

### **Division 3- WATER QUALITY PROTECTION**

#### **Sec. 34-63 - DEFINITIONS.**

As used in this division, the following terms shall have the meanings provided in this section unless the context clearly indicates a different meaning:

Air gap means the unobstructed vertical distance through free atmosphere between the lowest effective opening from any pipe or faucet conveying a water or waste to a tank, plumbing fixture, receptor, or other assembly and the flood level rim of the receptacle. These vertical, physical separations shall be at least twice the effective opening of the water supply outlet, never less than one inch (25 mm) above the receiving flood rim.

Auxiliary intake means any piping connection or other device whereby water may be obtained from a source other than the county-owned public water supply.

Auxiliary water supply means any water other than water from the county-owned public water supply as defined herein; including, without limitation, recycled water, grey water, rain water, well water, cistern water, and reuse water.

Backflow means the reversal of flow of a liquid, gas, or other substance in the county-owned water distribution piping system as a result of a cross-connection from any source other than the intended source.

Backflow assembly means a mechanical valve arrangement used to protect the county-owned public water supply that meets or exceeds standards set forth by the University of Southern California for Cross Connection Control and Hydraulic Research or the American Society of Sanitary Engineering (ASSE), as set forth by being on the agencies' approval list. A backflow assembly used on fire suppression systems must have the additional approval of the Factory Mutual and comply with the National Fire Protection Association code

Backflow device means a mechanical backflow assembly without shut-off valves or test cocks which is not testable after installation.

Backpressure means a condition in which an owner's water system pressure is greater than the county-owned public water supply system pressure.

Back siphonage means the flow of water, other liquids, mixtures, or other substances into the distribution pipes of the county-owned public water supply system from any source other than its intended source that is caused by the sudden reduction of pressure in the public water supply system.

Building Story means, for the purpose of this division, a measurement equal to ten (10) feet

Certified tester means a person who has proven his or her competency to test and make reports on backflow assemblies as evidenced by certification of successful completion of a training program approved by the approved by the public works administrator or designee.

Containment assembly means a backflow assembly that is installed at the point of separation between the public water supply and a private service or private distribution system or at the point of metering.

Cross-connection means (i) any physical connection between a potable water supply system and any other piping system, sewer fixture, container, or device, whereby water or other liquids, mixtures, or substances may flow into or enter the public water supply system; (ii) any public water supply outlet that is submerged or is designed or intended to be submerged in non-potable water or in any source of contamination; or (iii) an attempted air gap which does not meet the definitional requirement of an air gap set forth in this section.

Cross-connection control coordinator means the official person(s) designated by the public works administrator to administer and interpret the requirements of this division. A cross-connection control coordinator shall be a State-certified tester and may serve as operator in responsible charge as recognized by the North Carolina Division of Environmental Quality, as set forth in 15A NCAC 18D .0701.

Cross-connection control program means the document which may be implemented by the public works administrator as set forth in section 34-77 below.

Double check valve assembly (DCVA) means a type of backflow assembly manufactured pursuant to ASSE Standard 1015.

Dual check valve means a type of backflow device manufactured pursuant to ASSE Standard 1024, which is normally installed in a meter box for residential protection.

Interconnection means any system of piping or other arrangement whereby the public water supply is connected directly to a sewer, drain, conduit, pool, heat exchanger, storage reservoir, or other device which is capable of containing sewage or other waste or substance which would be capable of imparting contamination into the public water supply.

Low-health hazard means a cross-connection or potential cross-connection involving any substance that generally would not be a health hazard but would constitute a nuisance or be aesthetically objectionable if introduced into the public water supply.

Owner means any person who has legal title to, inhabits, or has license to operate on, a property upon which a cross-connection inspection may be made or upon which a cross-connection is present.

Public water supply means the water and waterworks system owned by Union County for general use as potable water supply and which is recognized as a public water supply by the North Carolina Department of Environmental Quality.

Reduced pressure zone principle backflow prevention assembly (RPZ) means a type of backflow assembly manufactured pursuant to ASSE Standard 1013.

High-health hazard means a cross-connection or potential cross-connection involving any substance that could, if introduced into the public water supply, cause death or illness, spread disease, or have a high probability of causing such effects.

**Sec. 34-64 - COMPLIANCE WITH FEDERAL AND STATE LAW.**

Union County will comply with the Federal Safe Drinking Water Act, the North Carolina Drinking Water Act, North Carolina State Building Code, and 15A NCAC 18C.0406 which pertain to cross-connections, auxiliary intakes and interconnections, and establish an effective ongoing program to control potential sources of contamination of the public water supply, including related to cross-connections.

**Sec. 34-65 - UNLAWFUL CONNECTIONS.**

It shall be unlawful for any person to cause a cross-connection, auxiliary intake, or a prohibited interconnection to be made within the public water supply; or to allow one to exist for any purpose whatsoever.

**Sec. 34-66 - INSPECTION OF PROPERTY.**

It shall be the duty, upon request of the public works administrator or his or her designee, of the cross-connection control coordinator to cause inspections to be made of properties served by the public water supply where cross-connections with the public water supply are deemed possible, as such duties are set forth and provided in this division. The frequency of inspections and reinspections shall be set by the public works administrator or his or her designee as set forth in the cross-connection control program.

**Sec. 34-67 - RIGHT OF ACCESS.**

The Public Works administrator or his designee shall have the right to enter, at reasonable times, any nonresidential property served by a connection to the public water supply for the purpose of performing the duties of this division. In those cases in which the owner chooses not to provide such access, the public works administrator or his or her designee may classify the location as a high-health hazard in accordance with 34-69.

**Sec. 34-68 - EXISTING CONDITIONS.**

Any owner that is subject to the requirements of this division shall be allowed ninety (90) days to correct any cross-connections, auxiliary intakes, prohibited interconnections, or other high-health hazard as provided by 34-69 or other connection as defined in 34-70 of this code in violation of the provisions of this division. The ninety (90) days will be from the date of receipt of the notification in accordance with 34-73. Notwithstanding the requirements of this section, if the public works administrator or his or her designee determines that there is an imminent threat to the public water supply; water service may be discontinued until such violations are corrected.

**Sec. 34-69 – HIGH-HEALTH HAZARDS.**

(a) The following shall be classified as high-health hazards:

(1) Pumps, tanks, or any other container for conveying, storing or otherwise handling sewage, radioactive, lethal, or toxic substances; boiler and steam connections; sewer waste lines; low inlets to receptacles containing toxic substances; coils or jackets used as heat exchangers; bacterial and viral materials; private wells or other private water supply; irrigation systems; water systems or hose connections, with booster pumps such as fire department connections (FDC) and private hydrants used in conjunction with FDC's; carbonation equipment; or similar facilities or uses with high-health hazard potential as reasonably determined by the cross-connection control coordinator.

(2) Any location at which the nature or mode of operation within a structure are such that frequent alterations are made to the plumbing or at which there is a likelihood, in the reasonable determination of the cross-connection control coordinator, that protective measures against a cross-connection may be subverted, altered, or disconnected.

(3) Any structure which contains a bottling plant, cannery, five (5) or more building stories, battery manufacturer, exterminator, lawn care companies, greenhouse, chemical processing plant, dairy, dye works, film laboratory, car wash, hospital, other medical facilities including psychology and psychiatric offices that administer medications, commercial laboratory, laundries, tattoo parlor, metal fabricating operation, mortuary, swimming pool, morgue, x-ray equipment, medical office with laboratory, aspirator, medical washing equipment, packing house, plating plant, poultry house, power plant, nuclear reactor, those fire sprinkler systems equipped with facilities for introduction of freeze preventive chemicals or other substances other than water, dental office, any radioactive material, restaurant, shopping mall with a tenant conducting any activity listed in this section and sewage pump or treatment facilities, or any other facility or use with a similar type of impact as those specifically listed herein, as may be reasonably determined by the cross-connection control coordinator.

(b) All installations described in 34-69(a) of this Code shall be classified high-health hazards, and must have a containment assembly in the form of a reduced pressure zone backflow assembly installed pursuant to 34-71 of this code.

(c) Exemption. The owner of a property that is approved for mixed uses but who agrees to use the property only for uses that do not present a high-health hazard may apply to the public works administrator or his or her designee for an exemption from the requirement to install a reduced pressure zone backflow assembly as required by 34-69(b) above. An application for an exemption shall be made pursuant to any procedures set forth in the cross-connection control program. In the event that such exemption is approved, the owner shall install a containment assembly pursuant to the procedures established in the cross-connection control program, and shall comply with all conditions of the approval of such exemption. Any exemption from the requirement to install a reduced pressure zone backflow assembly that is granted to an applicant shall be in effect only as long as the property is used for the purposes described in the application for exemption. If any conditions or uses of the property for which an exemption is granted change, the owner of the property shall re-apply for an

exemption pursuant to this 34-69(c) or otherwise be subject to the requirements of subsection (b) of this subsection.

(d) Any person who fills any tank or tanker from the public water supply shall have an approved reduced pressure backflow assembly or an air gap properly installed on such tank or tanker. Tank or tankers include but are not limited to the following: those containing pesticides, fertilizers, or other toxic chemicals or their residues, flush trucks, street sweepers, and non-potable water tankers.

#### **Sec. 34-70 - ALL OTHER USES: RESIDENTIAL USES AND LOW-HEALTH HAZARD**

(a) Certain Residential uses. Single service connections that serve no more than two dwelling units, not otherwise required by this Code to have other containment assemblies, shall have a containment device in the form of an approved dual check valve. Dual check valves are installed on the meter for residential protection and considered the property of the county. Maintenance of dual check valve containment devices installed in accordance with this section shall be conducted by the county.

(b) Low-Health- Hazards. All other connections to the public water supply of the county not deemed a high-health hazard under 34-69, or not deemed as certain residential uses addressed in 34-70(a), shall be classified as low-health hazards and shall have containment assemblies in the form of a double check valve assembly installed pursuant to 34-71 of this Code. This shall include water mains installed to county standards, and with county supervision, but which are not maintained by the county, including but not limited to manufactured home developments, apartments and townhouses, group living developments, and other private distribution systems, or similar hazard potential as determined by the Executive Director of Public Works or his designee.

(c) Exemption. The owner of a commercial or institutional property that is supplied by only one service for domestic purposes may apply to the public works administrator or his or her designee for an exemption from the double check valve assembly installation requirement of 34-70(b) above pursuant to the procedures established in the cross-connection control program. An application for an exemption shall be made pursuant to the procedures set forth in the cross-connection control program. In the event that such exemption is approved, the owner is not required to install an approved dual check valve pursuant to the procedures established in the cross-connection control program and shall comply with all conditions of the approval of such exemption. Any exemption from the requirement to install such containment assembly that is granted to an applicant shall be in effect only as long as the property is used for the purposes described in the application for exemption. If any conditions or uses of the property for which an exemption is granted change, the owner of the property shall re-apply for an exemption pursuant to this 34-70(c), or otherwise be subject to the requirements of subsection (b) of this section above.

#### **Sec. 34-71 - INSTALLATION OF CONTAINMENT ASSEMBLIES.**

(a) Containment assemblies shall be installed pursuant to county standards as set forth in this division, the cross-connection control program, and the current versions of the North Carolina Plumbing and Fire Prevention Codes of the North Carolina State Building Code.

(b) In those cases in which any containment assembly was installed by a prior owner, the county (except those described in section 34-70(a)), or any other person, the responsibility for maintenance, testing, and replacement as applicable shall be with the current owner.

(c) The cost of any containment assembly, and any other plumbing modifications necessary and convenient to install a containment assembly, and the testing and maintenance thereof, shall be paid for by the owner (except those described in section 34-70(a)).

(d) Any containment assembly that has not been installed in accordance with this section 34-71 and whose location does not pose as a high-health hazard shall be considered pre-existing and compliant with this division. However, any pre-existing, compliant approved backflow assembly will be allowed to remain only in its original location and must be repaired with the original manufacturer's equipment. If the containment assembly is removed or repaired with parts that are not approved, then such containment assembly shall no longer be considered pre-existing and compliant and shall be replaced with a containment assembly pursuant to this section 34-71.

(e) Private distribution systems shall have a master meter and a master backflow assembly at each connection to the public water supply.

#### **Sec. 34-72 - NEW CONSTRUCTION.**

All buildings proposing to connect to the public water supply receiving building permits, on or after the effective date of this division, shall be equipped with a containment assembly and tested as properly functioning as prescribed herein, prior to the issuance of a certificate of code compliance for that building. If a building permit was issued for the building prior to the effective date of the article, or a building permit was not required, the building shall be considered to be an existing building prior to the effective date, in accordance with section 34-68 of this code.

#### **Sec. 34-73 - NOTIFICATION OF HAZARD.**

Upon identification of any hazard or potential for a hazard, as such hazards are set forth in sections 34-69 through 34-70 of this code, the cross-connection control coordinator shall notify the owner of the property on which the hazard exists, of the following:

- (a) Location of hazard;
- (b) Nature of hazard observed;
- (c) Date hazard observed;
- (d) Section of Code applicable;
- (e) Requirements of Code.

All notices required by this article shall be delivered by hand-delivery to the owner or by certified mail to the owner's last known address. When service is made by certified mail, a copy of the notice may also

be sent by regular U.S. Mail. Service shall be deemed sufficient if the notice sent by regular U.S. Mail is not returned by the U.S. Post office seven (7) days after mailing.

**Sec. 34-74 - CHANGE IN NATURE OF USE.**

The owner shall notify the cross-connection control coordinator when the nature of use of the property changes so as to change the hazard classification of that property, as set forth 34-69 through 34-70 of this code.

**Sec. 34-75 - RESPONSIBILITIES.**

(a) The owner shall, upon notification pursuant to section 34-73, install a containment assembly as required by this division within ninety (90) days from the date of notification. However, owners of properties with an identified cross-connection, auxiliary intake, interconnection or high-health hazard as set forth in 34-69 that poses an imminent risk to the public water supply shall install any required containment assembly immediately.

(b) If any required containment assembly has not been installed in conformance with standards set by this division and the cross-connection control program and within the timeframe set forth in the notification issued pursuant to 34-73 of this division, the public works Administrator or his or her designee may discontinue the public water service at that property, and service shall not be restored until any required containment assembly has been installed. Except at properties where there is a high-health hazard that poses an imminent risk to the public water supply, an owner may apply to public works administrator or his or her designee for an extension of the time for compliance pursuant to the procedures set forth in the cross-connection control program. In the event the public works administrator or his or her designee grants an extension of the time to comply, the person who is granted the extension, by nature of agreeing to the extension, agrees to indemnify and hold harmless the county from any harm or damages that may result from such person's failure to install any required containment assembly as required by this division, due to such extension.

**Sec. 34-76 - TESTING AND MAINTENANCE OF ASSEMBLIES.**

(a) The owner at a property where any containment assembly has been installed, except those with devices installed in accordance with 34-70(a) of this code, shall have each containment assembly tested by a certified tester and pursuant to the cross-connection control program; shall cause any routine maintenance to such containment assembly to be performed as recommended by the manufacturer; and shall cause a report regarding that operational test to be submitted to the county pursuant to 34-76(b) no later than fifteen (15) days following any testing event. Testing must be performed with equipment certified by a qualified testing certification company. The owner shall cause such maintenance or repairs to be made, rendering the containment assembly fully operational. Failure of the owner to perform that testing and maintenance shall be cause for the premises to be deemed as a high-health hazard that poses an imminent risk to the public water supply. The public works administrator, or his or her designee, may immediately thereafter discontinue public water supply service to that premises and service shall not be restored until all containment assemblies have been

tested and the test demonstrates that the assemblies are fully operational. Where the use of water is critical to the continuance of normal operations or protection of life, property, or equipment, as reasonably determined by the cross-connection control coordinator, duplicate containment assemblies shall be provided by the owner to avoid the necessity of discontinuing water service to test or repair the containment assembly or assemblies.

(b) Any certified tester who performs an operational test on any containment assembly connected to the county's public water supply shall file a report regarding the results of that operational test with the cross-connection control coordinator. Certified testers shall supply all testing information required, to include but not limited to, test values for containment assembly, size, make, model, serial number and location of containment assembly, name and address of owner as recorded on notice, premise number for fire services, meter number for domestic and irrigation services, and county PIN number for containment assemblies on private distribution and fire sprinkler systems. In addition, certified testers shall comply with all requirements of this code and the cross-connection control program. Failure to comply may result in revocation of certified tester status pursuant to the cross-connection control program.

(c) Records of any containment assembly inspection, test, and maintenance shall be maintained on the owner's property for a minimum of four years following the date of any inspection, test and maintenance.

#### **Sec. 34-77 - ENFORCEMENT.**

(a) Whenever the public works administrator or his or her designee finds that any person has violated or is violating this division or any permit, regulation, standard, rule or order adopted in furtherance of this division, the public works administrator or his or her designee may serve upon such a person a written notice stating the nature of the violation. If requested by the public works administrator or his or her designee, a plan for the satisfactory correction thereof shall be submitted to the public works administrator or his or her designee within the time frame specified in the cross-connection control program. Submission of this plan does not relieve the person of liability for any violations occurring before or after receipt of the notice of violation. In the event of an emergency that requires the county to take immediate action to correct the violation, the county is not required to provide an opportunity for the violator to correct the violations prior to the county taking such action and may assess penalties and costs pursuant to this section without prior notice.

(b) Any person who is found to have failed to comply with any provision of this division, any permit issued pursuant to this division, or any regulation, standard, rule or order adopted in furtherance of this division, shall be subject to a civil penalty of:

(1) For a first-time violator where the violation was not committed willfully or intentionally and is not an actual or potential risk to public health or safety, \$100 per day per violation.

(2) For a first-time violator where the violation was not committed willfully or intentionally and is an actual or potential risk to public health or safety, \$250 per day per violation.



(3) For a repeat violator where the violations was not committed willfully or intentionally and is not an actual or potential risk to public health or safety, \$500 per day per violation.

(4) For a repeat violator where the violations was not committed willfully or intentionally and is an actual or potential risk to public health or safety, \$1,000 per day per violation.

(5) For a violator where the violation was committed willfully or intentionally, \$1,500 per day per violation.

The notice of the civil penalty assessment shall be issued in writing and shall set forth the basis of the civil penalty and any administrative costs and the costs to the county of rectifying the noncompliance that are assessed. Any person violating any section of this division must pay to the county all expenses incurred by the county in repairing any damage to the utility system caused in whole or in part by such violation and any expense incurred by the county in investigating such violation.

(c) The public works administrator may maintain a procedural or program document related to the implementation and enforcement of the provisions of this division, as long as consistent with the provisions of this division.

(d) From and after the expiration of the time period specified in the notice of violation issued pursuant to subsection (a) above of this section for correcting a violation of this division, each subsequent day that the violation continues in existence shall constitute a separate and distinct offense subject to additional civil penalties.

(e) Any appeal from a notice of violation or civil penalty assessment shall be made in writing to the public works administrator within thirty (30) days of receipt of the notice of violation or civil penalty assessment issued pursuant to subsection (a) above of this Code. The public works administrator shall use all reasonable efforts to notify the appellant in writing of his or her decision within sixty (60) days of receipt of the notice of appeal pursuant to the enforcement policy adopted pursuant to subsection (c) above of this section.

(f) All notices required by this subsection may be served by certified mail or hand-delivery to the violator; certified mail or hand-delivery to the owner of the property in violation; or posting the notice at the property in violation. When service is made by certified mail, a copy of the notice may also be sent by First Class U.S. Mail. Service shall be deemed sufficient if the notice sent by First Class U.S. Mail is not returned by the U.S. Post office seven (7) days after mailing.

(g) If payment is not received or equitable settlement reached after thirty (30) days after demand for payment is first made or after decision on an appeal in accordance with subsection (e) of this section, the matter may be added to an owner's utility bill. After such time period, the matter may also be referred for the institution of a civil action in the name of the county in the appropriate division of the general court of justice of Union County for recovery of the penalty. If payment is not received or equitable settlement has not been reached within the specified time period, the county may interrupt

water and sewer service to the property until such time that payment is received or equitable settlement has been reached.

(h) Any person who violates any of the provisions of this division, any permit, or any regulation, standard, rule or order duly adopted in furtherance of this division, or who undertakes or continues any alteration, extension or construction of the utility system or part thereof without first obtaining a permit or written permission or who undertakes or continues any alteration, extension, or construction of the utility system or part thereof, except in conformity with the terms, conditions, requirements and provisions of an approved application, plan, or both shall be guilty of a misdemeanor punishable by imprisonment to the maximum number of days prescribed by law.

(i) Whenever the county has reasonable cause to believe that any person is violating or threatening to violate any of the provisions of this division, or any permit, or any regulation, standard, rule or order duly adopted in furtherance of this division, or is undertaking or continuing any alteration, extension and construction of the utility system without first obtaining a permit or written permission, or is undertaking or continuing any alterations, extension, or construction of the utility system or part thereof, except in conformity with the terms, conditions, requirements and provisions of an approved application, plan, or both, the county may, either before or after the institution of any other action or proceeding authorized by this code, institute a civil action in the name of the county for injunctive relief to restrain the violation or threatened violation. The institution of an action for injunctive relief under this subsection shall not relieve any party to such proceeding from any civil or criminal penalty prescribed for violations of this division. The terms "undertakes" or "undertaking" as used in this section means the initiating of or continuing of or being financially responsible for any activity or phase of activity which results in the extension, construction, or alteration of any part of the utility system of the county.

(j) The penalties and enforcement provisions established by this division may be applied in addition to or in lieu of the penalties established by other sections of this code and applicable ordinances. The remedies provided for in this division are not exclusive. The public works administrator or his or her designee may take any, all, or any combination of these actions against a violator.

#### **Sec. 34-78 - LIMITATION OF LIABILITY.**

The county shall not be held liable, for any cause, for failure to detect any containment assembly failing to operate adequately, or failure to identify any specific hazard, which may result in contamination of its public water supply, nor shall this division diminish the responsibility of any owner from whose property a contamination of the public water supply may originate.