

# **TCEQ WATER STORAGE TANK GENERAL CONSTRUCTION NOTES**

1. The water storage tank must be constructed in accordance with the current Texas Commission on Environmental Quality (TCEQ) Rules and Regulations for Public Water Systems 30 Texas Administrative Code (TAC) Chapter 290 Subchapter D. When conflicts are noted with local standards, the more stringent requirement shall be applied. At a minimum, construction for public water systems must always meet TCEQ's "Rules and Regulations for Public Water Systems."
2. All facilities for potable water storage shall be covered and designed, fabricated, erected, tested and disinfected in strict accordance with current American Water Works Association (AWWA) standards and shall be provided with the minimum number, size and type of roof vents, man ways, drains, sample connections, access ladders, overflows, liquid level indicators on-site, and other appurtenances as specified in these rules.
3. Disinfection of water storage facilities shall be in strict accordance with current AWWA Standard C652-11 or most recent.
4. Dechlorination of disinfecting water shall be in strict accordance with current AWWA Standard C655-09 or most recent.
5. Bolted tanks shall be designed, fabricated, erected and tested in strict accordance with current AWWA Standard D103. Welded tanks shall be designed, fabricated, erected and tested in strict accordance with current AWWA Standard D100. The roof of all metal tanks shall be designed and erected so that no water ponds at any point on the roof and, in addition, no area of the roof shall have a slope of less than 0.75 inch per foot. Concrete tank roofs shall be constructed in strict compliance with their respective AWWA Standard.
6. Roof vents shall be installed in strict accordance with current AWWA standards and shall be equipped with approved screens to prevent entry of animals, birds, insects and heavy air contaminants. Screens shall be fabricated of corrosion resistant material and shall be 16 mesh or finer. Screens shall be securely clamped in place with stainless or galvanized bands or wires and shall be designed to withstand winds of not less than tank design criteria (unless specified otherwise by the engineer).
7. All roof openings shall be designed in accordance with current AWWA standards. If an alternate 30 inch diameter access opening is not provided in a storage tank, the primary roof access opening shall not be less than 30 inches in diameter. Other roof openings required only for ventilating purposes during cleaning, repairing or painting operations shall be not less than 24 inches in diameter or as specified by the licensed professional engineer. An existing tank without a 30-inch in diameter access opening must be modified to meet this requirement when major repair or maintenance is performed on the tank. Each access opening shall have a raised curbing at least four inches in height with a lockable cover that overlaps the curbing at least two inches in a downward direction. Where necessary, a gasket shall be used to make a positive seal when the hatch is closed. All hatches shall remain locked except during inspections and maintenance.

8. Overflows shall be designed in strict accordance with current AWWA standards and shall terminate with a gravity-hinged and weighted cover, an elastomeric duckbill valve, or other approved device to prevent the entrance of insects and other nuisances. The cover shall fit tightly with no gap over 1/16 inches. If the overflow terminates at any point other than the ground level, it shall be located near enough and at a position accessible from a ladder or the balcony for inspection purposes. The overflow(s) shall be sized to handle the maximum possible fill rate without exceeding the capacity of the overflow(s). The discharge opening of the overflow(s) shall be above the surface of the ground and shall not be subject to submergence.
9. All clearwells and water storage tanks shall have a liquid level indicator located at the tank site. The indicator can be a float with a moving target, an ultrasonic level indicator, or a pressure gauge calibrated in feet of water. If an elevated tank or standpipe has a float with moving target indicator, it must also have a pressure indicator located at ground level. Pressure gauges must not be less than three inches in diameter and calibrated at not more than two-foot intervals. Remote reading gauges at the owner's treatment plant or pumping station will not eliminate the requirement for a gauge at the tank site unless the tank is located at the plant or station.
10. Inlet and outlet connections shall be located so as to prevent short circuiting or stagnation of water. Clearwells used for disinfectant contact time shall be appropriately baffled.
11. Clearwells and potable water storage tanks shall be thoroughly tight against leakage, shall be located above the ground water table and shall have no walls in common with any other plant units containing water in the process of treatment. All associated appurtenances including valves, pipes and fittings shall be tight against leakage.
12. Each clearwell or potable water storage tank shall be provided with a means of removing accumulated silt and deposits at all low points in the bottom of the tank. Drains shall not be connected to any waste or sewage disposal system and shall be constructed so that they are not a potential agent in the contamination of the stored water.
13. All clear wells, ground storage tanks, standpipes, and elevated tanks shall be painted, disinfected, and maintained in strict accordance with current AWWA standards. However, no temporary coatings, wax grease coatings, or coating materials containing lead will be allowed. No other coatings will be allowed which are not approved for use (as a contact surface with potable water) by the United States Environmental Protection Agency (EPA), NSF International, or the United States Food and Drug Administration (FDA). All newly installed coatings must conform to ANSI/NSF International Standard 61 and must be certified by an organization accredited by ANSI.
14. No tanks or containers shall be used to store potable water that has previously been used for any non-potable purpose. Where a used tank is proposed for use, a letter from the previous owner or owners must be submitted to the Commission which states the use of the tank.

15. Access manways in the riser pipe, shell area, access tube, bowl area or any other location opening directly into the water compartment shall be located in strict accordance with current AWWA standards. These openings shall not be less than 24 inches in diameter. However, in the case of a riser pipe or access tube of 36 inches in diameter or smaller, the access manway may be 18 inches times 24 inches with the vertical dimension not less than 24 inches. The primary access manway in the lower ring or section of a ground storage tank shall be not less than 30 inches in diameter. Where necessary, for any access manway which allows direct access to the water compartment, a gasket shall be used to make a positive seal when the access manway is closed.
16. Service pump installation taking suction from storage tanks shall provide automatic low water level cutoff devices to prevent damage to the pumps. The service pump circuitry shall also resume pumping automatically once the minimum water level is reached in the tank.
17. Pursuant to 30 TAC §290.44(b)(1), the maximum allowable lead content of pipes, pipe fittings, plumbing fittings, and fixtures is 0.25 percent.