

335-7-7-.03 Distribution Facilities Design And Construction Requirements.

To prevent contamination of the drinking water, the following are required in the design and construction of drinking water facilities:

(a) Water Main Facility Requirements:

1. Water mains shall be constructed of materials which will neither contaminate nor allow deterioration of the water quality.

2. Gaskets, O-rings, and other products used for joining pipe, setting meters or valves, or other appurtenances shall not be made nor coated with materials which will support microbiological growth and shall be certified as meeting the specifications of the National Sanitation Foundation (NSF)/American National Standard Institute (ANSI) Standard 61.

3. Water mains permitted by the Department shall be properly pressure tested and disinfected after installation. Copies of the pressure test and bacteriological results showing absence of coliform shall be provided to the Department along with a request for a final inspection prior to the setting of meters to serve customers on these lines.

4. Unless otherwise approved by the Department, the following applies when installing water mains after January 1, 2013;

(i) A minimum horizontal separation of five feet shall be maintained between water mains and sanitary sewer mains.

(ii) When water and sewer main crossings are necessary, place a continuous casing around one of the mains to allow a minimum five-foot separation between each end of the cased and uncased main.

(iii) Where possible, install the water main such that the top elevation of the sewer main is a minimum of 18 inches below the bottom elevation of the water main.

(iv) Unless adequately cased to protect against cross contamination, do not install any water main such that it comes in contact with any part of a sewer manhole, septic tank field lines, or soil saturated with organic solvents or gasoline.

(b) Pumping stations shall be located or constructed so that the pumps and piping will be protected from flooding and shall be designed and operated in such a manner as to allow satisfactory pressure and service to customers on the suction and discharge side of the station.

(c) Finished Water Storage Requirements:

1. An uncovered finished water storage reservoir used to store water

that will undergo no further treatment except residual disinfection and is open to the atmosphere is prohibited.

2. All finished water storage structures shall have suitable water tight roofs, hatches, and covers to exclude outside contamination.

3. Access manholes shall be provided with a locking mechanism.

4. Clearwells and pumping sumps associated with surface treatment plants may not be constructed adjacent to unfinished water units when the compartments are separated by a single wall.

5. All metal water storage facilities shall be protected by paints or other protective coatings. Inside paint systems shall not use lead primer but shall otherwise conform to AWWA D102 or latest revision Coating Steel Water- Storage Tanks or other standards accepted by the Department.

6. Protective coatings shall be used and applied in such a manner as to prevent contamination of the water in contact with these coatings.

7. Storage tanks permitted after December 31, 2006 shall meet the following requirements:

(i) Shall provide for a minimum fluctuation of 50% in water height during all normal operating conditions. Deviations must have prior written approval from the Department. Deviations from this requirement must be requested in writing. The request must include reasons the deviation should be granted and the deviation cannot be made until written approval is received by the Department.

(ii) Shall minimize water age and shall provide adequate mixing of water. Inlet pipe diameters or wet risers greater than 36 inches are not allowed unless approved by the Department. The request must be in writing and include reasons for the larger diameter and include design calculations showing that the tank will mix properly and water age will be minimized.

(iii) Shall be designed to allow the water storage tank to be removed from service for cleaning and repair as required by the Water Storage Tank Maintenance section of this chapter.

(iv) Shall be properly disinfected and upon refilling, two bacteriological samples must be collected showing absence of coliform prior to use. Documentation of the disinfection and bacteriological analyses information must be provided to the Department along with a request to place the tank into service.

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Statutory Authority: Code of Alabama 1975, §§ 22-23-33, 22-23-49, 22-22A-5, 22-22A-6.

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