

**PROPOSED REGULATION OF  
THE STATE ENVIRONMENTAL COMMISSION**

**File No. P2022-03**

June 21, 2022

EXPLANATION – Matter in *italics* is new; matter in brackets ~~[omitted material]~~ is material to be omitted.

AUTHORITY: §§1-15, NRS 445A.860.

**Section 1:** Chapter 445A of NAC is hereby amended by adding thereto the provisions set forth as Sections 2 of this regulation.:

**Sec 2.** *“Passive purge sprinkler system” defined. “Passive purge sprinkler system” means a system that serves a single toilet in addition to the sprinklers inside the customer building, which provides circulation of water in the fire line when the toilet is flushed, thereby preserving water quality and negating the need for backflow prevention. The toilet should be near the end of the premise plumbing.*

**Sec 3.** NAC 445A.65505 is hereby amended to read as follows:

445A.65505 As used in NAC 445A.65505 to 445A.6731, inclusive, *and sections 2 of this regulation*, unless the context otherwise requires, the words and terms defined in NAC 445A.6551 to 445A.6661, inclusive have the meanings ascribed to them in those sections.

**Sec 4: NAC 445A.6663** is hereby amended to read as follows:

**Adoption of standards and publications by reference.** The following provisions and publications are hereby adopted by reference:

1. The *American Water Works Association Standards*, as those standards existed on July 1, ~~[2014]~~ *2022*. A copy of those standards is available by mail from the American Water Works Association, 6666 West Quincy Avenue, Denver, Colorado 80235, by toll-free telephone at

(800) 926-7337, or at the Internet address <http://www.awwa.org/store.aspx>, at a price of ~~[\$3,774]~~ \$4,250 for members and ~~[\$5,900]~~ \$6,250 for nonmembers.

2. Standards 14, 42, 44, 53, 55, 58, 60, 61 and 372 of the American National Standards Institute and NSF, as those standards existed on July 1, ~~[2014]~~ 2022,. Those standards are available by mail from Techstreet, 3025 Boardwalk Drive, Suite 220, Ann Arbor, Michigan 48108, by toll-free telephone at (800) 699-9277, or at the Internet address <http://www.techstreet.com/nsf/>, at a price of ~~[\$220]~~ \$165 for Standard 14, 42, 44, 53, 55 or 58, ~~[\$380]~~ \$325 for Standard 61 and ~~[\$110]~~ \$55 for Standard 372.
3. Standards D3212 and 3139 of the ASTM International as those standards existed on ~~[May 1, 2018]~~ July 1, 2022. Those standards are available by mail from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, Pennsylvania 19428, by toll-free telephone at (877) 909-2786, or at the Internet address <http://www.astm.org>, at a price of ~~[\$41]~~ \$48.
4. The *Manual of Cross-Connection Control*, tenth edition, as developed by the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California. This publication is available by mail from the University of Southern California, Research Annex 2019, Los Angeles, California 90089-7700, by toll-free telephone at (866) 545-6340, or at the Internet address [www.uscfoundationstore.com](http://www.uscfoundationstore.com), at a price of ~~[\$90]~~ \$100 for members and ~~[\$125]~~ \$140 for nonmembers.
5. *Manual M14 Recommended Practice for Backflow Prevention and Cross-Connection Control*, ~~[third]~~ fourth edition, as published by the American Water Works Association. This publication is available by mail from the American Water Works Association, 6666 West Quincy Avenue, Denver, Colorado 80235, by toll-free telephone at (800) 926-7337, or at the Internet address <http://www.awwa.org/store.aspx>, at a price of ~~[\$76]~~ \$97 for members and ~~[\$122]~~ \$152 for nonmembers.

6. *Recommended Standards for Water Works*, [~~2012~~] 2018 edition, as developed and approved by the Great Lakes Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers. This publication is available at no cost at the Internet address <http://10statesstandards.com>.
7. *Standard Methods for the Examination of Water and Wastewater*, [~~22<sup>nd</sup>~~] 23<sup>rd</sup> edition, as published by the American Water Works Association. This publication is available by mail from the American Water Works Association, 6666 West Quincy Avenue, Denver, Colorado 80235, by toll-free telephone at (800) 926-7337, or at the Internet address <http://www.awwa.org/store.aspx>, at a price of [~~\$225~~] \$275 for members and \$395 for nonmembers.
8. *Standard Specifications for Public Works Construction*, also known as the “Orange Book,” [~~2012~~] 2016 edition, as sponsored and distributed by the Regional Transportation Commission of Washoe County, Washoe County, the City of Sparks, the City of Reno, Carson City and the City of Yerington. This publication may be obtained by mail from the Regional Transportation Commission of Washoe County, 1105 Terminal Way, Suite 108, Reno, Nevada 89502, or by telephone at (775) 348-0171, at a price of \$40, or at no cost at the Internet address <https://www.rtcwashoe.com/engineering-resource/orange-book>.
9. *Uniform Design and Construction Standards for Potable Water Distribution Systems*, third edition, as developed and adopted by Boulder City, Henderson, North Las Vegas, the Big Bend Water District and the Las Vegas Valley Water District, or a subsequent edition adopted by the respective governing body of such local governments and approved by the Division. This publication is available by mail from the Las Vegas Valley Water District, Engineering Services Division, 1001 South Valley View Boulevard, Las Vegas, Nevada 89153, or by telephone at (702)

822-8518, at a price of \$12, or at no cost at the Internet address <http://www.lvvwd.com/engineering-resources/design/index.html>.

10. The *Uniform Plumbing Code*, [~~2012~~] 2021 edition, as adopted by the International Association of Plumbing and Mechanical Officials. This publication is available by mail from the International Association of Plumbing and Mechanical Officials, 4755 E. Philadelphia Street, Ontario, California 91761, by telephone at (909) 472-4208, or at the Internet address <http://iapmomembership.org>, at a price of [~~\$88.80~~] \$109.60 for members and [~~\$111~~] \$137.00 for nonmembers for a softcover copy, \$107.20 for members and \$134 for members for a looseleaf copy, and \$80.80 for members and \$101 for nonmembers for a CD-ROM or electronic copy.

11. If there is any conflict between any of the provisions described in subsection 1, the most stringent of those provisions prevails.

**Sec. 5: NAC 445A.66715** is hereby amended to read as follows:

**Performance and inspection of work on water project; certification of substantial compliance with approved plans and specifications; *As-Built*.**

1. Work on a water project must be:

(a) Performed in substantial compliance with the plans and specifications approved for the water project by the Division or the appropriate district board of health. Approval of the Division or the appropriate district board of health is required before carrying out any proposed changes in materials, equipment, quantities, configurations or processes, and before any additions or deletions of infrastructure, which would affect the quality or quantity of water.

(b) Inspected by qualified representatives of the supplier of water.

2. Within 30 days after the completion of a water project, the supplier of water shall certify to the Division or the appropriate district board of health that the water project was completed in substantial

compliance with the plans and specifications approved for the water project by the Division or the appropriate district board of health.

*3. No later than 90 days after the completion of a water project, the supplier of water shall submit to the Division or the appropriate district board of health drawings of the water project as it was built.*

**Sec. 6: NAC 445A.67195** is hereby amended to read as follows:

**Cross-connections and backflow: Minimum types of protection for particular service connections.** Except as otherwise provided in NAC 445A.67185 to 445A.67255, inclusive, or authorized by the Division or the appropriate district board of health, the minimum type of protection from cross-connection required for a service connection to:

1. A public building or any building:

(a) That contains a hotel, motel, casino, *a master metered development serving multiple units of condominiums* or town houses, *homes*, or any apartments;

(b) Used for commercial purposes where a specific business activity has not been identified; or

(c) In which one or more sewage pumps or sewage ejectors have been installed,

↪ consists of a reduced pressure principle assembly.

2. A building that:

(a) Has multiple stories and booster pumps or elevated tanks to distribute potable water; or

(b) Exceeds 40 feet in height, as measured from the service connection to the highest water outlet,

↪ consists of a double check valve assembly.

3. A class 1, class 2 or class 3 fire sprinkler system consists of a double check valve assembly.

4. A class 4, class 5 or class 6 fire sprinkler system consists of a reduced pressure principle assembly.

5. A hydronic heating system that contains any chemical additives consists of a reduced pressure principle assembly.

6. A baptismal font of a church consists of a reduced pressure principle assembly.
7. A facility for bottling beverages consists of a reduced pressure principle assembly.
8. A brewery consists of a reduced pressure principle assembly.
9. A cannery, facility for the processing of food, packing house or rendering facility consists of a reduced pressure principle assembly.
10. A facility for cold storage consists of a reduced pressure principle assembly.
11. A dairy processing facility consists of a reduced pressure principle assembly.
12. A restaurant or other facility in which food is served consists of a reduced pressure principle assembly.
13. A dental clinic consists of a reduced pressure principle assembly.
14. A hospital, medical building or clinic consists of a reduced pressure principle assembly.
15. A convalescent home or nursing home consists of a reduced pressure principle assembly.
16. A sanitarium consists of a reduced pressure principle assembly.
17. A morgue, mortuary or facility for conducting autopsies consists of a reduced pressure principle assembly.
18. A laboratory, including, without limitation, a laboratory of a teaching institution or another biological or analytical facility, consists of a reduced pressure principle assembly.
19. A facility of a school, college or university consists of a reduced pressure principle assembly.
20. A facility for the production of motion pictures consists of a reduced pressure principle assembly.
21. A facility for the publishing or printing of a newspaper consists of a reduced pressure principle assembly.
22. A veterinary clinic, pet shop or facility for grooming pets consists of a reduced pressure principle assembly.

23. A laundry or dry cleaning facility consists of a reduced pressure principle assembly.
24. A dyeing facility consists of a reduced pressure principle assembly.
25. A facility for mechanical, chemical or electrochemical plating consists of a reduced pressure principle assembly.
26. Any portable spraying or cleaning equipment consists of an air gap.
27. A pool or spa consists of a reduced pressure principle assembly.
28. A park for mobile homes or recreational vehicles consists of a reduced pressure principle assembly.
29. A facility located on a waterfront, including, without limitation, a fishery, fish hatchery, dock or marina, consists of a reduced pressure principle assembly.
30. A facility for the production of power consists of a reduced pressure principle assembly.
31. A facility for the production, storage or transmission of oil or gas consists of a reduced pressure principle assembly.
32. A facility that handles, processes or stores radioactive materials or substances consists of a reduced pressure principle assembly.
33. A facility for processing sand or gravel consists of a reduced pressure principle assembly.
34. A system for storm drainage, the collection of sewage or the distribution of reclaimed wastewater consists of an air gap.
35. A facility in which:
  - (a) Water is used to manufacture, store, compound or process chemicals for industrial purposes;
  - (b) Chemicals are added to water used in the compounding or processing of products;
  - (c) Chemicals are added to the supply of water; or
  - (d) The supply of water is used for the transmission or distribution of chemicals,↪ consists of a reduced pressure principle assembly.

36. A facility for the manufacture of aircraft or missiles consists of a reduced pressure principle assembly.

37. A facility for the manufacture, repair or washing of motor vehicles consists of a reduced pressure principle assembly.

38. A facility for the manufacturing or processing of film consists of a reduced pressure principle assembly.

39. A facility for the manufacturing of ice consists of a reduced pressure principle assembly.

40. A facility for the manufacturing, processing or cleaning of metal consists of a reduced pressure principle assembly.

41. A facility for the manufacturing of natural or synthetic rubber consists of a reduced pressure principle assembly.

42. A facility for the manufacturing of paper or paper products consists of a reduced pressure principle assembly.

43. Any other facility for manufacturing, processing or fabricating consists of a reduced pressure principle assembly.

**Sec. 7: NAC 445A.67215** is hereby amended to read as follows:

**Cross-connections and backflow: Service connection to fire sprinkler system.**

1. A supplier of water shall ensure that:

(a) An appropriate assembly for the prevention of backflow is installed at each service connection between the public water system and a fire sprinkler system; and

(b) The assembly is:

(1) Tested upon installation; and

(2) *Installed without obstruction to access so that it may be regularly [M]maintained* and tested, and the results of those tests logged, annually.



→ The testing required by this subsection must be conducted by a certified backflow prevention assembly tester.

2. An assembly for the prevention of backflow installed on a service connection between a public water system and a fire sprinkler system must:

(a) Be of such a type and installed in such a manner that the assembly:

(1) Protects the public water system; and

(2) Does not interfere with the capability of the fire sprinkler system, as engineered, to protect the safety of persons in the public or private facility in which the fire sprinkler system is located; and

(b) Prevent any pollution or contamination of drinking water, by any nonpotable water contained in the fire sprinkler system, which may be caused by any backpressure or backsiphonage that may occur during normal or abnormal operation of the fire sprinkler system or the public water system.

*(c) For an existing service connection to a fire sprinkler system that is not protected by an assembly for the prevention of backflow, the supplier of water shall supply a report to the property owner stating the estimated peak hour demand pressure and rate of flow delivered to the property after the installation of an assembly for the prevention of backflow. The report shall suggest the property owner contract with a fire design professional to determine if modifications to the fire sprinkler system are necessary given the estimated peak hour demand pressure and rate of flow delivered to the property after the installation of an assembly for the prevention of backflow.*

3. The supplier of water shall determine the type of assembly required on a particular service connection between the public water system and a fire sprinkler system based upon the degree of risk posed by the fire sprinkler system to the supply of potable water, considering the chemical and biological contents of the fire sprinkler system, the materials used to construct the fire sprinkler system and the possibility that backflow will occur.

4. Any reduced pressure principle assembly or reduced pressure detector assembly used on a service connection between a public water system and a fire sprinkler system must *be located above ground and* not have any holes drilled in the check valve clappers.

*5. A single-family residential home that contains a passive purge fire sprinkler system does not require a backflow prevention assembly unless required by the supplier of water.*

**Sec. 8: NAC 445A.6722** is hereby amended to read as follows:

**Cross-connections and backflow: Design of fire sprinkler system.** The designer of a fire sprinkler system shall ensure that, based upon the placement of any reduced pressure principle assembly or reduced pressure detector assembly:

1. An antifreeze loop or the total line of the fire sprinkler system is able to accommodate the thermal expansion of any antifreeze; or

2. If necessary, an expansion tank is provided to accommodate the thermal expansion of any antifreeze.

*3. The designed pressure and rate of flow required to operate the fire sprinkler system is based on a minimum pressure that accounts for maximum day demand plus fire in the public water system and accounts for the pressure losses associated with the meter, if applicable, and the assembly for the prevention of backflow.*

**Sec. 9: NAC 445A.67225** is hereby amended to read as follows:

**Cross-connections and backflow: Conditions to provision of service to certain fire sprinkler systems.** If any backflow involving a fire sprinkler system threatens a public water system, the supplier of water shall require, as a condition to the provision of service to the fire sprinkler system:

1. The installation of an assembly for the prevention of backflow in accordance with the requirements of NAC 445A.67215.

2. An analysis to determine how the assembly will affect the pressure and rate of flow of water available to the fire sprinkler system. *The analysis shall include the pressure and rate of flow required to operate the fire sprinkler system.*

3. *If the analysis determines the pressure and rate of flow that will be delivered upon installation of the assembly for the prevention of backflow will not be adequate to operate the fire sprinkler system, then the supplier of water shall inform the customer that [The] modifications are necessary[ef] to ensure the fire sprinkler system, [and] the riser, and water service lateral for the fire sprinkler system[;] operate in such a manner as necessary to ensure adequate pressure and fire flow.*

**Sec. 10: NAC 445A.67025** is hereby amended to read as follows:

**Pumping facilities: Suction piping.** Except as otherwise justified by an engineer and approved by the Division or the appropriate district board of health, a supplier of water shall ensure that, with regard to the suction piping of the public water system:

1. The velocity of water in the piping does not exceed ~~[3 feet per second]~~ *the specifications and recommendations by the pump manufacturer.*

2. The diameter of the piping is ~~[at least 2 inches greater than that of the inlet for the pump]~~ *sized in accordance with the specifications and recommendations by the pump manufacturer.*

3. The reducer between the piping and the pump is an eccentric reducer and not a concentric reducer.

4. A fitting is installed between the inlet valve and pump which will allow easy removal of the pump. For pumps in suction lift, unions must not be used, and valves, except for foot valves, must not be installed on suction lines.

5. There is a continuous slope up from the surface of the water to the pump. The suction line must be as straight as possible, and the restriction of suction must be minimized.

6. If there is a valve on the suction line, there is installed between the valve and the pump, preferably on a spool, a gauge that:

(a) Operates within the appropriate range of pressure; and

(b) Is equipped with a pet cock or ball valve. Except when the gauge is being read, the pet cock and ball valve must remain closed.

*(c) In lieu of a permanent pressure gauge, a connection for a temporary gauge and a pressure transducer with a local or remote indicator may be installed.*

*(i) A temporary gauge must be maintained on-site.*

7. If elbows are required in the suction line, the elbows are ~~[of a sufficiently long radius to minimize head loss]~~ *designed in accordance with the specifications and recommendations by the pump manufacturer.*

8. Each inlet of a suction pipe in a suction well or clear well is:

(a) Bell-shaped in such a manner as to reduce head loss at the entrance. Square-cut inlets are prohibited.

(b) Adequately submerged, in accordance with the specifications of the manufacturer, at a depth of at least six times the diameter of the pipe.

(c) Located away from:

(1) The floor of the suction well or clear well at a distance specified by the manufacturer of the pump or, in the absence of such a specification, at a distance of not less than four nor more than five times the diameter of the pipe.

(2) The sidewall of the suction well or clear well at a distance specified by the manufacturer of the pump or, in the absence of such a specification, at a distance of not less than one-half the diameter of the pipe nor more than the diameter of the pipe.

9. If an inlet screen is installed:

(a) The inlet screen is designed in such a manner that an adequate flow can enter the pump when half of the screen is plugged.

(b) The diameter of the screen inlet is at least three times the diameter of the suction pipe inlet.

10. If a foot valve is used, the diameter of the foot valve is at least 2 inches greater than that of the inlet piping.

11. If a pump is connected to a header used for suction:

(a) The connection is at an angle relative to the header of not less than 30 degrees nor more than 45 degrees; or

(b) If it is necessary to connect the pump to the header at an angle of 90 degrees, the pump is located away from the header at a distance ~~[of at least eight times the diameter of the suction pipe]~~ *as recommended by the specifications from the pump manufacturer.*

12. If a pump is in suction head, a valve is installed in the suction line to facilitate the removal of the pump for maintenance. The valve must not be used to throttle the pump.

**Sec. 11: NAC 445A.6703** is hereby amended to read as follows:

**Pumping facilities: Discharge piping.** Except as otherwise justified by an engineer and approved by the Division or the appropriate district board of health, a supplier of water shall ensure that, with regard to the discharge piping of the public water system:

1. ~~[A concentric reducer or eccentric reducer is installed at the pump, such that]~~ [t]The diameter of the discharge pipe is ~~[at least 2 inches greater than that of the discharge of the pump]~~ *sized in accordance with the specifications and recommendations by the pump manufacturer. If a reducer is used on the discharge pipe, it may be concentric or eccentric.*

2. A fitting, which may consist of a spool or union, is installed on a discharge pipe to facilitate the removal of the pump. A gauge with a pet cock or ball valve must also be installed on the discharge pipe.

*(a) In lieu of a permanent pressure gauge, a connection for a temporary gauge and a pressure transducer with a local or remote indicator may be installed.*

*(i) A temporary gauge must be maintained on-site.*

3. A check valve or other suitable type of valve is installed just beyond the fitting required by subsection 2, to prevent the reversal of flow through the pump. On pumping installations of:

(a) Low pressure, a swing check valve may be used.

(b) High pressure, a silent check valve or automatic check valve, or another suitable valve, must be used. The engineer who designs such an installation shall seek to minimize the potential for water hammer.

4. Another valve is installed just beyond the check valve required pursuant to subsection 3, to isolate the discharge and to provide for a positive shutdown of the system when repair is required.

5. Isolation valves are not used for the control of flow or pressure and remain only in a fully open or a fully closed position. If the control of flow or pressure is desired, other valves must be installed.

6. The piping is arranged in such a manner as to avoid high spots. An air and vacuum valve, which is piped to a drain, must be provided.

7. The piping is rigidly supported and restrained in such a manner as to prevent movement.

**Sec. 12: NAC 445A.67035** is hereby amended to read as follows:

**Pumping facilities: Gauges and meters.**

1. Each pump must:

(a) Have a standard pressure gauge on its discharge line located upstream from any check valve.

(b) Except for a vertical turbine pump, have a:

(1) Standard pressure gauge on its suction line if the pump is in suction head; or

(2) A compound pressure gauge on its suction line if the pump is in suction lift.

*(b) In lieu of a permanent pressure gauge, a connection for a temporary gauge and a pressure transducer with a local or remote indicator may be installed.*

*(i) A temporary gauge must be maintained on-site.*

2. Each pumping station must have a device for measuring the rate of flow of discharge and the total flow. *The device may measure the rate of flow directly or indirectly through calculated means from proven technology.*

3. A meter or flow sensor must have straight pipes installed both upstream and downstream. The length of the pipes must:

- (a) Comply with the specifications of the manufacturer of the meter or flow sensor; or
- (b) In the absence of those specifications, be at least five times the diameter of the pipes.

**Sec. 13: NAC 445A.66915** is hereby amended to read as follows:

**Water wells: Slabs and pedestals; construction with lineshaft turbine pump or submersible pump.**

1. A water well with an above-ground discharge must be protected by a concrete slab and, if the well is equipped with a lineshaft turbine pump, with a concrete pedestal, both of which are constructed of continuously poured concrete. The pedestal must be of a sufficient diameter to extend at least 3 inches beyond the outer periphery of the sanitary seal. The slab must:

- (a) Be placed above the finished grade;
- (b) Have a minimum thickness of 6 inches;
- (c) Slope away from the pedestal at a minimum slope of 2 percent;
- (d) Extend a minimum of 4 feet from the casing of the well in all directions; and
- (e) Be free from cracks and other defects likely to detract from its capability to remain watertight.

➔ The casing of the well must extend to a height of at least 12 inches above the slab and at least 18 inches above the level of the final ground surface or 100-year floodplain, whichever is greater.

2. If a water well is equipped with a lineshaft turbine pump:

(a) The top of the casing must be sealed into the base of the pump or the casing must be inserted into a recess extending at least 1 inch into the base of the pump.

(b) The foundation and base of the pump must be designed in such a manner as to prevent water from coming into contact with joints between the base of the pump and the casing, and from entering the well.

3. Any submersible pumps installed in a water well must be constructed in accordance with *American Water Works Association Standard E~~[101]~~102*.

**Sec. 14: NAC 445A.66995** is hereby amended to read as follows:

**Pumping facilities: Pumps.** A supplier of water shall ensure that, with regard to the pumps used by the public water system:

1. Each pump is suitable for its intended purpose, has an adequate capacity for its intended purpose ~~[and]~~, *is determined to be compatible with drinking water*, and is installed in accordance with the directions of the manufacturer.

2. When the pressure in a distribution system is dependent exclusively on a pumping station, at least two pumping units are used unless the required quantity and pressure of water can be supplied by other facilities in the public water system during any period that can reasonably be expected necessary to complete the repair of one pump.

3. Power to drive a pump at maximum horsepower is provided by a suitably sized prime mover.

4. Spare parts and tools are readily accessible.

5. Control equipment is provided with proper heaters or fuses for protection from overloads.

6. If a lineshaft turbine pump has oil-lubricated bearings, the grade and designation of the oil is approved by the Division of Public and Behavioral Health.



7. If a pump is used to pressurize a small system that may experience periods of zero flow, the pump has a small relief bypass to prevent the overheating of water in the pump.

**Sec. 15: NAC 445A.67125** is hereby amended to read as follows:

**Distribution system: Materials.**

1. Except as otherwise provided in subsections 2 and 3, the pipes, fittings, fixtures and valves of a distribution system, and any fire hydrants connected to a public water system, must:

(a) For public water systems in Carson City, Fallon, Reno, Sparks, Yerington, Douglas County, Lander County, Lyon County, Nye County or Washoe County, comply with *Standard Specifications for Public Works Construction*, also known as the "Orange Book," and the *American Water Works Association Standards*, as adopted by reference in NAC 445A.6663.

(b) For public water systems in Boulder City, Henderson, North Las Vegas, the Big Bend Water District or the Las Vegas Valley Water District, comply with *Uniform Design and Construction Standards for Potable Water Distribution Systems* and the *American Water Works Association Standards*, as adopted by reference in NAC 445A.6663.

(c) For public water systems in other areas of the State, comply with the *American Water Works Association Standards*, as adopted by reference in NAC 445A.6663.

2. The choice of materials for a distribution system must be based on the properties of the soil and water. In areas where:

(a) The water is corrosive, metallic pipe must not be used; and

(b) The groundwater or soil is contaminated with volatile or synthetic organic chemicals, plastic and gaskets must not be used.

3. Except as otherwise provided in this subsection, any pipes, fittings, fixtures, solder or flux used in the installation or repair of a public water system must be ~~[lead-free]~~ *determined to be compatible*

*with drinking water*. A gate valve which is 2 inches in diameter or larger, a service saddle or a fire hydrant is not required to be lead-free if the:

(a) Federal Act authorizes a gate valve, service saddle or fire hydrant, as applicable, to contain lead;

and

(b) The amount of lead in the gate valve, service saddle or fire hydrant, as applicable, does not exceed the maximum amount permissible pursuant to the Federal Act.