## ORDINANCE NO. 124

**AN ORDINANCE OF THE BOROUGH OF INDIAN LAKE, SOMERSET COUNTY, PENNSYLVANIA, ESTABLISHING A CROSS-CONNECTION CONTROL PLAN TO PROTECT THE PUBLIC WATER SUPPLY SYSTEM OF THE BOROUGH, PROVIDING PENALTIES FOR VIOLATIONS THEREOF AND ESTABLISHING AN IMPLEMENTATION TIME TABLE FOR THE BOROUGH'S CROSS-CONNECTION CONTROL PLAN.**

BE IT ENACTED AND ORDAINED by the Borough Council of the Borough of Indian Lake, Somerset County, Pennsylvania, and it is hereby enacted and ordained by authority of the same, as follows:

### SECTION 1 - GENERAL POLICY

1.0 PURPOSE- The purpose of this ordinance is:

A. To protect the public water supply system from contamination or pollution by isolating within the consumer's water system contaminants or pollutants which could backflow through the service connection into the public water supply system.

B. To promote the elimination or control of existing cross-connections, actual or potential, between the public or consumer's potable water system and non-potable water system, plumbing fixtures and sources or systems containing process fluids.

C. To provide for the maintenance of a continuing program of cross-connection control which will systematically and effectively prevent the contamination or pollution of the public and the consumer's potable water system.

1.1 APPLICATION- This ordinance shall apply to all premises (commercial and non-commercial) served by the public water supply system of Indian Lake Borough.

1.2 POLICY- Indian Lake Borough and the consumer have the joint responsibility for the protection of the public water supply system from contamination due to backflow of contaminants through the water service connection. If, in the judgment of Indian Lake Borough or its authorized representative, an approved backflow prevention device is required, Indian Lake Borough shall give notice to the consumer to install such approved backflow prevention device at each service connection to his premises. The consumer

shall immediately install such approved device or devices at his own expense; and failure, refusal or inability on the part of the consumer to install such device or devices shall constitute grounds for discontinuing water service to the premises until such device or devices have been installed.

**SECTION 2- DEFINITIONS**

## Cross-Connection Control Definitions

These definitions will be found in the following cross-connection control plan.

2,1.**Air Gap Separation** – The unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying potable water to a tank, plumbing fixture, or other device and the flood level rim of the receptacle. The differential distance shall be at least double the diameter of the supply pipe measured vertically above the top of the rim of the vessel. In no case, shall the air gap be less than one inch.

2.2. **Approved-** A backflow prevention device or method that has been accepted by the public water supplier or by any enforcement entity.

2.3. **Atmospheric Vacuum Breaker (AVB)-** A fixture outlet device containing an optional shutoff valve followed by a valve body containing a resilient seated float-check, a check seat and an air inlet port. If the shutoff valve is open, the flow of water causes the float to close the air inlet port. If the shutoff valve is closed, the float falls and forms a check valve against backsiphonage and at the same time opens the air inlet port. If no shutoff valve is provided, the flow of water will determine the opening and closing of the air inlet port.

2.4. **Auxiliary Water System** – Any water source or system on the premises of, or available to, the customer except connections to other approved community water supply systems.

2.5. **Backflow-** A flow condition, induced by a differential in pressure, that causes the flow of water or mixtures of water and other substances into the distribution pipes of a potable water supply system from a source other than its intended source. Backflow can result from either backsiphonage or backpressure.

2.6. **Backflow Prevention Assembly**- A device or other means which will prevent the backflow of water or any other substance into the public water supply system.

2.7. **Backpressure**- The backflow of water or a mixture of water and other substances from a plumbing fixture or other customer source, into a public water supply system due to an increase of pressure in the fixture or customer source to a value that exceeds the system pressure.

2.8. **Backsiphonage-** The backflow of water or a mixture of water and other substances from a plumbing fixture or other customer source, into a public water supply system due to a temporary negative or sub-atmospheric pressure within the pubic water supply system.

2.9. **Consumer** – The owner or person in control of any premises supplied by or in any manner connected to a public water supply system.

2.10. **Consumer's Water System**- Any water system, located on the consumer's premises, supplied by or in any manner connected to a public water supply system. A household plumbing system is considered to be a consumer's water system.

2.11. **Containment**- Cross-connection control which isolates the customer's entire facility from the public water supply system so as to provide the protection necessary to prevent contamination of the public water supply in the event of backflow from the customer's facility. Though containment control prevents contamination of the public water supply, it offers no protection to the water distribution system within the facility. Reduced pressure zone devices are used for containment control.

2.12. **Contamination** – The degradation of the quality of the drinking water by wastewaters, processed fluids, or any water of a quality less than accepted drinking water quality to a degree, which would create an actual hazard to the public health through poisoning or through the spread of disease.

2.13. **Cross-connection** – An arrangement allowing either a direct or indirect connection through which backflow can occur between the potable water system and a non-potable substance.

2.14. **Degree of Hazard**- An evaluation of the potential risk to health and the adverse effect upon the public water supply system.

2.15. **Double Check Valve Assembly (DCVA)-** An assembly composed of two independently acting spring loaded check valves connected in series, two resilient seated shutoff valves, and four properly located resilient seated test cocks for testing.

2.16. **Fixture Outlet Protection-** Cross-connection control that isolates all free-flowing fixture outlets (i.e. faucets) from the water distribution system within a facility. Fixture protection prevents backflow contamination of both the facilities water system and the public water supply. Examples of fixture outlet protection devices include atmospheric vacuum breakers, hose-bibb vacuum breakers, and pressure vacuum breakers

2.17. **Health Hazard-** Any condition, device, or practice in a water system or its operation that creates or may create, a danger to the health and well-being of its users. The word "severe" as used to qualify "health hazard", means a hazard to the health of the user that could reasonably be expected to result in significant morbidity or death.

2.18. **Hose-Bibb Vacuum Breaker (HBVB)-** A fixture outlet device, which contains a soft-seated, spring-loaded, air inlet valve and is designed to be attached to an outlet having a hose connection thread.

2.19. **Interchangeable Connection-** An arrangement or device that will allow alternate, but not simultaneous, use of two sources of water.

2.20. **Internal Protection-** Cross-connection control which isolates all non-outlet, water-use appliances within a facility (e.g., kitchen appliances, air conditioners, boilers, process tanks, photo developing equipment) from the water distribution system within the facility. Internal protection prevents backflow contamination of both the facility water system and the public water supply. Reduced pressure zone devices and double check valve assemblies are used for internal protection.

2.21. **Non-Health Hazard-** Any condition, device or practice in a water system or its operation that creates, or may create, an impairment of the quality of the water to a degree which does not create a hazard to the public health, but which does adversely and unreasonably affect the aesthetic qualities of such water for domestic use.

2.22. **Non-Potable Water-** Water not safe for drinking, personal, culinary or any other type of domestic use.

2.23. **Person-** Any individual, partnership, association, company, corporation, municipality, municipal authority, political subdivision or any agency of federal or state government. The term includes the officers, employees and agents of any partnership,

association, company, corporation, municipality, municipal authority, political subdivision or any agency of federal or state government.

2.24. **Pollution-** The presence in water of any foreign substance that tends to degrade its quality so as to constitute a hazard, or to 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 waters for domestic use.

2.25. **Potable Water-** Water which is satisfactory for drinking, personal, culinary, and domestic purposes and meets the requirements of DEP.

2.26. **Pressure Vacuum Breaker (PVB)-** A fixture outlet device containing an independently operating, soft-seated, spring-loaded check valve and an independently operating, soft-seated, spring-loaded, air inlet valve on the discharge side of the check valve.

2.27. **Process Fluids-** Any fluid or solution which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration such as would constitute a health, pollutional, or system hazard if introduced into the public or a consumer's water system. This includes, but is not limited to:

a. Polluted or contaminated waters:
b. Process waters; sanitary quality;
c. Cooling waters;
d. Contaminated natural waters taken from wells, lakes, streams, or irrigation systems;
e. Chemicals in solution or suspension;
f. Oils, gases, acids, alkalis, and other liquid or gaseous fluids used in industrial or other processes, or for fire fighting purposes;
g. Heating system waters from boilers or heat pumps.

2.28. **Public Water Supplier**- A person who owns or operates a public water system.

2.29. **Public Water Supply System-** A system which provides water to the public for human consumption which has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. The term includes any collection, treatment, storage, and distribution facilities under control of the operator of the system and used in connection with the system. The term includes collection or pretreatment storage facilities not under such control, which are used in connection with the system. The term also includes a system, which provides water for human consumption via bottling, vending machines, retail sale, or bulk hauling methods.

2.30. **Reduced Pressure Principle Device-** A device which contains two independently acting, soft-seated, spring loaded check valves, together with a soft-seated, spring-loaded, diaphragm-activated, pressure differential relief valve located between the tow check valves. During normal flow and during backflow conditions the pressure between these two checks shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve, shall maintain the pressure between the checks at less than the supply pressure by opening to the atmosphere. The device must include resilient seated shutoff valves at each end, and 4 properly located resilient seated test cocks.

2.31. **Residential Dual Check Valve (RDCV)-** A non-testable backflow prevention device that is used for containment control of residential homes and consists of two independently operating, soft-seated, spring-loaded, consecutive check valves.

2.32. **Service Connection-** The terminal-end of a service line form the public water supply system. If a meter is installed at the end of the service line, then the service connection means the downstream end of the meter.

2.33. **System Hazard-** A condition posing an actual or potential threat of damage to the physical properties of the public water system.
For the purpose of this Section, please refer to the Public Water Supply Manual, Section VII, page 2 for definitions.

## SECTION 3- WATER SYSTEM

3.1 The water system shall be considered as made up of two parts: the Indian Lake Borough System and the consumer's water system.

3.2 The public water system shall consist of the source facilities and the distribution system and shall include all those facilities of the public water supply system under the control of Indian Lake up to the point where the consumer's water system begins. The public water supply will terminate at the curb stop off the main water supply line.

3.3 The source shall include all components of the facilities utilized in the production, treatment, storage, and delivery of water to the public distribution system.

3.4 The public distribution system shall include the network of conduits used for delivery of water from the source to the consumer's water system.

3.5 The consumer's water system shall include all facilities beyond the service connection, which are utilized in conveying water from the public distribution system to points of use.

## SECTION 4- CROSS CONNECTIONS PROHIBITED

4.1 No water service connection shall be installed or maintained to any premises where actual or potential cross-connections to the public water supply system or consumer's water system may exist unless such actual or potential cross-connections are abated or controlled to the satisfaction of Indian Lake Borough.

4.2 No connection shall be installed or maintained whereby water from an auxiliary water supply may enter a public or consumer's water system unless such auxiliary water supply and the method of connection and use of such supply shall have been approved.

## SECTION 5 – SURVEY AND INVESTIGATIONS

5.1 The consumer's premises shall be open at all reasonable times upon notice by Indian Lake Borough or it's authorized representatives for the purposes of conducting surveys and investigations of water use practices within the consumer's premises to determine whether there are direct or indirect cross-connections to the consumer's water system through which contaminants or pollutants could backflow into the public potable water system.

5.2 On request by Indian Lake Borough, the consumer shall furnish information on water use practices within his premises.

5.3 It shall be the responsibility of the water consumer to conduct periodic surveys of water use practices on his premises to determine whether there are actual or potential cross-connections to his water system through which contaminants or pollutants could backflow into the public water supply system.

## SECTION 6- WHERE PROTECTION IS REQUIRED

6.1 An approved backflow prevention device shall be installed prior to the first branch line leading off each service line to a consumer's water system where, in the judgment of Indian Lake Borough, an actual or potential hazard to the public water supply system exists.

6.2 An approved backflow prevention device shall be installed on each service line to a consumer's water system where the following conditions exist:

a) Systems having an auxiliary water supply, unless such auxiliary supply is accepted as an additional source by Indian Lake Borough and approved by the PA Department of Environmental Protection (DEP).

b) Systems where any substance is handled in such a fashion as to create an actual or potential hazard to the public water supply system. This shall include systems having sources or auxiliary systems containing process fluids or water originating from the public water supply system, which are no longer under the sanitary control of the water purveyor.

c) Systems having internal cross-connections that, in the judgment of Indian Lake Borough, are not correctable or intricate plumbing arrangements which make it impractical to determine whether or not cross-connections exist.

d) Systems where, because of security requirements or other prohibitions or restrictions, it is impossible or impractical to make a complete cross-connection survey.

e) Systems having a repeated history of cross-connections.

f) Others specified by the public water supplier.

6.3 An approved backflow prevention device shall be installed on each service line to a consumer's water system serving, but not necessarily limited to, the following type facilities unless Indian Lake Borough determines that no actual or potential hazard to the public water supply system exists.

a) Hospitals, mortuaries, clinics, nursing homes;
b) Laboratories
c) Piers, docks, waterfront facilities
d) Sewage treatment plants, sewage pumping stations or storm water pumping stations.
e) Food or beverage processing plants
f) Chemical plants
g) Metal plating industries
h) Petroleum processing or storage plants
i) Radioactive material processing plants
j) Car wash or truck wash

k) Others specified by the water purveyor

## SECTION 7 – TYPE OF PROTECTION REQUIRED

7.1 The type of protection required under Section 6.1, 6.2, and 6.3 of this ordinance shall depend on the degree of hazard which exists as follows:

a) An approved air gap separation shall be installed where the public water supply system may be contaminated with substances that are dangerous to the public health and could cause a severe health hazard. A severe health hazard is sewage and radioactive materials.

b) An approved air gap separation or an approved reduced pressure zone backflow prevention device shall be installed where the public water supply system may be contaminated with a substance that could cause a system or health hazard.

c) An approved air gap separation or an approved reduced pressure zone backflow prevention device or an approved double check valve assembly shall be installed where the public water supply system may be polluted with substance that would be objectionable, but not dangerous to health.

d) An approved pressure vacuum breaker assembly or spill resistance vacuum breaker assembly can be installed in place of the above mentioned devices however, these devices may only be used to abate indirect cross-connections.

## SECTION 8 – BACKFLOW PREVENTION DEVICES

8.1 Any backflow prevention device required by this ordinance shall be of a model or construction approved by the public water supplier and shall comply with the following:

Air gap separation to be approved shall be at least twice the diameter of the supply pipe, measured vertically above the top rim of the vessel, but in no case less than one inch.

A double check valve assembly or a reduced pressure zone device shall be approved by Indian Lake Borough and shall mean a device that has been manufactured in full conformance with standard established by the American Water Works Association entitled:

AWWA/ANSI C510-92 Standard for Double Check Valve Backflow Assemblies;

AWWA/ANSI C511-92 Standard for Reduced Pressure Principle Backflow Prevention Assemblies;

An approved assembly should also have met completely the laboratory and field performance specifications of the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California (USC FCCCHR) established in:

Specifications of Backflow Prevention Assemblies- Section 10 of the most current Edition of the Manual of Cross-Connection Control.

The following testing laboratory has been qualified by the *Anytown Municipal Authority* to test and approve backflow prevention assemblies:

Foundation for Cross-Connection Control and Hydraulic Research
University of Southern California
KAP-200 University Park MC-2531
Los Angeles, California 90089-2531

Testing laboratories other than the laboratory listed above will be added to an approved list as they are qualified by Indian Lake Borough.

8.2 Existing backflow prevention devices approved by Indian Lake Borough at the time of installation and properly maintained shall, except for inspection and maintenance requirements, be excluded from the requirement of Section 8.1 of this regulation provided Indian Lake Borough is assured that they will satisfactorily protect the public water supply system. If the existing device is moved from the present location or requires more than minimum maintenance or when Indian Lake Borough finds that the maintenance of the device constitutes a hazard to the public health, the device shall be replaced by a backflow prevention device meeting the requirements of these regulations.

## SECTION 9 – INSTALLATION

9.1 Backflow prevention devices required by this Ordinance shall be installed at a location and in a manner approved by Indian Lake Borough and shall be installed by a person properly qualified and at the expense of the water consumer.

9.2 Backflow prevention devices installed on the service line to a consumer's water System shall be located on the consumer's side of the water meter, as close to the meter as is reasonably practical, and prior to any other connection.

9.3 Pits or vaults shall be of water-tight construction , be so located and constructed As to prevent flooding and shall be maintained free from standing water by means of either a sump or pump or a suitable drain. Such sump pump or drain shall not connect to a sanitary sewer nor permit flooding of the pit or vault by reverse flow from its point of discharge. An access ladder and adequate natural or artificial lighting shall be provided to permit maintenance inspection and testing of the backflow prevention device.

9.4 When installing a backflow prevention device the installer must comply and be aware of all safety considerations when installations are performed. Major safety considerations are thermal expansion and device discharge damage. Thermal expansion can cause hot water tanks and other storage vessels to explode when there are no provisions made for thermal expansion. Indian Lake Borough strongly recommends the installation of a thermal expansion tank on hot water heaters to prevent the hot water heaters relief valve from discharging or, more importantly, from exploding. Many backflow prevention devices discharge large amounts of water for various reasons. This discharge of water could obviously pose a hazard when the valves are discharging onto or around electrical equipment. Equipment damage or electrocution could occur. The installer must ensure that valve discharge will not cause safety hazards or property damage. Thermal expansion is a concern anytime substances are confined (in a closed system) and are heated.

## SECTION 10 – INPECTION AND MAINTENANCE

10.1 It shall be the duty of the consumer at any premises on which backflow prevention devices are required by this ordinance, to have inspections, tests, and overhaul made in accordance with the following schedule, or more often where inspections indicate a need.

a) Air separation shall be inspected at the time of installation, and at least every 12 months thereafter.

b) Double check valve assemblies shall be inspected and tested for tightness or the time of installation, and at least every 12 months thereafter. These devices shall be dismantled, inspected internally, cleaned, and repaired whenever needed, and at least every 30 months.

c) Reduced pressure zone devices shall be inspected and tested for tightness at the time of installation, and at least every 12 months thereafter. These devices shall be dismantled, inspected internally, cleaned, and repaired whenever needed and at least every five years.

d) Interchangeable connections shall be inspected at the time of installation and at least every 12 months thereafter.

10.2 Inspections, tests, and overhaul of backflow prevention devices shall be made at the expense of the water consumer and shall be performed by Indian Lake Borough or a person certified to inspect, test or overhaul backflow prevention devices.

10.3 Whenever backflow prevention devices required by these regulations are found to be defective, they shall be repaired or replaced at the expense of the consumer without delay.

10.4 The water consumer must maintain a complete record of each backflow prevention device form purchase to retirement. This shall include a comprehensive listing that includes a record of all tests, inspections and repairs. Records of inspections, tests, repairs and overhaul shall be submitted to Indian Lake Borough.

10.5 Backflow prevention devices shall not be bypassed, made inoperative, removed or otherwise made ineffective without specific authorization by the water purveyor.

## SECTION 11 – BOOSTER PUMPS

11.1 Where a booster pump has been installed on the service line to or within any premises, such a pump shall be equipped with a low pressure cut-off device designed to shut-off the booster pump when the pressure in the service line on the suction side of the pump drops to ten pounds per square inch gauge or less for a period of 30 seconds or longer.

11.2 It shall be the duty of the water consumer to maintain the low-pressure cut-off device in proper working order and to certify to Indian Lake Borough, at least once a year, that the device is operation properly.

## SECTION 12- GEOTHERMAL HEATING SYSTEMS

All geothermal heating equipment must be physically disconnected from the potable water system. No water may be taken for geothermal uses (or any other use) and reinjected into the potable water supply.

## SECTION 13 – VIOLATIONS

12.1 Indian Lake Borough shall deny or discontinue, after reasonable notice, in writing, the water service to any premises wherein any backflow prevention device required by this ordinance is not installed, tested, and maintained in a manner acceptable to the public water supplier, or if it is found that the backflow prevention device has been removed or by-passed, or if an unprotected cross-connection exists on the premises, or if a low pressure cut-off device required by this ordinance is not installed and maintained in proper working order.

12.2 Water service to such premises shall not be restored until the consumer has corrected or eliminated such conditions or defects in conformance with this ordinance and to the satisfaction of the public water supplier.

## SECTION 14 – HYDRANT USE RESTRICTION

Only authorized persons shall be permitted to use hydrants. Tampering with the hydrants by unauthorized persons is prohibited. Any person wishing to use the hydrants (other than the Borough and fire companies) must be permitted. Permits may be obtained from the Borough Office. This especially pertains to exterminator/lawn companies.

## SECTION 15 - PRIORITY SYSTEM

All facilities will be listed under one of the following priority levels:

1. Hazardous Facilities
2. Aesthetically Objectionable Facilities (non-health hazard)
3. Non-Hazardous Facilities

After all connections are placed into one of three priority levels listed above a review of the distribution system records will to done to identify areas of chronic low pressures, leakage and breaks.

## SECTION 16 - IMPLEMENTATION TIMETABLE

FIRST YEAR:

Develop the draft of the CCCP ordinance.

Get management approval.

Amend local regulations.

Begin educational program.

SECOND YEAR:

Will notify the hazardous facilities of the programs requirements.

Continue educational program.

Develop a legally defensible record keeping system.

THIRD YEAR:

Notify the second tier facilities in the priority system (aesthetically objectionable).

Will notify the hazardous facilities of the programs requirements.

Notify the non-hazardous facilities of the CCCP requirements (Section 1 to Frost Free).

Continue educational program.

Send out annual testing forms.

FOURTH YEAR

Notify the non-hazardous facilities of the CCCP requirements (Section 2 to Well 99-1).

Will notify the hazardous facilities of the program's requirements.

Continue education program.

Send out annual testing forms.

Begin tracking testing and maintenance data, which will be done continuously.

FIFTH YEAR

Notify the non-hazardous facilities of the CCCP requirements (Section 3 to Peninsula Tank).

Will notify the hazardous facilities of the programs requirements.

Continue the educational program

Send out annual testing forms

Send out annual testing forms

SIXTH YEAR

Notify the non-hazardous facilities of the CCCP requirements (Section 4 to Well 2).

Will notify the hazardous facilities of the programs requirements.

Continue public education program.

Send out annual testing forms.

The program should be fully implemented after 6 years.

**SECTION 17 - SEVERABILITY:**

If any provision or provisions of this Ordinance shall be declared invalid or unconstitutional by a Court having competent jurisdiction, the remaining provisions shall remain in full force and effect and this Ordinance shall thereafter be construed as though the invalid provision or provisions had not been included in this Ordinance.

**SECTION 18 - EFFECTIVE DATE:**

This Ordinance shall take effect immediately upon enactment.

**ENACTED AND ORDAINED** this 12th day of September, 2001.

**BOROUGH COUNCIL OF THE BOROUGH OF INDIAN LAKE, SOMERSET COUNTY, PENNSYLVANIA**

By: _____
President

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**ATTEST:**

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Borough Secretary

(SEAL)

**APPROVED**, this 12 day of September, 2001.

Barry Luckey
Mayor