

**SPECIFICATION REQUIREMENTS FOR THE DESIGN AND
CONSTRUCTION OF SANITARY SEWAGE COLLECTION SYSTEMS
AND DECENTRALIZED TREATMENT FACILITIES**

10/1/05

I. GENERAL

A. Purpose

The purpose of these specifications is to establish the method of sewage collection acceptable to the Water and Sewer Commission of the City of Tontitown, Arkansas, as well as to establish specifications pertaining to the design, construction, ownership, operation and maintenance of decentralized treatment and disposal facilities within the City of Tontitown service boundary.

B. Regulated Area

This document pertains to all areas within the City of Tontitown service boundary, except for other incorporated areas within the service boundary that have adopted their regulations pertaining to sewage collection and decentralized treatment within their incorporated areas. Where the term “within the City of Tontitown service boundary” occurs, it shall be understood that the requirements do not pertain to those other incorporated areas.

C. Minimum Standards

The standards required by this document are considered as minimum standards. Any requirements by other regulatory authorities that are more stringent than these requirements shall govern.

D. Proximity to Central Sewer Connection

No Decentralized treatment facility shall be constructed within the City of Tontitown service boundary when the property served by the facility is within 2500 feet of a connection point to the central sewer system.

E. Arkansas State Game and Fish Commission

All potential sites for subsurface disposal shall be reviewed by the Arkansas Game and Fish Commission regarding the presence of endangered or threatened species in the area, and potential environmental effects.

F. Final Approval

No decentralized treatment facility within the City of Tontitown service boundary shall be constructed without the approval of the Tontitown Water and Sewer Commission.

II. COLLECTION

A. Method of Collection

All sewage collection within the City of Tontitown service boundary shall be by conventional gravity collection in conformance with the requirements of the City of Tontitown standard specifications for the construction of water and sewer facilities.

III. TREATMENT

A. Ownership, Operation, and Maintenance

Decentralized treatment and disposal facilities constructed within the City of Tontitown service boundary shall be owned, operated, and maintained by Tontitown Water Utilities.

B. Recovery of Costs

Tontitown Water Utilities shall assess and collect a monthly fee from the users of decentralized treatment facilities to recover the costs of operation and maintenance, and to accrue funds for replacement of facilities as necessary.

C. Acceptable Processes

1. Decentralized treatment facilities shall be capable of accepting raw sanitary sewage and treating it to the discharge limits specified herein, as minimum treatment requirements, or as required by the discharge permit issued by the Arkansas Department of Environmental Quality, whichever requires the greater degree of treatment.
2. Allowable processes include the following:
 - a. Recirculating Filter
 - b. Fixed Film Reactor
3. The treated effluent shall be disinfected by ultraviolet disinfection prior to disposal
4. Flow equalization shall be provided ahead of the treatment units. The volume shall conform with the recommendations and requirements of the equipment manufacturer, and Tontitown Water Utilities, but in no case less than 3 times the average daily flow plus an allowance for Infiltration/Inflow.

D. Treatment Requirements

Discharge Limits

Decentralized treatment facilities shall produce an effluent having the following discharge limits.

BOD₅ – 20 mg / l

TSS – 20 mg / l

Fecal Coliform – less than 100 colonies / 100 ml

If the effluent limits required by the Arkansas Department of Environmental Quality are more stringent than the above limits, the more stringent limits shall govern.

E. Origin of Wastewater

Wastewater treated in decentralized treatment facilities shall be domestic wastewater only. No wastewater from restaurants, commercial, or industrial sources will be allowed.

F. Required Submittals

1. Construction drawings and specifications shall be submitted to Tontitown Water Utilities for review and approval sealed by a registered professional engineer licensed to practice in the State of Arkansas. These documents shall be accompanied by complete and detailed design computations. Drawings and specifications shall be in sufficient detail to assure compliance with the requirements of this document.
2. Along with the above submittals, a letter shall be submitted from the manufacturer of the equipment, signed by a registered professional engineer licensed to practice in the State of Arkansas, certifying that the manufacturer has reviewed the design requirements and that the equipment as proposed will produce an effluent meeting the required discharge limits.
3. Complete shop drawings of all material and equipment items shall be submitted to Tontitown Water Utilities for review and approval prior to shipment.

G. Spare Equipment

One spare pump and one spare blower shall be provided for each type utilized in the treatment and disposal equipment.

H. Materials

All components such as tank walls, bottoms, supports, stairs, gratings, handrails, hangers, piping, electrical and control panels, hardware, and other such items shall be made of non-corrosive materials such as stainless steel, fiberglass, or PVC. Thickness and weight of materials shall be sufficient to assure long term service.

I. Other Requirements

1. The facility shall have potable water service, protected by a Reduced Pressure Backflow Preventer.
2. The facility shall have paved access.
3. The facility shall be equipped with emergency standby power generation capable of operating the entire facility.
4. The facility shall be equipped with complete radio telemetry.
5. All components capable of being damaged by freezing shall be protected as required to provide assurance that freezing will not occur.
6. No treatment facility shall be located within the 100-year floodplain boundary.

J. Warranty

All equipment and materials shall have a 5-year warranty provided by the manufacturer for materials and workmanship. The warranty shall provide replacement in the event of a failure to perform.

K. Sampling

A sampling port shall be provided to allow sampling of the effluent below UV disinfection.

IV. EFFLUENT DISPOSAL

A. General

Effluent from decentralized treatment facilities shall be disposed of by means of Drip Dispersal systems. The system design and construction shall comply with the latest requirements of the Arkansas Department of Health. Some requirements of this document exceed the ADH requirements. Where conflicts occur, the more stringent requirements shall govern.

B. Required Submittals

1. Construction drawings and specifications shall be submitted to Tontitown Water Utilities for review and approval sealed by a registered professional engineer licensed to practice in the State of Arkansas. These documents shall be accompanied by complete and detailed design computations. Drawings and specifications shall be in sufficient detail to assure compliance with the requirements of this document.
2. Along with the above submittals, a letter shall be submitted from the manufacturer of the equipment, signed by a registered professional engineer licensed to practice in the State of Arkansas, certifying that the manufacturer has reviewed the design requirements and that the equipment and materials as proposed are satisfactory for the intended application and working conditions.
3. Complete shop drawings of all material and equipment items shall be submitted to Tontitown Water Utilities for review and approval prior to shipment.
4. A complete report, prepared and signed by a registered soil classifier, detailing the methodology used to determine the application rate, shall be submitted.

C. Site Considerations

1. No drip dispersal systems shall be constructed in areas known to be direct recharge areas of known endangered species.
2. No drip dispersal system shall be located within the 100-year flood plain boundary.

3. Sites shall be sloped to drain, and graded such that surface runoff occurs evenly in sheet flow with no concentration of flow. Diversion ditches shall be constructed to channel surface runoff from adjacent areas around the dispersal field. Diversion ditches shall have side slopes of at least 3:1, and longitudinal slopes of at least 1 percent.
4. The minimum vertical separation between the ground surface and any rock substrata (consolidated or fractured) shall be four (4) feet.
5. The buffer area around the dispersal field shall be at least ten (10) feet wide.
6. The dispersal field shall have limited access. Fencing around the perimeter shall be provided, and permanent signs shall be posted at one hundred (100) foot intervals stating that the site is a "Sewage Disposal Area."

END OF DOCUMENT