

CROSS CONNECTION AND BACKFLOW PREVENTION BY-LAW

BY-LAW #1204-08

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The Council of The Town of Sussex, under authority vested in it by Section 189 of the Municipalities Act R.S.N.B. (1973), chapter M-22 and amendments thereto, enacts as follows:

I. TITLE

- (A) This by-law may be cited as the “Town of Sussex Cross Connection and Backflow Prevention By-Law”.
- (B) The provisions of this by-law apply to the entire area within the Town limits of the Town of Sussex and to agreements which provide service to areas outside the Town limits.

II. DEFINITIONS

In this by-law:

- (i) ***“Approved”*** means accepted by the Works Officer as meeting applicable specification stated or cited in this by-law, or as suitable for the proposed use.
- (ii) ***“Auxiliary Water Supply”*** means any water supply or source other than the water supply of the Town’s water system that may be available in a building or on any premises.
- (iii) ***“Backflow”*** means the flow of water or other liquids, mixtures or substances, under positive or reduced pressure in the distribution pipes of a potable water supply from any source other than its intended source.

II. DEFINITIONS (*cont'd*)

- (iv) **“Backflow Preventer”** means a device or means designed to prevent backflow or back-siphonage most commonly categorized as air gap, reduced pressure principle device, double check valve assembly, pressure vacuum breaker, atmospheric vacuum breaker, hose bibb vacuum breaker, residential dual check, double check with intermediate atmospheric vent, and barometric loop; more specifically:
- (a) **“Air Gap”** means a physical separation sufficient to prevent backflow between the free-flowing discharge end of the potable water system and any other system. Physically defined as a distance equal to twice the diameter of the supply side pipe diameter but never less than one (1) inch;
 - (b) **“Atmospheric Vacuum Breaker”** means a device which prevents back-siphonage by creating an atmospheric vent when there is either a negative pressure or sub-atmospheric pressure in a water system;
 - (c) **“Barometric Loop”** means a fabricated piping arrangement rising at least thirty five (35) feet at its topmost point above the highest fixture it supplies and is utilized in water supply systems to protect against back-siphonage;
 - (d) **“Double Check Valve Assembly”** means an assembly of two (2) independently operating spring loaded check valves with tightly closing shut off valves on each side of the check valves, plus properly located test cocks for the testing of each check valve;
 - (e) **“Double Check Valve with Intermediate Atmospheric Vent”** means a device having two (2) spring loaded check valves separated by an atmospheric vent chamber;

II. DEFINITIONS (*cont'd*)

- (iv) (f) **“Hose Bibb Vacuum Breaker”** means a device which is permanently attached to a hose bibb and which acts as an atmospheric vacuum breaker.
- (v) **“Backpressure”** means a condition in which the owner’s system pressure is greater than the supplier’s system pressure.
- (vi) **“Back-siphonage”** means the flow of water or other liquids, mixtures or substances into the distribution pipes of a potable water supply system from any source other than its intended source caused by the sudden reduction of pressure in the potable water supply system.
- (vii) **“Building water line”** means the extension of the water service from the property line to a building being served.
- (viii) **“Clerk”** means the Clerk of the Town Of Sussex.
- (ix) **“Containment”** means a method of backflow prevention which requires a backflow prevention preventer at the water service entrance.
- (x) **“Contaminant”** means a substance that would impair the quality of the water to a degree that it creates a serious health hazard to the public leading to poisoning or the spread of disease.
- (xi) **“Council”** means the Council of the Town of Sussex.
- (xii) **“Cross Connection”** means any actual or potential connection between a potable water system and any source of contamination or pollution. By-pass arrangements, jumper connections, removable sections, swivels or changeover devices, or any temporary or permanent connecting arrangements through which backflow may occur are considered to be cross connections.

II. DEFINITIONS (*cont'd*)

- (xiii) ***“Customer’s sewer system”*** means a sewer system owned by the Village of Sussex Corner.
- (xiv) ***“Day”*** means a time span of twenty-four hours or any part thereof.
- (xv) ***“Dwelling unit”*** means a room or suite of two or more rooms designed or intended for use by an individual or family in which culinary facilities are restricted to kitchen and sanitary conveniences provided for the exclusive use of such individual or family.
- (xvi) ***“Fixture Isolation”*** means a method of backflow prevention in which a backflow preventer is located to correct a cross connection at an in-plant location rather than at a water service entrance.
- (xvii) ***“May”*** is construed as permissive.
- (xviii) ***“Meter”*** means an apparatus to measure the consumption of water or wastewater.
- (xvix) ***“Owner”*** means the person in whose name the property is assessed under the Assessment Act, chapter A-14, R.S.N.B. (1973) and amendments thereto and includes the executors, administrators and assigns of such person and should there be more than one (1) owner, it shall mean each of such owners jointly and severally.
- (xx) ***“Permit”*** means a document issued by the Town which regulates the use of a backflow preventer.
- (xxi) ***“Person”*** means any individual, partnership, company, public or Private Corporation or agency of the Province of New Brunswick, agency or any other legal entity.

II. DEFINITIONS (*cont'd*)

- (xxii) ***“Pollutant”*** means a foreign substance, that, if permitted to get into the public water system, will degrade its quality so as to constitute a moderate hazard, or impair the usefulness or quality of the water to a degree which does not create an actual hazard to the public health but which does adversely and unreasonably affect such water for domestic use.
- (xxiii) (a) ***“Pressure Vacuum Breaker”*** means a device containing one or two independently operated spring loaded check valves and an independently operated spring loaded air inlet valve located on the discharge side of the check or checks. This device includes tightly closing shut-off valves on each side of the check valves and properly located test cocks for the testing of the check valve(s);
- (b) ***“Reduced Pressure Principle Backflow Preventer”*** means an assembly consisting of two (2) independently operating approved check valves with an automatically operating differential relief valve located between the two (2) check valves, tightly closing shut-off valves on each side of the check valves plus properly located test cocks for the testing of the check valves and the relief valve;
- (c) ***“Residential Dual check”*** means an assembly of two (2) spring-loaded, independently operating check valves without tightly closing shut-off valves and test cocks generally employed immediately downstream of the water meter to act as containment device;
- (xxiv) ***“Reservoir”*** means a facility where water is stored.
- (xxv) ***“Shall”*** is construed as being mandatory.
- (xxvi) ***“Town”***, when hereinafter used, shall mean and include all the area within the boundary limits of the Town of Sussex.

II. DEFINITIONS (*cont'd*)

- (xxvii) “*Treasurer*” means the Treasurer of the Town of Sussex.
- (xxviii) “*Water and/or water supply*” means the water supplied by the water system to consumers for the purposes specified in this By-Law.
- (xxix) “*Water service*” means any water pipe operated by or on behalf of the Town to which owners of premises are connected by a building water line at the property line.
- (xxx) “*Water service lateral*” means a water pipe leading from a watermain to a building served.
- (xxxi) “*Water system*” includes a system of wells, reservoirs, watermains, lands and appurtenances owned and operated by the Town and required for the drawing, storing, treating, distributing and selling of water to consumers and for fire protection services.
- (xxxii) “*Watermain*” means a pipe which distributes water in the streets or public places or on private lands by virtue of easement.
- (xxxiii) “*Works Department*” means the Sussex Works Department.
- (xxxiv) “*Works Officer*” means the Works Officer of the Works Department of the Town Of Sussex or his designate who is invested with responsibility for the implementation of a cross connection control program and the authority for the enforcement of the provisions of this By-Law.

III. CROSS CONNECTION AND BACKFLOW PREVENTION

- (A) The Town shall operate a cross connection program, to include the keeping of necessary records, which fulfills the requirements of the Province of New Brunswick Cross Connection Regulations and which is approved by Council.
- (B) If the Town requires that the public water supply be protected by containment, the owner shall be responsible for water quality beyond the outlet end of the containment device and shall utilize fixture outlet protection for that purpose. The owner may request public health officials or personnel from the Town to assist him in the survey of his facilities, in the selection of proper fixture outlet devices and the proper installation of these devices.
- (C) The Works Officer shall have right of access to all parts of an owner's property or premises at all reasonable hours for the purpose of inspecting any water pipes, fittings or appliances. The Town shall have the right to suspend water service to any owner who refuses such access or does not respond to requests by the Works Officer for such access.
- (D) The Works Officer or his designate shall be responsible for the protection of the public potable water distribution system from contamination or pollution due to the backflow or back-siphonage of contaminants or pollutants through the water service connection.
- (E) If, in the opinion of the Works Officer, an approved backflow device is required at the Town's water service connection to any owner's premises, the Works Officer or his designate shall give notice in writing to said owner to install an approved backflow prevention device at each service connection to his premises. The owner shall, within 90 days install such approved device or devices, at his own expense, and failure or refusal, or inability on the part of the owner to install said device or devices within ninety (90) days shall constitute a ground for discontinuing water service to the premises until such device or devices have been properly installed.

IV. REQUIREMENTS

- (A) On all new installations, the Town shall provide onsite evaluation and/or inspection of plans in order to determine the type of backflow preventer that will be required. The Province requires all testable devices be field tested in conformance with CSA B64.10, “Backflow Prevention Devices – Selection, Installation, Maintenance and Field Testing” by a certified tester and a copy of the test results be filed with the Province by the owner prior to the Town activating a water service. In any case, a minimum of a dual check valve will be required in any new construction.

- (B) All single family units shall be required to install a residential dual check device immediately upstream of the water meter. All other multi-family units shall be required to install a double check valve assembly immediately upstream of the water meter. Installation of dual check valve devices on a retrofit basis on existing service lines shall be instituted at a time and at a cost to the Town. The owner shall be aware that the installation of a check valve may result in a potential closed plumbing system within the residence. As such, provisions shall be made by the Town to provide for thermal expansion within the closed loop system by the installation of thermal expansion devices and/or pressure relief valves.

- (C) The Town shall require that all new retrofit installations of reduced pressure principle devices and double check valve backflow preventers include the installation of strainers located immediately upstream of the backflow device. The installation of strainers will preclude the fouling of backflow devices due to both foreseen and unforeseen circumstances occurring to the water supply system such as water main repairs, water main breaks, fires, periodic cleaning and flushing of mains, etc. These occurrences may “stir up” debris within the watermain that will cause fouling of backflow devices installed without the benefit of strainers.

IV. REQUIREMENTS *(cont'd)*

- (D) The Town will not permit or allow any cross-connection to remain unless it is protected by an approved backflow preventer for which permission has been issued by the Town and which device, if testable, will be regularly tested to insure satisfactory operation.
- (E) If the Town determines at any time that a serious threat to the public health exists from any water service, that water service will be discontinued immediately without written notice.
- (F) The owner shall be responsible for the elimination of or protection from all cross connections on his premises.
- (G) The owner, after having been informed by a letter from the Province, shall at his expense have tested any testable backflow preventers on his premises.
- (H) The owner shall correct any malfunction of any testable backflow preventer which is revealed by periodic testing and shall file with the Province a copy of the testing result
- (I) The owner shall inform the Town of any proposed or modified cross connections and also any existing cross connections of which the owner is aware.
- (J) The owner shall not install a bypass around any backflow preventer unless there is a backflow preventer of the same type on the bypass. Owners who cannot shut down operation for testing of the device(s) must supply additional devices and bypasses necessary to allow testing to take place.
- (K) The owner shall install backflow preventers in a manner approved by the Province and which will conform with the requirements of National Plumbing Code of Canada, 1995, and subsequent revisions thereof, and further; which shall be selected, installed, maintained and field tested in conformance with CSA B64.10 "Backflow Prevention Devices – Selection, Installation, Maintenance, and Field Testing".

IV. REQUIREMENTS *(cont'd)*

- (L) The owner(s) of all residential units shall install only backflow preventers approved by the Town.
- (M) The owner shall be responsible for the payment of all fees for annual device field testing and retesting in the case that the device fails to operate correctly and second reinspections for non-compliance with the Town requirements.

V. CROSS CONNECTION AND BACKFLOW PREVENTION TESTING

- (A) All residential dual check backflow preventers are not testable and shall be replaced every five (5) years.
- (B) All residential double check valve assembly backflow preventers shall be tested annually as required by the Province and are paid for by the Town.
- (C) All non-residential double check valve assembly backflow preventers shall be tested annually or more frequently as required by the Province and are paid for by the owner.

VI. EXISTING IN-USE BACKFLOW PREVENTION DEVICES

Any existing backflow preventer shall be allowed by the Town to continue in service unless the degree of hazard is such as to supercede the effectiveness of the present backflow preventer or result in an unreasonable risk to the public health. Where the degree of hazard has increased, as in the case of a residential installation converting to a business or commercial establishment, any existing backflow preventer must be upgraded to a reduced pressure principle device, or a reduced pressure principle device shall be installed in the event that no backflow device was present.

VII. PERIODIC TESTING OF BACKFLOW PREVENTION DEVICE

- (A) Reduced pressure principle backflow devices shall be field tested and inspected at least annually.

VII. PERIODIC TESTING OF BACKFLOW PREVENTION DEVICE *(cont'd)*

- (B) Periodic testing shall be performed by a certified field tester or his delegated representative and a copy of the testing results shall be filed with the Province. All field testing and retesting shall be conducted at the owner's expense.
- (C) The testing shall be conducted during the Town's regular business hours. Exceptions to this, when at the request of the owner, testing may require additional charges to cover the increased costs to the Town.
- (D) Any backflow preventer which fails during a periodic test shall be repaired or replaced. When repairs are necessary, upon completion of the repair, the device will be re-tested at owner's expense to insure correct operation. High hazard situations shall not be allowed to continue, unprotected. If the backflow preventer fails the test and cannot be repaired immediately, a new backflow prevention device of the same type shall be installed immediately and if not connected, the service shall be discontinued. In other situations, a compliance date of not more than thirty (30) days after the test date shall be established. The owner is responsible for spare parts, repair tools, or a replacement device. Parallel installation of two (2) devices is an effective means of the owner insuring uninterrupted water service during testing or repair of devices, should the owner desire such continuity.
- (E) Backflow prevention devices in a non-residential application shall be tested more frequently than specified in section VII; in cases where there is a history of test failures and the Town determines that, due to the degree of hazard involved, additional testing is warranted. Cost of the additional tests shall borne by the owner.

VIII. PENALTIES

- (A) Any person violating any of the provisions of this by-law shall become liable to the Town for any expense, loss or damage occasioned the Town by reason of such violation.

VIII. PENALTIES (cont'd)

- (B) Any person found violating any provision of this by-law or who suffers or permits any act or thing to be done in contravention or violation of any provision thereof or neglects or fails to do any act or thing herein required is liable on summary conviction to a fine as may be imposed for commission of an offence punishable under Part II of the Provincial Offences Procedure Act, R.S.N.B. (1973), Chapter P-22.1, and amendments thereto, as a Category C offence.
- (C) The provisions of Sections III, IV, V, and VI are cumulative and optional and one or more of the remedies provided to the Town may be undertaken simultaneously at the option of the Town.

IX. PLURAL OR FEMININE TERMS

Plural or feminine terms may apply whenever the singular, masculine or feminine is used in this by-law. It shall be considered as if the plural, feminine or masculine has been used where the context of the party or parties hereto so requires.

X. VALIDITY

The invalidity of any section, clause, sentence or provision of this by-law shall not affect the validity of any other part of this by-law which can be given effect without such invalid part or parts.

**Cross Connection and
Back-Flow Prevention By-Law
By-Law # 1204-08
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READ FIRST TIME BY TITLE **JUNE 23, 2008**

READ SECOND TIME BY TITLE **JUNE 23, 2008**

READ IN ENTIRETY **AUGUST 25, 2008**

**THIRD READING BY TITLE
AND ENACTED** **AUGUST 25, 2008**

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RALPH A. CARR
.....
MAYOR

.....
PAUL I. MAGUIRE
.....
TOWN CLERK