



Design Criteria for Domestic Wastewater Facilities 30 TAC Chapter 217 (Updates and Overview)

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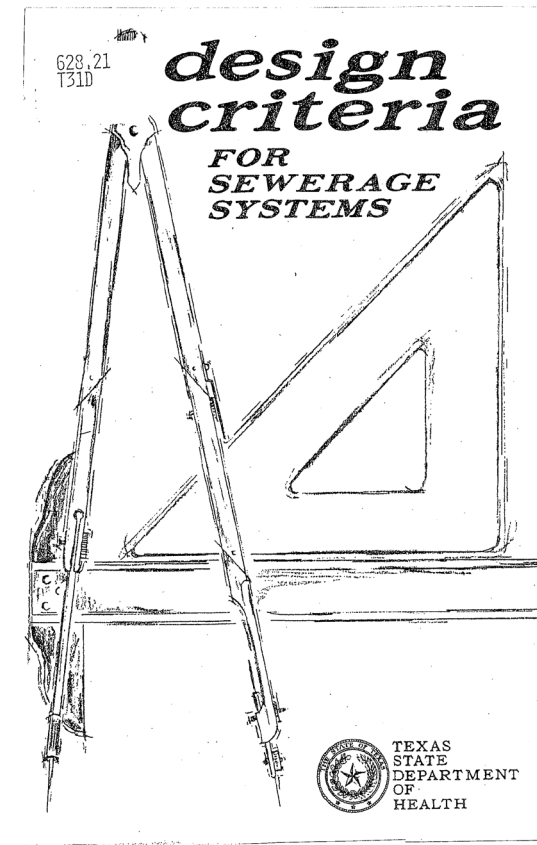
History of Major Changes of the Wastewater Treatment Design Criteria in Texas



The first consolidated design criteria was adopted by Texas State Department of Health on 9/18/1950.



This document was revised on 9/11/1961, 9/18/1968, 9/13/1970, 9/1/1974, 6/1/1981, 4/20/1990, 8/28/2008, 12/8/2015, 2025?



Chapter 217 Update

- What Initiated the Rule Update
 - Chapter 217 is designed to be updated every 5 years
 - Update 217 design criteria to include new technologies
- Proposed Changes to the Rule



Structure for Chapter 217

Subchapter A Administrative Provisions

Subchapter B Design Bases

Subchapter C Conventional Collection and
Distribution Systems

Subchapter D Alternative Sewer Collection System

Subchapter E Preliminary Treatment Units

Subchapter F Activated Sludge

Structure for Chapter 217 (Cont'd)

Subchapter G	Fixed Film and Filtration
Subchapter H	Natural Systems
Subchapter I	Subsurface Disposal Designs (New)
Subchapter J	Sludge
Subchapter K	Chemical Disinfection
Subchapter L	UV Disinfection
Subchapter M	Safety

Subchapter A

Administrative Provisions

- Adding and modifying definitions
- Update Submittal Requirements
- Adding abbreviation subsection
- The owner is responsible for developing an Operation and Maintenance (O&M) manual with the assistance of an engineer.
- The owner must ensure that the O&M includes all information specific ... necessary to ensure efficient and safe operation.
- Adding a requirement that the engineer give information about the project (serving tiny homes, serving a subdivision with graywater system, the sizing of the collection system both up and down stream of the project).

Subchapter A

Administrative Provisions

The rule grandfathers existing facilities to the rule which was in place at the time of the facility's construction and original plans and specifications approval. This will tell the engineer and the owner of the facility what parts of a plant that will have to meet the latest design criteria during an upgrade or modification.

Subchapter B

Wastewater Treatment Facility Design Requirements

Increasing the upper limits on NH₃-N to 90 mg/l

Increasing the upper limits on BOD₅ for RV Parks to 1200 mg/l

Review and update Emergency Power for Critical Components

Critical Treatment units

- Aeration (partial or full)

- Disinfection

- Pumping units, to prevent unauthorized discharges

Subchapter C

Conventional Collection Systems

Piping Updates

- New pipe technologies
- Review of force mains pressure requirements
- Change the piping slope requirements

Lift Station

- Pump cycle clarification

Subchapter C

Conventional Collection Systems

Reclaimed Water System Changes

- Pressure Planes

- Distribution System Design

- Looping and Dead-End Flushing

- Supplying Additional Chlorination

To ensure no issues arise from dead water

To account for possible new uses or requirements

- Fire flow

- Residential watering

- Third line

Subchapter D

Alternative Collection Systems

Minor changes to this chapter mainly to the pipe requirements and to vacuum system

Subchapter E

Preliminary Treatment Units

- Updating Grit Chamber requirements
- EQ Basin minor updates
- Updating Primary Clarifier requirements
 - Effluent Weir loading rates



Subchapter F

Activated Sludge Systems

Major change to Biological Nitrogen Removal requirements

Major change to Biological Phosphorus Removal requirements

Updating Phosphorus Removal by Chemical Addition requirements

Updating Aeration Basin and Clarifier Sizing Sizing-Kinetics-Based Approach



Subchapter F (Cont'd)

Nutrient Removal Process Configurations

- Anaerobic/Oxic (A/O) Process
- Anaerobic/Anoxic/Oxic (A²/O) Process
- Five-Stage Modified Bardenpho Process
- University of Cape Town (UCT) Process
- Johannesburg (JHB) Process
- Westbank EBPR Process
- Modified Ludzack-Ettinger (MLE) Process
- Four-Stage Bardenpho Process
- Step Feed BNR Process

Subchapter G

Fixed Film and Filtration Units

No major updates to this subchapter

Subchapter H

Natural Treatment Units

Align Section of 217.203 to agree with 30 TAC 309.13(d) for impoundments overlying recharge zones of major or minor aquifers

- Require soil liner of 3 ft. thickness

- Require 10⁻⁷ permeability

- minimum 40 mil thickness for synthetic liner

Revising the requirements for a pond in a pond system (new name for integrated facultative lagoons)

Subchapter I (new)

Subsurface Disposal designs

Updating the subsurface drip dispersal design requirements

Adding low pressure design requirements

Subchapter J

Sludge Processing

Changes to anaerobic digestion, heat stabilization

Adding composting, sludge drying requirements

Clarifying the different requirements for land application and land filling of sludge

Subchapter K

Chemical Disinfection

Minor updates to Subchapter K: Gaseous Chlorine and Sodium Hypochlorite requirements

Adding Subchapter K: Peracetic Acid (PAA) requirements

Subchapter L

Ultraviolet Light Disinfection

- Update UV Rules
- Review and update redundancy requirements
- Review and update dosage and sizing requirements
- Update UV light disinfection bioassay test procedures

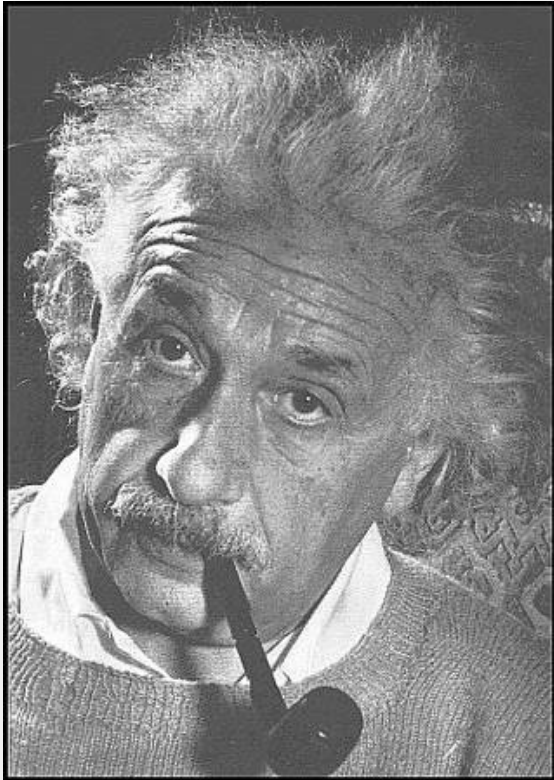


Subchapter M

Safety

- Updating the security audit requirements
- Updating the requirements to make sure all points within the facility that may need maintenance are accessible

Questions or Comments



In life...

questions are guaranteed

answers are not

Thank you!

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