

## CHAPTER 6

### SECTION 6.19

#### AN ORDINANCE OF THE TOWN OF MAYODAN TO PROTECT THE QUALITY OF THE PUBLIC POTABLE WATER SUPPLY

##### SECTION 1 – GENERAL PROVISIONS

1.1 Policy. The policy of the Town of Mayodan and the intention of this ordinance is to eliminate potential hazards to the public potable water supply system.

1.2 Purpose. The purposes of this ordinance are:

(1) To protect the public water supply of the Town of Mayodan against potential or actual cross-connections, backflow and backsiphonage conditions by isolating within the consumers' water system, pollutants or contaminants which could under uncontrolled cross connections backflow into the public water system.

(2) To eliminate or control cross connections, actual or potential between the public potable water supply and nonpotable or industrial piping systems.

(3) To establish a cross connection, backflow and backsiphonage control program which will effectively control all actual or potential cross connections and those which may be installed in the future.

1.3 Cooperation. Cross connections, backflow and backsiphonage control require cooperation between the Town of Mayodan and the consumer as shall be set forth in this ordinance and other applicable regulations.

1.4 Reference to Acts and Codes. This ordinance is intended to comply with the Federal Safe Drinking Water Act (P.L. 93-523), the North Carolina State Building Code (Volume II), and all other state and federal regulations as they pertain to cross connections within a public water supply.

1.5 Effective Date. This ordinance shall be effective upon adoption.

##### SECTION 2 – DEFINITIONS

2.1 Air-Gap Separation. A physical separation between the free flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel. An "approved air-gap separation" shall be at least twice the inside diameter of the supply pipe measured vertically above the overflow rim of the receiving vessel – in no case less than 1 inch.

- 2.2 Approved. In reference to backflow prevention assemblies or methods, those assemblies or methods which have been accepted by the Town of Mayodan as an effective device or method to prevent backflow.
- 2.3 Assembly. Backflow prevention assembly.
- 2.4 Backflow. Any flow into the public water supply from any other source due to a cross connection, auxiliary intake, interconnection, backpressure, backsiphonage, any combination thereof, or other cause.
- 2.5 Backflow Prevention Assembly. An approved effective device or method used to prevent backflow from occurring in the potable water supply. The type of assembly required shall be based on degree of hazard, existing or potential.
- 2.6 Back-Pressure Backflow. Any pressure on water, other liquid, gas, other substances or any combination thereof in a private water system that is connected in any manner to the public water system under circumstances in which such pressure is greater than the pressure on the water in the public system so that backflow could occur.
- 2.7 Backsiphonage Backflow. A reversal of the normal direction of flow in the pipeline due to a negative pressure (vacuum) being created in the supply line with the source subjected to atmospheric pressure.
- 2.8 Certified Tester. A person who has proven their competence to test, repair, overhaul and make reports on backflow prevention assemblies as evidence by certification of successful completion of a training program approved by the director.
- 2.9 Consumer. Any person, firm or corporation using or receiving water from the Town of Mayodan water system.
- 2.10 Consumer's Water System. The private water system through which a consumer is capable of receiving water from the Town of Mayodan system.
- 2.11 Consumer's Potable Water System. The private water system through which a consumer receives water from the public water system for the purpose of human consumption.
- 2.12 Containment. Preventing the impairment of the public potable water supply by installing an approved backflow prevention assembly at the service connection.
- 2.13 Contamination. The impairment of the quality of water to a degree that human consumption could result in poisoning, contagion, or the spread of disease.
- 2.14 Cross connection. Any unprotected actual or potential connection or structural arrangement between a public or a consumer's water system through which it is possible to introduce any contamination or pollution, other than the intended potable water with which the system is supplied.

- 2.15 Degree of Hazard. The evaluation of potential hazard.
- 2.16 Director. The official custodian of the public water system, in the case of the Town of Mayodan, the public works director or his designee.
- 2.17 Double Check Valve Assembly. An assembly composed of two independently acting approved check valves including tightly closing shut-off valves attached at each end of the assembly and fitted with properly located test cocks. This assembly shall only be used to protect against a non-health hazard.
- 2.18 Double Check-Detector Assembly. A specially designed assembly composed of a line-size approved double check valve assembly with a specific bypass water meter and a meter sized approved double check valve assembly. This assembly shall only be used to protect against a non-health hazard.
- 2.19 Hazard-Health. Actual or potential threat of contamination of a physical, hazardous or toxic nature to the public or consumer's potable water system to such a degree or intensity that there would be a danger to health.
- 2.20 Hazard - Non-Health. An actual or potential threat to the quality of the public or the consumer's potable water system. A non-health hazard is one that, if introduced into the public water supply system could be a nuisance to water customers but would not necessarily adversely affect human health.
- 2.21 Imminent Hazard. An actual threat of contamination to the public water system that could cause serious illness or death.
- 2.22 Isolation. The act of confining a localized hazard within a plumbing or distribution system by installing approved backflow prevention devices.
- 2.23 Point of Delivery. The point on the consumer's property where the meter is located.
- 2.24 Pollution. An impairment of the 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 the aesthetic qualities of such waters for domestic use.
- 2.25 Potable Water. Water that does not contain objectionable pollution, contamination, minerals or infective agents and is considered satisfactory for human consumption.
- 2.26 Public Potable Water System. Any publicly or privately owned water system operated as a public utility under a current North Carolina Department of Environment, Health, and Natural Resources (NCDENR) permit to supply water for public consumption or use. "System" includes all sources, facilities and appurtenances between the source and the point of delivery such as valves, pumps, pipes, conduits, tanks, receptacles, fixtures, equipment and appurtenances used to produce, convey, treat or store a potable water for public consumption or use. The Town of Mayodan water system is a public potable water system.

2.27 Reduced Pressure Principle Backflow Prevention Assembly. An assembly containing within its structure a minimum of two independently acting approved check valves, together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve. The first check valve reduces the supply pressure a predetermined amount so that during normal flow and at cessation of normal flow, the pressure between the checks shall be less than the supply pressure. In case of leakage of either check valve, the pressure differential relief valve, by discharge to atmosphere shall operate to maintain the pressure between the check less than the supply pressure. This unit shall include tightly closing shut-off valves located at each end of the assembly and each assembly shall be fitted with the properly located test cocks. This assembly is designed to protect against a health hazard.

2.28 Reduced Pressure Principle-Detector Assembly. A specially designed assembly composed of a line-size approved reduced pressure principle backflow prevention assembly with a specific bypass water meter and a meter-sized approved reduced pressure principle backflow prevention assembly. This assembly shall be used to protect against health hazards.

2.29 Service Connections. The terminal end of a service connection from the public potable water system, i.e., where the Town of Mayodan loses jurisdiction and sanitary control over the water at its point of delivery to the consumer's water system.

2.30 Vacuum Breaker – (Atmospheric Type). A device containing a float-check, a check seat, and an air inlet port. An atmospheric vacuum breaker is designed to protect against a non-health hazard (isolation protection only) under a back-siphonage condition only.

2.31 Vacuum Breaker – (Pressure type). An assembly containing an independently operating internally loaded air inlet valve located on the discharge side of the check valve. The assembly is to be equipped with properly located test cocks and tightly closing shut-off valves at each end of the assembly. This assembly is designed to protect against a health hazard under a back-siphonage condition only.

2.32 Water Purveyor. The owner or operator of a public potable water system, providing an approved water supply to the public.

2.33 Water Supply – (Approved). Any public potable water supply which has been investigated and approved by NCDEHNR. The system must be operating under a valid health permit. NCDEHNR has final judgment as to its safety and potability.

2.34 Water Supply – (Unapproved). A water supply which has not been approved for human consumption by the North Carolina Department of Environment, Health and Natural Resources.

### SECTION 3 – REGULATION OF CONNECTION TO PUBLIC POTABLE WATER SYSTEM

3.1 Responsibility for Regulation. The Mayodan Water Department (Town of Mayodan) has responsibility for regulation of the Town's water system to protect against contamination or pollution of the public water system. Such responsibility begins at the point of origin of the public water supply and includes all of the water distribution system, including the service connection, and ends at the point of delivery to the consumers' water system.

3.2 Determination. When it is determined that a backflow device/assembly is required, the Mayodan Water Department is required to determine the degree of hazard or potential hazard to the public potable water system, determine the degree of protection required, and to ensure proper containment protection through an ongoing inspection program.

3.3 Consumer Responsibility. The consumer has the prime responsibility of preventing pollutants and contaminants from entering their potable water system or the public potable water system. The consumers' responsibility starts at the point of delivery from the public potable water system and includes all of their water system. The consumer at their own expense shall install, operate, and maintain an approved backflow prevention device/assembly at the service connection as directed by the water purveyor or its designated agent.

#### SECTION 4 – RIGHT OF ENTRY

4.1 Authorization and Duties. Authorized personnel from the Town of Mayodan shall have the right to enter any building, structure or premises during normal business hours or at any time during an emergency to perform any duty established by this ordinance. Those duties may include sampling, testing of water or inspections of any piping system(s) connected to the public potable water supply. Refusal to allow entry for these purposes may result in the discontinuance of water service.

4.2 Information Requested. On request, the customer shall furnish the director any pertinent information regarding the piping system on such property where cross-connections and backflow are deemed possible.

#### SECTION 5 – ELIMINATION OF CROSS-CONNECTIONS: DEGREE OF HAZARD

5.1 General. When cross-connections are found to exist, the owner, his agent, occupant or tenant will be notified in writing to disconnect the same within the time limit established by this ordinance. Degree of protection required and maximum time allowed for compliance will be based on degree of hazard to the public potable water supply system.

5.2 Time of Elimination. The time allowed for elimination shall be as follows:

(a) Cross-connections with private wells or other auxiliary water supplies – immediate disconnection.

(b) All facilities which pose a health hazard to the public potable water system must have a containment assembly in the form of a reduced pressure principle backflow prevention assembly within 60 days.

(c) All industrial and commercial facilities not identified as a "health hazard" will be considered non-health facilities. All non-health hazard facilities must install, as a minimum containment assembly, a double-check valve assembly within 90 days.

(d) If, as determined by an authorized representative of the Town of Mayodan an imminent health hazard exists, water service to the building or premises where a cross-connection exists may be terminated unless an "air-gap separation" is immediately provided, or the cross-connection is immediately eliminated.

5.3 Residential Check Valves. It is recommended that a dual check valve be installed at the service connections to single family residential units.

5.4 Filling of Tanks or Tankers. No person shall fill special use tanks or tankers containing pesticides, fertilizers, other toxic chemicals or their residues from a public water system except at a location equipped with an air-gap separation or an approved reduced pressure principle backflow prevention assembly properly installed on the potable water system.

5.5 New Construction Plans. New construction plans and specifications will be made available to the appropriate Town of Mayodan representative for approval, and to determine the degree of hazard.

## SECTION 6 – INSTALLATION OF DEVICES

6.1 Specifications. All backflow prevention assemblies shall be installed in accordance with specifications furnished by a Town of Mayodan representative and or the manufacturer's installation instructions and or the latest edition of the North Carolina Building Code, whichever is most restrictive.

6.2 Responsibility, Maintenance. Ownership, testing and maintenance of the assembly shall be the responsibility of the customer.

6.3 Location.

(1) All double check valve assemblies must be installed in drainable pits wherever below ground installation is necessary as per specifications supplied by a representative of the Town of Mayodan.

(2) Reduced pressure principle assemblies must be installed in a horizontal position and in a location in which no portion of the assembly can become submerged in any substance under any circumstances (pit and/or below installations are prohibited).

6.4 Replacement of Non-approved Devices. The installation of a backflow prevention assembly which is not approved must be replaced with an approved backflow prevention

assembly. A list of approved backflow prevention assemblies must be maintained by the Town of Mayodan.

6.5 Parallel Installation. When it is not possible to interrupt water service, provisions shall be made for a “parallel installation” of backflow prevention assemblies. It is unacceptable to use an unprotected bypass around a backflow preventer when the assembly is in need of testing, repair or replacement.

6.6 Time for Installation. The consumer shall, upon notification install the appropriate containment assembly not to exceed the following time frame:

Health Hazard            60 days

Non-Health Hazard    90 days

## SECTION 7 – TESTING AND REPAIR

7.1 Personnel. Testing and repair of the backflow prevention assemblies shall be made by a certified backflow prevention assembly tester as approved by a Town of Mayodan representative.

7.2 Service Connections. The customer is required to test the backflow prevention assembly upon installation. The customer is required to submit satisfactory test results to the Town of Mayodan within 30 days upon notification from the Town of Mayodan. The customer is required to test the backflow prevention assembly and submit to the Town of Mayodan satisfactory test results annually thereafter. The test results shall be submitted on approved test forms.

7.3 Repairs. In the event an assembly requires repairs before an annual test period, the customer is required to have repairs made immediately. As soon as repairs have been completed the customer must have a Town of Mayodan approved certified tester conduct a test showing the assembly is in good working order. Any repairs made shall be with manufacturer approved parts. All work shall be documented with a copy of the satisfactory test and repair records submitted to the Town of Mayodan.

7.4 Fire Protection Systems. For testing on fire protection systems, the customer is responsible for notifying any affected parties that the fire system will be shut down (i.e. alarm company, insurance carrier, fire official). No customer shall allow any testing until such procedures are in place and effective.

## SECTION 8 – VIOLATION AND PENALTIES

8.1 Notice. A written notice of violation must be given to any person who is determined to be in violation of any provision of this ordinance.

8.2 Corrective Action. Such notice must state the violation and the time period within which the violation must be corrected. The violation must be corrected within a reasonable time not to exceed 30 days from receipt of notice. If determined that the violation is

occurring on a customer's water system and has created or contributed to the existence of an imminent hazard, the customer may be required to correct the violation immediately.

8.3 Termination. If the customer fails, in a timely manner, to correct a violation, water service may be terminated.

8.4 Civil Penalties Due to Violation of this Ordinance: The violation of any provision of this section shall subject the violator to assessment of a civil penalty, as determined by the Town Manager. Each subsequent day that a violation listed in this section continues shall constitute a separate and distinct offense according to the following schedule:

(1) Unprotected cross-connection involving a private water system which is a health hazard, per day; \$1,000;

(2) Falsifying records which are required to be submitted by this section; tester may be removed from the approved certified tester list; \$500;

(3) Failing to test backflow prevention assemblies as required; \$100;

(4) Failing to maintain backflow prevention assemblies as required: \$100; and

(5) Any other violation of the provision of this section: \$100.

The Town Manager may increase any civil penalty assessed under this section by \$100 or 50% of the maximum civil penalty associated with the violation, whichever is greater, for a second violation of the same provision within a two-year period. Water service may be terminated after a third violation of the same provision within a two-year period.

Any person violating any provision of this section shall pay to the town all expenses incurred by the town in repairing any damage to the public water system caused in whole or in part by the violation and any expense incurred by the town in investigating the violation. All the expenses are deemed to be a part of the civil penalty assessed with the violation.

Section 8.4 (6) through (8) are repealed.

## SECTION 9 – FACILITIES REQUIRING PROTECTION

The following types of facilities or services have been identified as having a potential for backflow of non-potable water into the public water supply system. This is not an exhaustive list and other types of facilities or services not listed below may also be required to install approved backflow prevention assemblies. As a minimum requirement, all commercial services will be required to install a Double Check Valve Assembly, unless otherwise listed below.

9.1 Abbreviations.

- (1) DCVA = Double Check Valve Assembly
- (2) RP = Reduced Pressure Principle Assembly
- (3) DCDA = Double Check Detector Assembly
- (4) RPDA = Reduced Pressure Detector Assembly
- (5) AG = Air-Gap Separation
- (6) PVB = Pressure Vacuum Breaker

9.2 Facilities.

- (1) Automotive Service Station, Dealerships, etc.
  - a. Non-Health Hazard: DCVA
  - b. Health Hazard: RP
- (2) Auxiliary Water Systems
  - a. Approved Public/Private Water Supply: DCVA
  - b. Unapproved Public/Private Water Supply: AG
  - c. Used Water and Industrial Fluids: RP
- (3) Beauty/Barber Shops
  - a. Non-Health Hazard: DCVA
  - b. Health Hazard: RP
- (4) Buildings
  - a. (under 5 stories) Non-Health Hazard: DCVA
  - b. (under 5 stories) Health Hazard: RP
  - c. (over 5 stories) All: RP
- (5) Chemical Plants: RP
- (6) Commercial Car-Wash Facility: RP
- (7) Commercial Sales (Dept./Grocery Stores)
  - a. Non-Health Hazard: DCVA
  - b. Health Hazard: RP
- (8) Dye Works: RP

- (9) Fire Systems
  - a. Systems 3/4" (inch) to 2" (inch)
    - 1. Non-Health Hazard: DCDA
    - 2. Health Hazard: (Booster Pumps, Foam, Antifreeze Solution, etc.): RP
  - b. Systems 2 1/2" (inch) to 10" (inch) [or larger]
    - 1. Non-Health Hazard: DCDA
    - 2. Health Hazard: (Booster Pumps, Foam, Antifreeze Solution, etc.): RPDA
- (10) Hospitals, Medical Buildings, Morgues, Funeral Homes, Veterinary Hospitals: RP
- (11) Industrial Facilities:
  - a. Non-Health Hazard: DCVA
  - b. Health Hazard: RP
- (12) Laundries:
  - a. Non-Health Hazard: DCVA
  - b. Health Hazard: RP
- (13) Mobile Home Parks:
  - a. Non-Health Hazard: DCVA
  - b. Health Hazard: RP
- (14) Pest Control (exterminating and fumigating): RP
- (15) Restaurants:
  - a. Non-Health Hazard: DCVA
  - b. Health Hazard: RP
- (16) Schools and Colleges: RP
- (17) Sewage and/or Storm Drain Facility: RP
- (18) Swimming Pools: RP
- (19) Waterfront and/or Facilities within flood plain: RP

Adopted this the 10th day of August, 1998, and amended this the 13th day of July, 2015 by vote of the Town Council of the Town of Mayodan.