

ALAN M. ARAKAWA  
Mayor



DAVID TAYLOR, P.E.  
Director

PAUL J. MEYER  
Deputy Director

**DEPARTMENT OF WATER SUPPLY**

**COUNTY OF MAUI**

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WAILUKU, MAUI, HAWAII 96793-2155  
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August 10, 2016

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OFFICE OF THE  
CLERK OF THE  
COUNTY OF MAUI

Honorable Gladys C. Baisa  
Chair, Water Resources Committee  
Maui County Council  
200 South High Street  
Wailuku, Hawaii 96793

Dear Gladys:

**SUBJECT: PROPOSED BILL FOR AN ORDINANCE AMENDING TITLE 14,  
ARTICLE 1, MAUI COUNTY CODE, RELATING TO CROSS-  
CONNECTION AND BACKFLOW CONTROL AND WATER FOR  
FIRE SERVICE (WR-20)**

Attached please find the proposed bill entitled, "A BILL FOR AN ORDINANCE AMENDING TITLE 14, ARTICLE 1, MAUI COUNTY CODE, RELATING TO CROSS-CONNECTION AND BACKFLOW CONTROL AND WATER FOR FIRE SERVICE." The purpose of this proposed bill is to amend Title 14 Article 1, Chapter 14.04, Sections 14.01.040, 14.04.070 and 14.04.080 of the Maui County Code by adding new definitions relating to cross-connection and backflow control and fire water service.

The Department of Water Supply after consultation with the Corporation Counsel respectfully requests that this proposed amendment be considered and presented to the Water Resources Committee.

Thank you for your attention to this matter. Feel free to call me at Ext. 7514 with any questions or concerns you may have.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Taylor", with a stylized flourish at the end.

DAVID TAYLOR, P.E.  
Director of Water Supply

Attachment  
DT:atn  
P:\DOCS\Council\081016\_Baisa.doc

*"By Water All Things Find Life"*

ORDINANCE NO. \_\_\_\_\_

BILL NO. \_\_\_\_\_ (2016)

A BILL FOR AN ORDINANCE AMENDING TITLE 14, ARTICLE 1, MAUI COUNTY  
CODE, RELATING TO CROSS-CONNECTION AND BACKFLOW CONTROL AND  
WATER FOR FIRE SERVICE

BE IT ORDAINED BY THE PEOPLE OF THE COUNTY OF MAUI:

SECTION 1. The purpose of this ordinance relates to cross-connection  
and backflow control and water for fire service.

SECTION 2. Section 14.01.040, Maui County Code, is amended by  
adding new definitions to be appropriately inserted and to read as follows:

“Backflow” means the flow of water or other liquids, mixtures, or substances into the distributing pipes of a potable supply of water from any source or sources other than its intended source. Backsiphonage is one type of backflow.

“Backflow preventer” means a device or means to prevent backflow into a potable water system.

“Backsiphonage” means the flow of water, other liquids, mixtures, or substances into the distribution pipes of a potable water system from any source other than its intended source caused by the sudden reduction of pressure in the potable water system.

“Cross-connection” means any actual or potential connection or structural arrangement between a public potable water system and any other source or system through which it is possible to introduce into any part of the public potable water system any used water, industrial fluid, gas, or substance other than the intended potable water with which the system is supplied. Bypass arrangements, jumper connections, removable sections, swivel, or change-over devices and other temporary or permanent devices through which or because of which backflow can occur are considered to be cross-connections.

“Double check detector assembly” means an assembly that protects potable water systems from a pollutant caused by a cross-

connection on a fire system and that also detects any unauthorized use of water and leaks on the fire line system. It consists of two independently operating check valves, two shut-off valves, and a bypass assembly with meter.

“Reduced pressure backflow preventer” means an assembly that is used to prevent the reversal of flow of water or mixtures of water and other liquids, gases, or other substances into the distribution pipes of the potable water supply from any source. It consists of two independent check valves, plumbed in series, with a pressure monitored chamber between. The chamber has a differential pressure relief valve.”

SECTION 3. Chapter 14.04, Maui County Code, is amended by adding a new section to read as follows:

**“14.04.070 Cross-connection control and backflow prevention. A. Requirement. The department shall require consumers and owners of real property to install a backflow preventer on all properties connected to the department’s water system.**

**B. Prohibition of certain connections and installations. To protect the department’s potable water supply and to comply with state law and other applicable rules and regulations, no cross-connections with other water supplies or other physical connections shall exist, or be installed, located, maintained, or operated that could allow backflow of contaminated water or any other dangerous, impure, unsanitary, or unpotable substance from the consumer or owner’s premises into the department’s potable water system, except as follows:**

**1. Cross-connections. Owners or operators of water supplies that are in use and cross-connected to the department’s water system shall perform annual testing for continuance of the cross-connection; provided, that the department may waive the requirement of an annual test and allow cross-connections to be continued or established if the connections are with water supplies defined as primary or community supplies by the state department of health and approved by the department and the state department of health as acceptable, safe, and sanitary supplies. Annual review and inspection of the cross-connection will be required when:**

**a. Water supplies are regularly inspected by the department or other agencies satisfactory to the department, meet the requirements of the State’s safe drinking water regulations, have no cross-connections**

that could allow backflow of contaminated water into those water supplies, and are approved by the department as safe and sanitary at all times.

b. Water supplies do not meet the requirements of subsection 14.04.070(B)(1)(a), are not normally under pressure, and are maintained solely for firefighting purposes, and where adequate protection against backflow to the department's potable water system is provided by mechanical or other methods or devices approved by the department.

2. Backflow preventers.

a. Physical connections may be allowed, at the discretion of the director, if adequate protection can be provided for the department's potable water supply against backflow by:

i. Installation of a reduced pressure backflow preventer, an airgap, or other methods or devices approved by the department.

ii. Installation of double check detector assemblies approved by the director, or as required by subsection 14.04.070(G)(3).

b. The consumer or owner shall install, maintain, and operate the backflow preventer in a manner satisfactory to the department at all times; provided, however, that the department may require the consumer or owner to eliminate or rearrange plumbing or piping connections or fixtures, or to install a backflow preventer at the meter or other location, subject to the approval of the director, as an added safety measure in addition to any and all other backflow protection required or provided by mechanical or other methods or devices, when any one of the following occurs:

i. The consumer or owner is engaged in the handling of dangerous or corrosive liquids, industrial or process waters, highly contaminated water or sewage, or if the consumer or owner is engaged in the handling of any other materials that have the potential to contaminate the department's water system.

ii. The director determines there is a danger of backflow into the department's water system because of possible unauthorized connections being created through noncompliance or inadvertence.

iii. The consumer or owner fails to provide adequate maintenance of the consumer or owner's piping system or systems.

iv. For any other reason deemed sufficient by the director.

C. Separate pressure system. The department shall require the installation of mechanical or other methods or devices on the consumer or owner's side of the meter to prevent backflow if a consumer or owner maintains a separate pressure system or a separate storage facility, or in any way increases the water pressure on the consumer or owner's premises above the water pressure furnished by the department, or has equipment devices or arrangement of piping, storage, or industrial methods or processes that might raise the water pressure on the consumer or owner's premises above the department's water pressure. Construction plans for such installation must first be approved by the director.

D. Pressure regulation required of consumer or owner. To protect the consumer or owner's plumbing system, a suitable pressure relief valve may be installed and maintained by the consumer or owner at the consumer or owner's expense when backflow preventers are installed on the consumer or owner's side of the meter.

E. Location and inspection of protective devices. Any device installed for the prevention of backflow, as required, shall be located above ground and in a manner safe from flooding or submergence in water or other liquids, properly protected from external damage, freely accessible, and with adequate working room for inspections, tests, and repairs. Backflow preventers installed solely for fire lines may be allowed to be installed below ground.

1. All such devices shall be inspected and tested at the consumer or owner's expense not less than once annually, and as often as required by the department in instances where a test result indicates a failure. Repairs, replacement of parts, or other remedies shall be done immediately and whenever deemed necessary by the department, at the consumer's or owner's expense.

2. Inspections and tests shall be performed by a certified tester approved by the department. All inspection and test results shall be indicated on forms prescribed by the department and a copy of the results shall be furnished to the department within five working days of the inspection and test. Failure of the consumer or owner to complete inspections and tests and submit results may, at the discretion of the director, result in the department's

performing the inspections and tests, making repairs and replacements, and charging the costs to the consumer or owner.

F. Conformance with laws. The conditions relative to installation and maintenance of cross-connections and other physical connections referred to in this section are subject to change to meet changing requirements of State health and environmental statutes, rules, and regulations, and the County building and plumbing code.

G. Building permits.

1. The department shall require the installation of backflow preventers during its review of any building permit application and during any other review by the department.

2. Consumers or owners who are required to install a backflow preventer as a condition of building permit approval shall complete the installation prior to the department's approval of the certificate of occupancy. For building permits that do not require the department's approval of the certificate of occupancy, the consumer or owner shall complete the installation prior to the department's approval of the building permit application, and as provided in subsection 14.04.070(G)(4).

3. The department shall require consumers or owners to upgrade single check detector assemblies to double check detector assemblies for fire line systems.

4. To secure approval of a building permit prior to installation of the backflow preventer, the consumer or owner shall enter into an agreement with the department to make and complete the installation of the backflow preventer within a specified time and file with the department a surety bond or other security acceptable to the department to ensure the installation of the backflow preventer as shown on the approved construction plans. The consumer or owner shall agree not to allow the occupancy of any structure until the backflow preventer is installed and operational.

a. The agreement shall specify that the consumer or owner will complete the installation of the backflow preventer to the satisfaction of the department; that if the consumer or owner fail to complete the work within the time specified or a time extension mutually agreed upon, the department may complete the installation and recover the full cost and expense from the consumer or owner; and that the consumer or owner shall allow department staff to enter the premises to install the backflow preventer assembly.

b. The bond or other security filed with the department shall be one of the following; provided, that in all instances where a surety bond is filed, it shall be executed by the consumer or owner, as principal, and a surety company authorized to transact a surety business in the State, as surety:

i. A surety bond in a sum equal to the cost of the work required to be done, plus fifty percent as estimated by the director, payable to the department, and conditioned upon all work required to be completed by the consumer or owner, and that should the consumer or owner fail to complete all required work within the time specified, the department may cause all unfinished work to be completed, and the parties executing the bond shall be firmly bound for the payment of all costs.

ii. The consumer or owner shall make a deposit of money with the director in an amount equal to the cost of the construction of the improvements plus fifty percent as estimated by the director.

iii. In lieu of a surety bond or deposit in escrow pursuant to subsections (i) and (ii) the consumer or owner may deposit with the director bonds or other negotiable securities acceptable to the director in the amount provided by subsections (i) and (ii).

H. Civil penalty and discontinuance of water service for noncompliance. Consumers or owners who fail to comply with the department's requirements shall pay a civil fine of \$500.00 per day for each day the noncompliance persists. Failure of the consumer or owner to comply with the department's requirements relative to cross-connections and backflow prevention within thirty days of notice from the department shall be sufficient reason for discontinuing water service until the requirements have been met.

I. The department shall require the installation of a backflow preventer assembly at any time it deems a backflow preventer assembly necessary to provide protection to the department's water supply.

J. Exemption. The director, at the director's discretion, may waive the requirement for a consumer or an owner to install a backflow preventer."

SECTION 4. Chapter 14.04, Maui County Code, is amended by adding a new section to be appropriately designated and to read as follows:

**“14.04.080 Installation of fire water service. A. Water used from fire water service connections shall be used only for fire protection. Fire water service will be furnished only where adequate provision is made to prevent diversion of water from the fire waterline system for other purposes. The fire water service connection will be installed as agreed upon between the department and the consumer or owner and shall be paid for by the consumer or owner in accordance with section 14.04.040. After fire water service has been initiated, the department shall assume no liability for loss or damage that may occur to the premises served, regardless of the cause.**

**B. No charge will be made for water used through a connection for fire protection, but any water lost through leakage or used in violation of the conditions contained in this section shall be paid for by the consumer or owner in accordance with section 14.10.030 of this title. The department may, without notice, disconnect and remove the fire water service if water is used for other than fire protection or if leaks are not repaired. Whenever such a disconnection is in effect, the County shall not be held liable for loss or damage sustained because of the disconnection of service.**

**C. All fire water services shall be metered with a double check detector assembly and a bypass meter approved by the department. The department shall approve the location of the double check detector assembly and meter. The consumer or owner shall pay for all materials and the installation of the meter, double check detector assembly, and all appurtenances as approved by the department. The fire water service consisting of the double check detector assembly and all appurtenances as approved by the department shall remain the property of the consumer or owner.**

**D. Fire water service devices shall be maintained by the consumer or owner. The department shall be provided access for periodic inspection and testing of the devices.**

**E. Any device installed for the prevention of backflow, as required, shall be properly protected from external damage, freely accessible, and with adequate working room for inspections, tests, and repairs. All such devices shall be inspected and tested at the consumer or owner's expense not less than once annually, and as often as required by the department in instances where a test result indicates a failure. Repairs, replacement of parts, or other remedies shall be done immediately and whenever deemed**



necessary by the department, at the consumer or owner's expense. Inspections and tests shall be performed by a certified tester approved by the department. All inspection and test results shall be indicated on forms prescribed by the department and a copy of the results shall be furnished to the department within five working days of the inspection and test. Failure of the consumer or owner to complete inspections and tests and submit results may, at the discretion of the director, result in the department's performing the inspections and tests, making repairs and replacements, and charging the costs to the consumer or owner.

F. Civil penalty and discontinuance of water service for noncompliance. Consumers or owners who fail to comply with the department's requirements shall pay a civil fine of \$500.00 per day for each day the noncompliance persists. Failure of the consumer or owner to comply with the department's requirements within thirty days of notice from the department shall be sufficient reason for discontinuing water service until the requirements have been met."

SECTION 5. New material is underscored. In printing this bill, the County Clerk need not include the underscoring.

SECTION 6. This ordinance shall take effect upon its approval.

APPROVED AS TO FORM  
AND LEGALITY:

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Department of the Corporation Counsel  
County of Maui  
2015-5231  
2016-08-09 Proposed Bill