Tester to 150psi for a minimum duration of 3h, to be witnessed by the Inspector.

After a successful test, the Tester must chlorinate the services, also witnessed by the Inspector. Chlorination must occur for a minimum of 24 hours.

Water Sampling: (Bacti Testing)

The Region of Halton follows operating practices set forth by the AWWA, and requires that two sets of *Water Samples* must be taken.

The Applicant's Tester must contact the Inspector to schedule 2 sampling dates. On the first scheduled date & time, the Inspector and a System Operator will meet the Tester on-site. The System Operator will open the valve(s) for the Tester to perform flushing for a minimum of 2 hours to remove all chlorine residuals, witnessed by the Inspector. The flushing must be to a sanitary sewer using proper flushing techniques. *[Refer to 'Disinfecting of Water Services/Mains', and to Region specifications for further details]*

The Inspector will then collect the first set of samples. Including 1 water sample from every 1200' of new water service, 1 water sample from the end of the line, and 1 water sample from every branch. Samples may not be collected from hydrants, nor through any hoses used for flushing. The valve(s) will then be turned off by the System Operator.

After 2 working days, the Inspector receives verbal sample results from the Regional Lab.

On the second scheduled date & time, same as previous.

After 2 working days, the Inspector receives verbal results from the Regional Lab, and will call the Tester to inform him of those results.

After approx 5-10 working days, the Inspector will receive hardcopy results from the Regional Lab. Only after hardcopy results are received will water be allowed on to the site.

The Applicant/Contractor/Tester must be aware that he has 30 days from the date of the final passing water samples and sign-off by the Inspector to make arrangements with Public Works to have water turned on to the site. Water is not 'automatically' turned on by the Region. After 30 days of stagnation, the water service(s) must be re-flushed and re-sampled. Additional costs will be incurred.

Disinfecting of Water Services/Mains:

Why are you required to Disinfect?

Since the enactment of the "Water Resources Act", a catch-all phrase, "must adhere to standard operating practices" has caused water / wastewater to continually update their procedures. With respect to disinfection, this means contractors must abide by the operating practices set forth by the American Water Works Association (AWWA). The standard currently in practice is AWWA C651-99 "Disinfecting Water Mains".

The Ministry of the Environment and their Inspectors require that Applicant's Tester follow these practices, and decrease the possibility for contamination. Law therefore requires you to disinfect.

When are you required to Disinfect?

Whenever potable water inside a pipe is contacted, this includes:

Mainstops, Ball Rubbers, Valves, Sleeves, Couplings, Pipe Pieces, Hydrant Boots, Tapping Bits, Copper Pipe, Water Meters and any other equipment that may come into contact with the distribution of water.

Tools that may come into contact with the inside of the pipe must also be disinfected.

How do you Disinfect?

Remove any dirt or dust from the pipe, tool or equipment by wiping with a clean rag. Use a spray bottle or other device for delivering a Sodium Hypochlorite (bleach) solution. Spray this onto the equipment. Wipe the excess bleach off with a clean rag.

When storing Sodium Hypochlorite, keep away from light. Light decreases the strength of the solution. If buying bleach (5.25%) do not buy the bottle with dust on it. The shelf life of bleach is relatively short. A 5% solution will be about 3% in two months.

When working on a pipe where there is a possibility of contamination due to groundwater or sanitary infiltration, try to maintain a slight positive pressure within the watermain and use the Calcium Hypochlorite powder or pellets to super-chlorinate the water in the hole. Estimate about a tablespoon for every 20 gallons. Note when using Calcium Hypochlorite powder or pellets, follow all precautions within MSDS. This powder is 65% available chlorine and therefore is not handled properly, can be dangerous. Never mix Sodium / Calcium Hypochlorite with acid, if this occurs evacuate to fresh air.

During flushing prior to sampling, care must be exercised by the Tester to ensure that flushed wastewater shall be disposed of in such a manner to protect the environment. Dosage charge for dry granular Hypochlorite based on 65% available chlorine;

Watermain Size:	Quantity per 50m of Pipe:
100-150mm	50g
200mm	95g
250mm	140g
300mm	185g
350mm	280g

Wastewater Services/Mains:

Residential - 125mm single or 150mm double lateral:

Requirements: SDR-28 PVC pipe, green in colour, and any other fittings or appurtenance as required.

Commercial & Industrial - 150mm lateral and up:

Requirements: SDR-28 PVC pipe green in colour, or vitrified clay pipe, with a manhole installed at the property line. 200mm sanitary laterals are to have a manhole constructed at the main, in addition to the property line. Saddles are required for 200mm taps and larger, and any other fittings or appurtenances as required.

Wastewater taps are to be performed by Region of Halton forces only. The Region will supply the tap, and supply and install an inserta-tee at a suitable angle above spring line, the Applicant will then install his riser and/or pipe.

If laterals are installed into manholes, the Applicant is responsible to break into or core into the bottom of the manhole, below any existing benching, and re-bench to suit. Internal drop structures are not allowed. The Applicant is responsible to bring the existing manhole up to current specification.

Wastewater Service Taps:

All wastewater service taps are to be performed by Region of Halton forces only. When a wastewater service tap is scheduled by the Applicant, it is imperative that that actual 'tap' begin at that scheduled time. The Applicant is expected to have all excavating and installation of shoring, etc., completed to the satisfaction of the Inspector PRIOR to the scheduled tapping time. If the tap of the main is delayed by 45 minutes, deposit fees will be deducted, and the Regional tapping crew will leave the site. The tap will require rescheduling at the Applicant's expense.

Disconnections:

All Applicants will be required to disconnect all old services first. We will not schedule any other work related to any Permit until the services are disconnected. Disconnections of unused wastewater services are to be performed by the Applicant, and witnessed by the Inspector prior to backfilling. Wastewater service laterals require the existing lateral to be cut and capped directly at the main. Existing manholes to be removed are to be broken down to 1.0 meter below final grade, backfilled with granular material and have complete restoration.

Re-use of existing Sanitary Services:

If the Applicant proposes to re-use an existing sanitary lateral, it must first be excavated and visually inspected at the property line by the Inspector. The Inspector will verify if the service meets current Regional standards for size and material. (the current minimum standard for a single family dwelling is 125mm) If the services meets minimum standard, the Inspector will then schedule a Regional Crew to perform a Wastewater Lateral TV Inspection of the sanitary service to verify the internal condition of the pipe. Should the condition of the pipe be in question, only the Supervisor of Wastewater System Operations will provide final approval as to it's ok for re-use. If the existing service meets *all* current Regional requirements, only then may the Applicant connect to the service. Undersized services must be disconnected at the main, and re-constructed at the Applicant's expense. TV Inspection reports or videos produced by any third-party Contractor are not acceptable.

Manholes:

The manole lid is to be embossed with "DANGER" and "SANITARY", frame and cover to finish grade with ladder rungs as required, and round manhole adjustment rings to be utilized to a maximum of 300mm. Over 300mm will require the installation of solid pre-cast rings. Full benching or re-benching is required to the obvert of pipe in both new manholes and existing manholes.

New Construction & Cross-Connection Control By-Law 157-05

New Installation of Water Meter

An appropriate backflow prevention device (Reduced Pressure Principle Assembly – RP or a Double Check Valve Assembly – DCVA only) is required on all Industrial, Commercial, Institutional buildings including Multi-Residential high-rise or any bulk metered townhouse complex. Each water meter requires a backflow prevention device be installed for premises isolation.

Water will not be turned on unless an appropriate backflow prevention device is installed at the water service connection for premise isolation. A Halton Registered Tester from the Authorized Functions List must perform the test at the time of water turn on. Upon passing, the test report is to be submitted to Halton Region, Cross-Connection Control Program with administrative fees within 28 days of the test/installation.

Only the persons registered with Halton Region as per the Authorized Functions List, Appendix A, shall carry out the corresponding functions set out in such List. See list at www.halton.ca/backflow

If you have any questions, please feel free to contact Halton's Cross-Connection Control Coordinator, Aneta Ludwig at 905-825-6000, ext. 7458 or toll free 1-866-443-5866 ext. 7458 or backflow@halton.ca