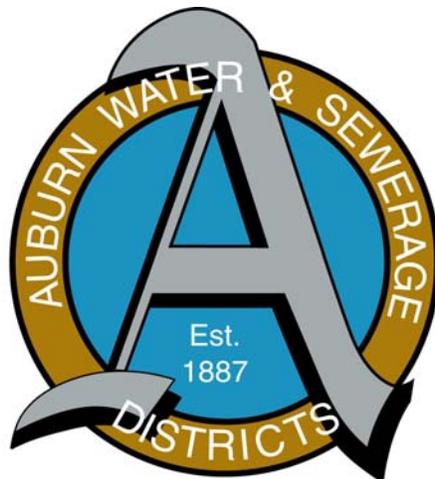


AUBURN WATER DISTRICT
Auburn, Maine

CROSS-CONNECTION CONTROL
PROGRAM

Adoption: October 1, 1979



**AUBURN WATER DISTRICT
AUBURN, MAINE**

**CROSS-CONNECTION CONTROL PROGRAM
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AUBURN WATER DISTRICT
CROSS CONNECTION CONTROL PROGRAM

I. PURPOSE

Cross-connection between water supplies and non-potable sources of contamination represent one of the most significant threats to health in the water supply industry. This program is therefore designed to maintain the safety and potability of the water in the Auburn Water District's system by preventing the introduction of any foreign liquids, gases or other substances, other than water from the intended source.

II. AUTHORITY

This program derives its enforceability from Title 22, MRSA, C 601, sub-chapter 2, Sec. 2612 (5) Maine Department of Human Services, Cross-Connection Rules 10-144ACMR226. In addition, authority rises from the Rules and Regulations as Published by the Auburn Water District and as approved by the Public Utilities Commission of the State of Maine and from provisions of the Occupational Safety and Health Act, And from provisions of the State Plumbing Code Part I, 10-144A CMR 238.

III. DEFINITIONS

A. Backflow - The flow of water or other foreign liquids, gases or other substances into the distribution system of a public water supply from any source other than the intended.

B. Backflow Preventer - A device to prevent backflow

1. Air Gap - A physical separation sufficient to prevent backflow between the free flowing discharge end of the potable water system and any other system.
2. Atmospheric Vacuum Breaker - A device which prevents back-siphonage by creating an atmospheric vent where there is either a negative pressure or sub-atmospheric pressure in a water system.
3. Backflow Preventer with Intermediate Atmospheric Vent - A device having two check valves separated by an atmospheric vent.
4. Double Check Valve - A device having two, weight or spring loaded, bronze faced with soft rubber disc check valves, with shutoff valves and test cocks for periodic testing.

5. Hose Bibb Vacuum Breaker - A device which is permanently attached to a hose bibb and which acts as an atmospheric vacuum breaker.
 6. Pressure Vacuum Breaker - A device containing a spring loaded check valve and a spring loaded atmospheric vent which opens when pressure approaches atmospheric. It contains valves and fittings which allow the device to be tested.
 7. Reduced Pressure Principle Backflow Preventer - An assembly of check valves and a reduced pressure zone which spills water to the atmosphere in event of the failure of the check valves. It has valves and fittings which allow the device to be tested.
- C. Back-siphonage - Backflow resulting from negative or less than atmospheric pressure in the water system.
 - D. Back-pressure - A condition in which the owner's system pressure is greater than the supplier's system pressure.
 - E. Containment - A method of backflow prevention which requires a backflow preventer at the water service entrance.
 - F. Cross-Connection - Any physical connection or arrangement between two otherwise separate piping systems, one of which contains potable water and the other water or other substances of unknown or questionable safety, whereby water or other substances may flow from one system to the other, the direction of flow depending on the pressure differential between the two systems.
 - G. Department - State of Maine Department of Human Services
 - H. Fixture Isolation - A method of backflow prevention in which a backflow preventer is located to correct a cross-connection at an in-plant unit rather than at the water service entrance.
 - I. Owner - Any person who has legal title to, or license to operate or habitate in, a property upon which a cross-connection inspection is to be made or upon which a cross-connection is present.
 - J. Permit - A document issued by the Department with the approval of the Supplier which allows the use of a backflow preventer.
 - K. Person - Any individual, partnership, company, public or private corporation, political subdivision or agency of the State, department, agency or instrumentality of the United States or any other legal entity.

- L. Supplier - (i.e. Auburn Water District (AWD)) Any person who controls, owns, or generally manages a system of pipes, structures and facilities through which water is delivered for human consumption.
- M. Water Service Entrance - That point in the owner's water system beyond the sanitary control of the supplier. This will be the outlet end of the first gate at the building entrance and will always be before any unprotected branch.

IV. ADMINISTRATION

- A. The Supplier shall develop and operate a cross-connection control program, including keeping necessary records, which fulfills the requirements of the Department's Cross-Connection Rules and is approved by the Department.
- B. The Owner shall allow his property to be inspected for possible cross connections and shall follow the provisions of the Supplier's program or the Department's Cross-Connection Rules if a cross-connection is permitted.
- C. If the Supplier requires that the public supply protected by containment, the Owner shall be responsible for water quality beyond the outlet end of the containment device.
- D. Both the Supplier and the Owner shall attempt to eliminate all cross-connections.

V. RESPONSIBILITY

- A. Supplier's Responsibility
 - 1. The Supplier's inspections for cross-connections or potential cross-connections shall be made during normal working hours unless otherwise arranged with the owner.
 - 2. The Supplier will, after the initial inspection of plans or premises, inform the owner by letter of any correction deemed necessary, the method of making the correction, and the time allowed before correction, is required. A period of 20 days will be allowed for correction.
 - 3. The Supplier will not allow any cross-connection to remain unless it is protected by an approved backflow preventer, for which a permit has been issued and which is regularly tested and operates satisfactorily. Certain fixtures are exempted from this provision and are listed in Section VIII.
 - 4. The Supplier shall inform the Owner by letter of any failure to comply by the time of the first re-inspection. The Supplier will allow additional sufficient time for the correction. (An additional 10 days will be allowed for correction). If there is a failure to comply by the time of the second re-inspection, the Supplier shall inform the Owner by letter that water service to the Owner's premises will be terminated.

5. If the Supplier determines at any time that a serious threat to the public health exists service shall be terminated immediately.
6. Re-establishment of service before the installation of a backflow preventer may be allowed by the Supplier after an agreement has been made between the Supplier, the Department and the Owner indicating the intention of the Owner to comply with the provisions of the agreement.
7. The Supplier shall maintain an inspection program which covers all industrial customers every three years and all commercial customers every five years.
8. The Supplier will make sure that new water service areas and all new construction, including residential, complies with the Cross-Connection Program and with the Maine State Plumbing Code. A copy of the Plumbing Inspector's Certificate of Completion will be obtained by the Supplier.
9. The Supplier shall inspect dwellings with more than four apartments and require that they comply with the Cross-Connection Program.
10. The Supplier shall encourage Owners of dwellings with four or less apartments to install backflow preventers on hose bibbs and shall warn them of the possible hazards of devices such as siphon type pesticide or fertilizer sprayers, water operated sump pumps, etc. The Owner may be required to install a backflow preventer at the service entrance, if deemed necessary. (Note: This section does not exclude the use of a single check valve at the service entrance.)

B. Owner's Responsibilities

1. The Owner, after being informed by a letter from the Supplier, shall at his expense install, maintain and test, or have tested, any backflow preventer on his premises. The Owner shall also send a copy of his completed testing form to the Supplier every time a test is performed.
2. The Owner shall correct any malfunction of the backflow preventer which is revealed by periodic testing. This shall include the replacement of parts or the replacement of the backflow preventer if deemed necessary by the Supplier.
3. The Owner shall inform the Supplier of any new proposed or modified cross-connection and also any existing cross-connection which the Owner is aware of but has not been found by the Supplier.
4. Any Owner having a private well or other private water source must have a permit if the well or source is cross-connection to the Supplier's system, and permission to cross-connect may be denied by the Supplier. The Owner may be required to have a backflow preventer at the service entrance if a private water source is maintained, even if it is not cross-connected to the Supplier's system.
5. The Owner shall not install a by-pass around any backflow preventer unless there is a backflow preventer on the by-pass. Owners who cannot shut down operation for testing must supply the additional devices necessary to allow testing to take place.

6. The Owner shall only install backflow preventers listed or approved by the Supplier and the Department.
7. The Owner shall install the backflow preventer in a manner approved by the Supplier. Pit installations are strongly discouraged and must have Department approval before a permit will be issued.
8. If the Owner installs plumbing to provide potable water for domestic purposes which is on the Supplier's side of the backflow preventer, such plumbing must have its own backflow preventer.

VI. DEGREE OF HAZARD

The Supplier recognizes the difference in the threat to the public water system arising from different types of connection. These can be classified as follows:

A. Class I – Low Degree of Hazard

If backflow were to occur, the resulting health significance would be limited to minor changes in the esthetic quality such as taste, odor or color. The foreign substance must be non-toxic and non-bacterial in nature and have no significant health effect. Class I hazards shall be protected against by either containment or fixture isolation.

B. Class II – Moderate Degree of Hazard

If Backflow were to occur, the resulting effect on the water supply would be significant changes in esthetic qualities. The foreign substance must be non-toxic to humans and non-bacterial in nature. Class II hazards shall be protected against by either containment or Fixture Isolation.

C. Class III – High Degree of Hazard

If backflow were to occur, the resulting effect on the water supply could cause illness or death if consumed by humans. The foreign substance may be toxic to humans either chemically, bacteriologically or radiologically. Toxicity may result from either short or long term exposure.

1. Class III hazards must be protected against by containment.

Examples of establishments which shall be controlled by containment are; but not limited to:

- a. Wastewater installations
 - i. Treatment plants
 - ii. Pump stations including storm water pump stations
 - iii. Industrial waste treatment plants.
- b. Industries where a health hazard exists
- c. Hospitals, nursing homes, clinics, etc.
- d. Vessel watering points or fixtures
- e. Tank trucks, street sweepers, and other similar units which receive water at the Supplier's shop or any of its hydrants
- f. Laboratories

- g. Mortuaries or funeral homes
- h. High pressure boilers
- i. Chemically treated low pressure boilers
- j. Lawn irrigation systems
- k. Swimming pools
- l. Car wash facilities
- m. Farms where water is used for other than domestic purposes
- n. Commercial installations with very small industrial functions

VII. PERMITS

- A. Permits will be issued by the Department upon recommendation of the Supplier for any backflow situation except those listed as exemptions in Section VIII, Part C.
- B. Permits will only be issued if the cross-connection is deemed necessary and cannot be eliminated.
- C. The degree of hazard will be stated on the permit.
- D. The frequency of testing of the backflow preventer will be stated on the permit.
- E. The type, model and make of the backflow preventer will be listed on the permit. If more than one device is used to protect a single cross-connection, it shall be listed on the permit.
- F. Any exemption will be listed on the permit.
- G. Permits shall be non-transferable.
- H. Permits shall be renewed every five years.

VIII. EXEMPTIONS

- A. Any cross-connection protected against backflow, at the time this program goes into effect, may continue with that same protection unless:
 - 1. The existing protection is grossly inadequate.
 - 2. The Department notifies the Supplier, in writing, that a change must be made.
- B. The exemption will be expired at any time the backflow preventer must be replaced and the replacement backflow preventer must be that required by the degree of hazard involved.
- C. Certain fixtures which constitute cross-connections may be controlled by non-testable backflow preventers and will not require a permit. Examples of these fixtures are as follows:
 - 1. Hose bibbs which are only potential cross-connections.
 - 2. Below the rim outlets which can be replaced by a gooseneck device.
 - 3. Toilets with anti-siphon ballcocks.
 - 4. Any fixtures with a built-in atmospheric vacuum breaker which can not be bypassed.
 - 5. Others as listed in Appendix A of the State regulations.

IX. PERIODIC TESTING

It is recognized that any backflow preventer can fail and any method of protection can be subverted; this, periodic testing and inspection is necessary. This includes air gap protection.

- A. Periodic testing shall be performed by the Owner at the time interval stated on the permit. The Supplier or the Supplier's Agent shall be present during a test on an annual basis unless required by a more frequent inspection schedule. (i.e. double check valve assemblies require monthly tests)
- B. The time interval for testing a backflow preventer shall be state on the permit and shall be determined by the Supplier.
- C. Any backflow preventer which fails during test will be immediately repaired. The Supplier shall require that repair parts be ordered within 24 hours and that shipment be by the fastest means possible. Any extended delay (more than seven days) shall require discontinuance of service or other means to insure protection of the public water system.
- D. Certain Class III degree of hazard situations will not be allowed to continue unprotected if the backflow preventer fails the test and cannot be immediately repaired. The Owner will be the person responsible for the provision of spare parts and should have a supply on hand.
- E. If at anytime it is found that the backflow prevents is not operating properly on two (2) consecutive testing inspections, the interval between tests at which the Supplier or Supplier's Agent will be present, may be shortened by the Supplier and/or the Department.

APPENDIX A

RECORD KEEPING

A special file should be set up for the Cross-Connection Program. This file should include all correspondence, applications, permits and test results. These should be set up by account numbers or other identifying numbers.

Material that should be on file:

1. Inspection forms Supplied by Supplier and kept 5 years.
2. First letter to Owner Correction necessary and method of correction.
A period of 20 days will be allowed for correction.
Supplier will supply form letters and keep on file
for 5 years.
3. Second letter to Owner Failure to comply by the time of first re-inspection.
An additional 10 days will be allowed for correction.
Supplier will supply form letters and keep on file
or 5 years.
4. Third letter to Owner Service to be terminated due to failure to comply
with cross-connection rules and regulations.
Supplier will supply form letters and keep on file
for 5 years.
5. Application for Permit Supplied by the Department of Human Services and
kept on file for 5 years.
6. Permit Supplied by the Department of Human Services and
kept on file for 5 years.
7. Testing Forms Supplied by the Department of Human Services and
kept on file for 5 years.
8. Plumbing Inspectors
Certificate of Completion
for New Construction &
New Water Service areas Supplied by the Plumbing Inspector and kept on file
the Supplier.

APPENDIX B

HAZARD CLASSIFICATION GUIDE

- Class I Potable hot water tanks
- Class II Those situations where the foreign substance is harmless, such as beverage syrups on bottling plants, product lines in breweries and canneries.
- Class III Those situations where the foreign substance may be toxic to humans, such as units in manufacturing plants, auxiliary water systems, hotels, chemical plants, dairies, laboratories, waterfront facilities, hospitals, medical buildings, sanitariums, mortuaries, wastewater facilities and irrigation systems.

APPENDIX C

STATE OF MAINE

AN ACT TO REGULATE DRINKING WATER

WATER FOR HUMAN CONSUMPTION

SUBCHAPTER II

SAFE DRINKING WATER ACT

22 M.R.S.A., section 2612 (5)

Cross connections. The department may adopt and enforce regulations governing the connection of any public water systems to any pipes, facilities or structures that carry, store or distribute water that has not been analyzed for compliance or cannot comply with the State Primary Drinking Water Standard, or any connection that may introduce contamination into the system, in order to protect the system from contamination.

APPENDIX D

10- DEPARTMENT OF HUMAN SERVICES

144A Bureau of Health

Chapter 226 CROSS-CONNECTION RULES

(10 - 144 ACM 226)

Summary

These rules are designed to regulate, control, and prevent the contamination of drinking water by the backflow of water or other liquids, mixtures or substances into the distribution pipes of a water supply system from a source or sources other than its intended source.

1. Definitions

- A. Anti-backflow Device, - A device or means to prevent backflow.
- B. Approved Source – A source of water utilized by a public water system for distribution to the public for consumptive purposes and which is approved by the Department for said use following a required and/or approved treatment process.
- C. Backflow Preventer – An anti-backflow device.
- D. Backflow - The flow of water or other liquids, mixtures or substances into the distribution pipes of a potable water supply from any source or sources other than the supply's intended source.
- E. Backflow Preventer – Reduced Pressure Principal Type – An assembly of differential valves and check valves including an automatically opened spillage port to the atmosphere.
- F. Back-siphonage – Backflow resulting from negative pressures in the distribution pipes of a potable water supply.
- G. Cross-connection – Any physical connection or arrangement between two otherwise separate systems, one of which contains potable water and the other which contains water of unknown or questionable safety and/or steam, chemicals, gases or other contaminants whereby there may be a flow of an unapproved water to a water supply.

- H. Department – Maine Department of Human Services.
- I. Owner – Any person who has legal title to or license to operate or habitate in a property upon which a cross-connection inspection is to be made or upon which a cross-connection is present.
- J. Potable Water – An approved water, free from impurities present in any amount sufficient to cause disease or harmful physiological effects. Its physical, bacteriological, chemical and radiological quality conforming with the requirements of the Maine State Safe Drinking Water Act or regulations pertaining thereto.
- K. Public Water System – Any Publicly or privately owned system of pipes, structures and facilities through which water is obtained for or sold, furnished or distributed to the public for human consumption, if such system has at least 15 service connections, regularly serves an average of at least 25 individuals daily at least 30 days out of the year or bottled water for sale. Any publicly or privately-owned system that only stores and distributes water, without treating or collecting it; obtains all its water from, but is not owned or operated by a public water system; and does not sell water or bottled water to any person, is not a “public water system”. The term “public water system” shall include any collection, treatment, storage or distribution pipes, structures or facilities under the control of the supplier of water and used primarily in connection with such system, and any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. The system shall not include the portion of service pipe owned and maintained by a customer of the public water system.
- L. Supplier – Any person who controls, owns or generally manages a public water system.
- M. System – Public Water System.
- N. Person – Any individual, partnership, company, public or private corporation, political subdivision or agency of the State, department, agency or instrumentality of the United States or any other legal entity.
- O. Political subdivision – Any municipality, county, district or any portion or combination of 2 or more thereof.

2. Administration

- A. The supplier shall not permit any cross-connection at any point within its system unless approved pursuant to a permit specifically issued for the cross-connection.
- B. The owner shall be responsible for insuring the proper operation and maintenance of an anti-backflow device and the periodic regular testing of the device.
- C. The supplier shall be responsible for the administration of its cross-connection program and insuring that the periodic testing of anti-backflow devices are performed.

3. Cross-Connection Programs

- A. All suppliers serving a population of more than 1000 people shall have a written cross-connection control program submitted to the Department for approval under the following time schedule:

Population Served	Program to be submitted For approval by
75,000 and greater	12/31/80
10,000 to 75,000	04/17/81
1,000 to 10,000	06/30/81

TABLE 3.1

- B. Any supplier serving less than 1000 population but which has an industrial account shall have a written cross connection program by 12/31/80.
- C. Said cross-connection programs shall be implemented and in force within a period not to exceed nine (9) months after approval by the Department.
- D. The Department specifically reserves the right to inspect all cross-connections. The supplier shall be administratively responsible for the corrections necessary as a result of a departmental inspection. The owner and/or supplier shall comply with any departmental or supplier's orders issued as a result of said inspections of the water system.

4. Degree of Hazard

- A. For the purpose of these rules the following classifications of Degree of Hazard and associated definitions shall apply:

1. Class I – Low degree of hazard

If a backflow were to occur the resulting health significance would be limited to minor changes in the esthetic quality such as taste, odor or color. The foreign substance must be non-toxic and non-bacterial in nature with no significant health effect.

2. Class II – Moderate degree of hazard

If a backflow were to occur the resulting effect on the water supply would be significant changes in esthetic qualities. The foreign substance must be non-toxic to humans.

3. Class III – High degree of hazard

If a backflow were to occur the resulting effect on the water supply could cause illness or death if consumed by humans. The foreign substance may be toxic to humans either from a chemical, bacteriological or radiological standpoint. The effects of the contaminants may result from short or long-term exposure.

5. Approved Anti-Backflow Devices

A. Only the following types of anti-backflow devices may be used in a permitted cross-connection:

Degree of Hazard	Allowed Devices
Class I	Airgap Non-pressure Type Vacuum Breaker Pressure Type Vacuum Breaker Double Check Valve Assembly Reduced Pressure Principal Device
Class II	Airgap Pressure Type Vacuum Breaker Double Check Valve Assembly Reduced Pressure Principal Device
Class III	Airgap Reduced Pressure Principal Device

TABLE 5.1

6. Permits

- A. The supplier shall not permit cross-connections within the public water supply system unless deemed necessary.
 - B. All Permits shall be issued and renewed by the Department.
 - C. It shall be the supplier's responsibility to review the degree of hazard of the cross-connection and assign the proper classification to a specific cross-connection and designate the proper classification on the specific cross-connection permit application.
 - D. The owner shall apply for a cross connection permit on appropriate forms and submit said application in triplicate to the supplier.
 - E. The supplier shall forward two (2) copies of the permit application to the department along with the degree of hazard classification in addition to recommendations as to whether or not the permit shall be issued. Permits shall be renewed every Five years. Requests for renewal permits shall be reviewed by the water supplier and if no changes have occurred, the permit shall be automatically renewed. If changes have occurred during any permit period the renewal application shall be reviewed for a modification to the degree of hazard determination.
 - F. Permits shall be non-transferable.
7. Exemptions
- A. Any existing backflow preventer shall be allowed to continue in service unless:
 - 1. The supplier and department considers the condition of any portion of the device to be such that replacement should be made or
 - 2. The degree of hazard is changed.
 - B. Specific exemptions from these rules is permitted. Specific conditions and devices exempted are found in Appendix A
 - C. The commissioner may grant one or more exemptions from this regulation to a public water system or owner, if
 - 1. The exemption will not result in an unreasonable risk to the public health; and/or
 - 2. The public water system or owner is unable to comply with the regulation due to compelling factors, not including economic factors.

- D. An exemption shall not alter the degree of hazard classification of the cross-connection and shall not exclude the use of some appropriate anti-backflow device not necessarily assigned to the particular degree of hazard assigned to the cross-connection. Prior to granting an exemption, the commissioner shall provide notice in the state newspaper and give an opportunity for public hearing on the proposed exemption. Each exemption may also be conditioned on monitoring, testing, analyzing or other requirements to insure the protection of the public health, and shall include a compliance schedule.

8. Responsibility

- A. It shall be the responsibility of the supplier and owner to insure that no potential cross-connections are present. If the supplier has reasonably ordered an owner to protect its water supply from a potential cross-connection and the owner does not do so, the supplier shall be required to discontinue service to the owner within a period of time specified in the water supplier's cross-connection program after notice to the department and to the Maine Public Utilities Commission.
- B. It shall be the responsibility of the supplier and owner to insure that all cross-connections are tested and inspected on a regular basis as specified in the supplier's program.
- C. All owners maintaining cross-connections between their private system and the supplier's water system shall eliminate and disconnect such cross-connections unless deemed necessary by the water supplier and the Department and protected by a backflow preventer approved by the Department and permitted for the degree of hazard associated with the cross-connection. Such disconnection shall occur within six months of the effective date of the cross-connection control program.
- D. It shall be the responsibility of the owner to inform the supplier of any new, existing, proposed or modified cross-connection.
- E. It shall be the responsibility of the owner to provide access to the premises for any representative of the supplier or to any representative of the Department or any other state or federal agency authorized to do so for the expressed purpose of inspecting for possible cross-connections or gaining information in the preparation of a permit. This shall include providing copies of any plans, drawings, reports or specifications relating to the water system or proposed cross-connection control devices.
- F. It shall be the responsibility of the owner to comply with all provisions of any permit and the supplier's cross-connection program.

9. SEVERABILITY – If any section, subsection, sentence, clause, phrase or portion of these regulations is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this regulation.

Basis Statement: Since it is the responsibility of a public water supply to provide a water which is safe to consume and since active, unprotected, or inadequately protected cross-connections provide a real and present threat to the safety of the water being consumed, these rules are promulgated.

Authority: These rules are authorized under 22 M.R.S.A. c.601, subchapter 2, section 2612 (5).

Effective Date: October 1, 1979

APPENDIX E

	<u>DEVICE #</u>	<u>DESCRIPTION</u>	<u>MODEL #</u>
VACUUM BREAKERS	10201	H L GEE	400
	10202	H L GEE	401
	10203	H L GEE	405
	10204	H L GEE	415
	10501	FEBCO	795A
	10502	FEBCO	795G
	10505	FEBCO	730
	10506	FEBCO	730C
	10803	RAINBIRD	AVBO75
	10804	RAINBIRD	AVB100
	10805	RAINBIRD	AVB125
	10806	RAINBIRD	AVB150
	10807	RAINBIRD	AVB200
	10808	RAINBIRD	AVB250
	10809	RAINBIRD	HVB-8NF
	10810	RAINBIRD	HVB-8
	10811	RAINBIRD	HVB-8A
	10812	RAINBIRD	MVB-8B
	11204	WATTS REG	288A
	11205	WATTS REG	8
	11206	WATTS REG	8A
	11207	WATTS REG	8B
	11208	WATTS REG	8C
	11209	WATTS REG	8AC
	11210	WATTS REG	8BC
	11211	WATTS REG	S8
	11212	WATTS REG	S8C
	11801	A W CASH	VBA
	11802	A W CASH	VBAC
	11804	A W CASH	VB11
	11805	A W CASH	VB111
	11901	CONBRACO IND	38-101
	11902	CONBRACO IND	38-102
	11903	CONBRACO IND	38-103
	11904	CONBRACO IND	38-104
	11905	CONBRACO IND	38-105
	11906	CONBRACO IND	38-304
	12001	MULLER STEAM	77B
	12002	MULLER STEAM	77C
	12003	MULLER STEAM	7B
12004	MULLER STEAM	7C	
12001	L R NELSON	71075	
12102	L R NELSON	71100	
12104	L R NELSON	73100	
12301	RICHDEL	R706	
12302	RICHDEL	R709	
12303	RICHDEL	R711	
12304	RICHDEL	R713	
12305	RICHDEL	R711-HYD	

	12306	RICHDEL	R713-HYD
	12307	RICHDEL	R734
	12308	RICHDEL	R735
	12401	SLOAN VALVE	V-500A
	12402	SLOAN VALVE	V-500AA
	12403	SLOAN VALVE	V-350A
	12404	SLOAN VALVE	V-188A
	12405	SLOAN VALVE	HV-188A
	12406	SLOAN VALVE	V-360A
	12407	SLOAN VALVE	V-370A
	12501	CHAMPION	HVB-111
	12601	CLAYTON	9762A
	12602	CLAYTON	9762A
	12701	JOSAM MFG	9762A
	12702	JOSAM MFG	9762AB
	12801	MANSFIELD	AS-378
	12802	MANSFIELD	AS-379
	12803	MANSFIELD	AS-380
	12901	NIBCO INC	NIBCO
	12103	L R NELSON	73075
	13001	NIDEL CO	20
	13002	NIDEL CO	34H
	13003	NIDEL CO	34H-D
	13004	NIDEL CO	34H-W
	13101	WOLVERINE	52589
	13102	WOLVERINE	52838
	13201	ZURN	Z-13 10
DOUBLE	20101	CLA-VAL	D
CHECKS	20102	CLA-VAL	D2
	20301	GRINNEL	
	20302	GRINNEL	B-2
	20401	HERSEY-SPARLING	1
	20402	HERSEY-SPARLING	VC
	20403	HERSEY-SPARLING	F72
	20404	HERSEY-SPARLING	FDC
	20503	FEBCO	792
	20504	FEBCO	805
	20601	LAWLER ITT	DC-3
	20602	LAWLER ITT	DC-4
	20604	LAWLER ITT	DC-6
	20605	LAWLER ITT	DC-10
	20607	LAWLER ITT	DC-12
	20608	LAWLER ITT	DC-16
	20609	LAWLER ITT	DC-24
	20610	LAWLER ITT	DC-32
	20611	LAWLER ITT	DC-40
	20701	NEPTUNE	S50
	20801	RAINBIRD	DC
	20813	RAINBIRD	AVB
	20901	S MR	DHC
	21001	TORO RD	80-0060
	21002	TORO RD	80-0070
	21004	TORO RD	9-2930
	21005	TORO RD	BCD
	21101	VIKING	A-1
	21201	WATTS REG	700

	21212	WATTS REG	800
	210301	ROCKWELL	711
RPZ DEVICES	30000	AIR GAPS	
	30103	CLA-VAL	RP
	30104	CLA-VAL	RP-1
	30105	CLA-VAL	RP-2
	30405	HERSEY-SPARLING	6
	30406	HERSEY-SPARLING	6C
	30407	HERSEY-SPARLING	10
	30408	HERSEY-SPARLING	10L
	30409	HERSEY-SPARLING	12
	30410	HERSEY-SPARLING	14
	30411	HERSEY-SPARLING	FRP
	30505	FEBCO	825
	30506	FEBCO	835
	30507	FEBCO	8353
	30612	LAWLER ITT	R2-10
	30613	LAWLER ITT	R2-40
	30614	LAWLER ITT	R2-12
	30615	LAWLER ITT	R2-16
	30616	LAWLER ITT	R2-24
	30617	LAWLER ITT	R2-32
	30702	NEPTUNE	575
	30802	RAINBIRD	RP
	31006	TORO RD	80-0059
	31007	TORO RD	9-2770
	31008	TORO RD	80-0069
	31009	TORO RD	9-2929
	31202	WATTS REG	BRP
	31203	WATTS REG	900
	31302	ROCKWELL	701
	31401	BADGER METER	1
	31501	BRAUKMANN	BF299
	31601	CRANELINE	A
	31701	GRISWOLD	BF