

**PAWNEE NATION OF OKLAHOMA  
DIVISION OF NATURAL RESOURCES AND SAFETY  
REGULATIONS**



**TITLE XII NATURAL RESOURCE PROTECTION ACT**

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# CHAPTER 1. Pawnee Nation Public Water Supply Regulation

## Section 101. Purpose

This Chapter sets the operation standards for Public Water Supply systems, so they may provide safe drinking water. This Chapter is analogous to the federal PWS program. Other Laws, Regulations, and/or Standards may govern Public Water Supply system operations, such as the Discharge Laws and/or Regulations, Laboratory Certification, Minor Public Water Supply Systems, Public Water Supply Construction Standards, and Operator Certification. This Chapter implements Chapter Seven "Water Supply Systems" at Title 12, Chapter 7 of the Pawnee Nation Natural Resource Protection Act. The Pawnee Nation Environmental Regulatory Commission (ERC) shall implement this regulation by issuance of permits and administrative enforcement actions. The DECS shall assist in inspections and investigations and carry out the adjudicated enforcement actions. This chapter applies to any person or entity, including any federal facility that operates a Public Water Supply system within the jurisdiction of the Pawnee Nation.

## Section 102. Definitions

In addition to terms defined in Title 12 of the Pawnee Nation Law and Order Code, the following words or terms, when used in this Chapter, shall have the following meaning unless the context clearly indicates otherwise:

**"40CFR Part 141"** means Code of Federal Regulations Title 40 Protection of Environment, Part 141 National Primary Drinking Water Regulations pursuant to section 1412 of the Public Health Service Act as amended by the Safe Drinking Water Act (Pub. L. 93-523)

**"Approved laboratory"** means a laboratory certified or approved by EPA, Pawnee Nation DECS, or an EPA approved third party certification program (such as the National Sanitation Foundation, and Drinking Water Accreditation Program). Pawnee Nation DECS recognizes all State certified laboratories which are compliant with EPA requirements for conducting drinking water analyses (drinking water accreditation programs).

**"AWWA"** means the American Water Works Association.

**"Commission (ERC)"** means the Pawnee Nation Environmental Regulatory Commission or ERC.

**"Community water system"** means any PWS system that serves at least fifteen (15) service connections used by year-round residents or regularly serves at least twenty-five (25) year-round residents.

**"DECS"** means the Pawnee Nation "Department of Environmental Conservation and Safety".

**"Disinfection"** means a process that inactivates pathogenic organisms in water by chemical oxidants or equivalent agents.

**"ERC"** means Environmental Regulatory Commission

**"EPA"** means the Environmental Protection Agency.

**"Groundwater under the direct influence of surface water"** means any water beneath the surface of the ground with significant occurrence of insects or other macro organisms, algae, or large-diameter pathogens such as *Giardia Lamblia* or *Cryptosporidium*, or significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH that closely correlate to climatological or surface water conditions.

**"Laboratory checks"** means chemical, radiochemical, physical, bacteriological, and microbiological tests made in a laboratory approved by the DECS, on water samples submitted to confirm the quality of the water.

**"Maximum contaminant level (MCL)"** means the maximum permissible level of a contaminant in a Public Water Supply system that has been determined to be necessary to safeguard the public health as specified in these regulations. MCL are the same as primary drinking water standards.

**"Maximum residual disinfectant level (MRDL)"** means the level of a disinfectant added for

water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects. Compliance with the MRDL will be determined using the disinfectant concentration measured at the time Total Coliform Rule (TCR) samples are collected.

**"Operator"** means the individual who is responsible for the operations of the system. Operators shall be certified in accordance to the laws and regulations of the Pawnee Nation and are liable for the safe operations of the systems and compliance with the laws and regulations of the Pawnee Nation. For systems operating without a certified operator, the system owner, manager, or corporate officer shall be directly responsible and liable for safe operations of the system and compliance with the laws and regulations of the Pawnee Nation.

**"Operating records and reports"** means the daily record of data connected with the operation of the system compiled in a monthly report.

**"Operator certification"** means individual certifications issued by any state, tribal or federal drinking water operator certification program to any individual credentialing them to operate a drinking water systems for which they received certification. The DECS recognizes and approves all current (non-revoked) operator certifications issued by any EPA approved state or federal operator certification program. The DECS requires the operators certifications to be current (non-revoked) and on file with the DECS. Certifications which are not current and on file with the DECS are not approved by the DECS.

**"Point of entry (POE)"** means the point at which a source or combination of sources enters the distribution system.

**"Primary Drinking Water Standards"** means the same as MCL.

**"Protected groundwater free of sanitary defects"** means a ground water source that is properly designed and permitted, practices full-time chlorination, and is properly operated and maintained as evidenced by no critical deficiencies on inspections.

**"Public Water Supply (PWS) system"** means a system, whether publicly or privately owned, which supplies water under pressure to the public through pipes or other constructed conveyances whether receiving payment for same or not. Multi-family dwellings, which are constructed, inspected, and maintained under Pawnee Nation-approved plumbing code, purchase water from a state/tribal permitted water system, do not provide treatment, and do not resell water, are not classified as a Public Water Supply system. The following are the categories of Public Water Supply systems:

**"Non-community water system"** means any PWS system that serves an average of at least twenty-five (25) individuals at least sixty (60) days per year but is neither a community water system nor a non-transient non-community water system.

**"Non-transient non-community (NTNC) water system"** means any PWS system that is not a community water system and that regularly serves at least twenty-five (25) of the same persons over six months per year.

**"Minor water system"** means any other PWS system not included in (A), (B), or (C) of this definition. These water systems may be state licensed facilities or non-licensed facilities.

(A) community system;

(B) non-community system;

(C) non-transient non-community system.

**"Residual disinfectant concentration"** means the concentration of disinfectant measured in milligrams per liter (mg/l) in a representative sample of water.

**"Secondary standard"** means a non-mandatory guideline that has been determined to be desirable to provide acceptable drinking water.

**"Slow sand filtration"** means a process involving passage of raw water through a bed of sand at low velocity (generally less than 50 gallons/sq. ft./day) resulting in substantial particulate removal by physical and biological mechanisms.

**"Source"** means any lake, stream, spring or groundwater supply that is used as treated or untreated water for a PWS system.

**"Total coliform positive sample"** means a sample in which one or more coliform organisms are found.

**"Treatment technique"** means the practice of a PWS system to properly remove pathogens and total organic carbon.

**"Turbidity"** means the amount of suspended material in water as measured by Nephelometric Turbidity Units (NTU).

**"Water Treatment"** means the act of removing contaminants from source water or adjusting water quality by the addition of chemicals, filtration, and other processes, thereby making the water safe for human consumption.

### **Section 103. PWS criteria**

- (a) All systems must be permitted by the Pawnee Nation and properly operate, in accordance with an effective Operations and Maintenance manual approved by the ERC. All systems must maintain each unit to provide treatment of the water in accordance with the approved plans and specifications, in accordance with the purpose for which the units were designed and according to the terms of their permits. Permits may contain more stringent provisions than contained in the rules to meet the requirements of the provisions of 40 CFR adopted by reference in this chapter. Operators must be trained in the proper operation and maintenance of the system.
- (b) Public water supply systems must comply with all applicable Primary Drinking Water Standards in 40 CFR Part 141, which includes, but is not limited to, the following:
  - (1) Microbiological standards in 40 CFR Section 141.63;
  - (2) Inorganic chemicals standards in 40 CFR Section 141.62;
  - (3) Organic chemical standards in 40 CFR Section 141.61;
  - (4) Disinfectant byproduct standards in 40 CFR Section 141.64;
  - (5) Radiochemical standards in 40 CFR Section 141.66;
  - (6) Turbidity standards in 40 CFR Sections 141.73, 141.173 and 141.550-553; and
  - (7) Residual disinfectant level standards in 40 CFR Section 141.65.
- (c) Public water supply systems must comply with all applicable monitoring and analytical requirements in 40 CFR Part 141, which includes, but is not limited to, the following:
  - (1) Coliform requirements in 40 CFR Section 141.21;
  - (2) Turbidity requirements in 40 CFR Section 141.22;
  - (3) Inorganic chemicals requirements in 40 CFR Section 141.23;
  - (4) Organic chemical requirements in 40 CFR Section 141.24;
  - (5) Radiochemical requirements in 40 CFR Section 141.25 and Section 141.26;
  - (6) Lead and copper requirements in 40 CFR Section 141, Subpart I;
  - (7) Sodium requirements in 40 CFR Section 141.41;
  - (8) Corrosivity requirements in 40 CFR Section 141.42;
  - (9) Filtration and disinfectant requirements in 40 CFR Sections 141.74, 141.174, and 141.560 141.562; and
  - (10) Disinfectant residuals and disinfectant by-product requirements in 40 CFR, Part 141,Subparts C, H and L.
- (d) Systems, which operate on an intermittent or seasonal basis, shall submit bacteriological samples on two consecutive days prior to placing the system into operation. The system can be placed into operation only after the samples are shown to be safe.

### **Section 104. Laboratory approval**

Compliance analyses for coliform, inorganics, organics, radioactivity and corrosivity contaminants must be performed in a laboratory approved by the ERC. Laboratory certification must be based upon Safe Drinking Water Act requirements and must be specific to each parameter analyzed. Testing required for compliance with turbidity treatment technique, disinfectant residual, temperature and pH requirements may be performed by a laboratory operator certified by the EPA, State, ERC, or DECS. Process control tests may be performed by a laboratory operator certified by the EPA, State, ERC, or DECS. The DECS may approve a laboratory for the purposes of testing for compliance with primary drinking water standards upon written submittal of a request for approval from the owner of the laboratory and upon proof satisfactory to the DECS that the laboratory:

- (1) possesses sufficient personnel, equipment, and facilities;
- (2) implements an adequate quality control and quality assurance program;

- (3) owns and will continue to own sufficient managerial and financial resources to continuously comply with and implement all requirements of "Standard Methods for the Examination of Water and Wastewater" in accordance with the current "Manual for the Certification of Laboratories Analyzing Drinking Water;" and
- (4) transmits the analyses to the DECS in an electronic form acceptable to the DECS, no later the tenth (10<sup>th</sup>) day of the following month. The DECS shall provide the results to the ERC.

### **Section 105. Disinfection requirements**

- (a) **Mandatory disinfection.** Full-time disinfection is mandatory for:
  - (1) surface water, groundwater under the direct influence of surface water, and spring water supplies, unless an alternative has been approved by the DECS. Each system must provide disinfection in accordance with 40 CFR Sections 141.72(b) and meet the monitoring requirement contained in 40 CFR Section 141.74(c);
  - (2) groundwater supplies or purchase water systems whenever the record of bacteriological tests show:
    - (A) a persistent presence of Total Coliform; or
    - (B) a verified Fecal Coliform, or E. Coli MCL exceedance
  - (3) any new well in a system where the initial bacteriological tests of the well do not show a safe record with the DECS for two (2) consecutive days after completion and testing of the well.
- (b) **Modification of disinfection methods.** When any change in the disinfection process is contemplated, contact the DECS and ERC. Submittal of an application, including plans, specifications, engineering reports, disinfection profile and disinfection benchmark justifying such a change maybe required in order to obtain approval from the ERC.
- (c) **Chlorine.**
  - (1) Systems that use chlorine must test for free chlorine and total chlorine residual twice a day in the distribution system.
  - (2) Free chlorine residuals at the most distant points in a water distribution system must be  $\geq 0.3$  mg/L.
  - (3) Free chlorine residuals must be at least 1.0 mg/L at the POE. Higher residuals may be required depending on pH, temperature and other characteristics of the water.
  - (4) Continuing testing. After modification of the treatment process, perform the bacteriological tests for samples collected at each of the selected points at quarterly intervals for one year, and then annually, when samples are collected for total trihalomethane determination. Submit the results to the DECS.
  - (5) Primary Disinfection. A disinfectant must be added to provide the required log inactivation of *Giardia Lamblia* cysts before ammonia is added.
  - (6) Total chlorine. The minimum total chlorine residual at the most distant points in a water distribution system must be 1.0 mg/l and at least 2.0 mg/l at the POE. Higher residuals may be required depending on pH, temperature and other characteristics of the water.
- (d) **Process control tests for disinfectants.** Control tests must be performed by all systems that disinfect in accordance with procedures approved by the DECS. Sampling points must be changed regularly so that the system is sampled completely at least once each week.



## Section 106. Process Control Tests

- (a) Surface water, groundwater under the direct influence of surface water, and springs.
- (1) Systems that use coagulation, settling, softening or filtration must do the following chemical control tests on the filtered water twice a day, record the results on a report form provided or approved by the ERC, and submit the form to the DECS Director each month:
    - (A) Alkalinity - Phenolphthalein (P);
    - (B) Alkalinity - Total;
    - (C) Hardness (where softening is used);
    - (D) pH value; and
    - (E) Stability to calcium carbonate (once per day).
    - (F) Perform jar tests as needed to determine the optimum coagulant dosages for plant control and operation to meet turbidity requirements;
  - (2) Where chlorination is practiced, determine the free chlorine residual twice daily in the distribution system and once daily at the POE;
    - (A) Free chlorine residual within distribution system must be  $\geq 0.3$  mg/L;
    - (B) Free chlorine residual at the POE must be  $\geq 1.0$  mg/L.
  - (3) Turbidity and residual disinfection samples must be collected and analyzed in accordance with 40 CFR Part 141, Subparts H and P;
  - (4) Measurement for total coliforms, fecal coliforms and HPC must be conducted by a laboratory certified by the State or EPA to do such analysis in accordance with 40 CFR 141.74;
  - (5) Yearly testing of Nitrates ( $\text{NO}_3$ ) and Nitrites ( $\text{NO}_2$ ).
- (b) Groundwater supplies. The following tests are required for community and non-transient non-community water systems utilizing groundwater as a source. Test results must be listed as indicated on the appropriate forms and submitted to the Director each month:
- (1) Static level and pumping level of each well must be determined quarterly;
  - (2) Alkalinity, pH, and stability must be determined at least monthly for community systems and at least quarterly for non-transient non-community water systems;
  - (3) Where chlorination is practiced, determine the chlorine residual twice daily in the distribution system and once daily at the POE;
    - (A) Free chlorine residual within distribution system must be  $\geq 0.3$  mg/L;
    - (B) Free chlorine residual at the POE must be  $\geq 1.0$  mg/L.
  - (4) Monthly measurements for total coliforms, fecal coliforms and HPC must be conducted by a laboratory certified by the DECS or EPA to do such analysis in accordance with 40 CFR 141.74;
  - (5) Yearly testing of Nitrates ( $\text{NO}_3$ ) and Nitrites ( $\text{NO}_2$ ).
- (c) Purchase water systems. Purchase water community systems that provide supplemental chlorination must determine the chlorine residual twice daily in the distribution system and once daily at the POE;
- (1) Free chlorine residual within distribution system must be  $\geq 0.3$  mg/L;
  - (2) Free chlorine residual at the POE must be  $\geq 1.0$  mg/L.

## Section 107. Operating records & reports

- (a) Immediate notification to ERC, DECS and the general public. Each system must report to the DECS and the general public, by the end of the next business day, if any of the following occur:
- (1) Waterborne disease outbreak;
  - (2) Finished water turbidity exceeds one (1) NTU;

- (3) Chlorine residual falls below 0.3 mg/l at the POE and whether the residual was restored to at least 0.3 mg/l within four (4) hours;
  - (4) Nitrate level exceeds 5 mg/l;
  - 5) Verification of a positive Fecal Coliform or E. Coli sample; and
  - (6) Exceedance of the Chlorine Dioxide MRDL.
- (b) Records. Operators of any system must keep a daily record of the results of required process control tests and list the results of microbiological checks on the dates sampled. The records of all laboratory checks and control tests must indicate when, where, and by whom the tests were made. The PWS system must complete and submit the original of the DECS-approved monthly operational report form to the DECS with a copy to the appropriate local DECS representative no later than the tenth (10th) day of the following month.
- (c) Water treatment systems.
- (1) Systems that provide water treatment must keep:
    - (A) a daily record of the operations performed in the treatment process;
    - (B) observations, cost and occurrences related to the operation of the plant; and
    - (C) the control tests and laboratory checks.
  - (2) In addition, water treatment plants designed for turbidity and microbial removal must keep:
    - (A) the number of filtered water turbidity samples taken during the month;
    - (B) the number and percentage of turbidity samples that are less than or equal to the standards; and
    - (C) the date and value of any turbidity measurements that exceed one (1) and five (5) NTU. Where continuous monitoring is used, measurements must be recorded every four (4) hours during plant operation.
- (d) Groundwater systems. Operators of groundwater systems must keep a daily record of all well operations, in addition to the process control tests and laboratory checks required for ground water supplies. Community and Non-Transient Non-Community systems must submit monthly operational reports to DECS.
- (e) Purchase water systems. Operators of community systems that purchase water as their sole source and provide supplemental chlorination must submit a monthly operational report to the DECS of the operation of the system, in addition to required laboratory checks. Monthly reports are not required from purchase water systems that do not add a disinfectant.
- (f) Record keeping. All records must be available for inspection by the ERC and DECS and maintained for at least ten (10) years unless otherwise specified. The DECS shall provide reports received to the ERC.

### **Section 108. Pumphouse and equipment condition\maintenance**

- (1) must be protected from flooding if located within a floodplain;
- (2) fire protection must be to code, as per NFPA 101;
- (3) heating, ventilation, and lighting must be adequate;
- (4) equipment should be accessible and moveable for maintenance;
- (5) pumphouse must be well maintained, orderly, and have adequate storage;
- (6) electrical wiring must be maintained and outlets grounded;
- (7) backflow prevention device must be installed;
- (8) piping should be labeled or color coded;

- (9) must have raw water and treated water sampling taps;
- (10) auxiliary power must be available;
- (11) must keep inventory of tools and critical spare parts;

### **Section 109. Plugging abandoned wells**

PWS systems must plug all unused or dry water wells, water test wells, or water test holes promptly according to DECS approved well-plugging procedures or rules to protect the water-bearing formation.

### **Section 110. Flushing of dead-ends**

PWS systems must avoid dead-ends in the distribution system. Where a dead-end main exists, it must be equipped with a valve or other arrangement for flushing. Flush until the water is clear or a chlorine residual is found. Flush every ninety (90) days or more often where conditions require.

### **Section 111. Water system connections**

- (a) PWS systems must not allow the connection of a new customer without an approved sewage disposal system.
- (b) PWS systems shall:
  - (1) not allow a physical connection between a line carrying a public drinking water supply and a line carrying water of unknown or questionable quality.
  - (2) not allow connections from any PWS system to any device or system that poses a health threat unless it is equipped with an air gap of at least 6 inches or two pipe diameters, whichever is larger, above the overflow or drain pipe. The installation of a reduced pressure zone backflow prevention device will be considered in lieu of an air gap. To allow maintenance on the backflow prevention device, the design shall include a diversion line with equal backflow prevention. Do not locate backflow prevention devices in a pit or vault where they can become submerged. A fire suppression system is not considered a hazardous water supply.
  - (3) not allow a cross-connection between a public water system and any private water system.
  - (4) provide an air gap at all points where finished water is connected to a drain.

### **Section 112. Operator certification**

All community and non-transient non-community PWS systems are required to have certified operators in accordance with the laws and regulations of the Pawnee Nation.

### **Section 113. Wastewater**

- (a) Sanitary waste. All sanitary and laboratory chemical wastewater must be discharged to a sanitary sewer collection system or to an approved on-site wastewater disposal system in accordance to the laws and regulations of the Pawnee Nation.
- (b) Treatment plant wastewater and sludge. Disposal of wastewater and residuals from treatment units (filter backwash water, clarifier blow-off, etc.) must be done so according to regulations and laws of the Pawnee Nation. Each lagoon shall be cleaned when the depth of the residuals is within two feet (2') of the maximum operating depth. For information about permits and requirements, contact the Director, DECS.

### **Section 114. Water pressure**

All PWS systems must maintain a water pressure of at least twenty-five (25) psi throughout the distribution system.

### **Section 115. Public water supply annual service fees**

Each PWS system shall be charged an annual fee as established by the Pawnee Nation ERC.

### **Section 116. Security**

A PWS system shall provide:

- (1) fencing with locking gates;
- (2) locks on access manholes;
- (3) locks and screened vents on pumphouses;
- (4) screened vent on wellhead designed to equalized air pressure and keep foreign objects out;
- (5) other necessary precautions to prevent vandalism, pilfering, trespass, and sabotage.

### **Section 117. Water storage facilities\tanks**

Water storage facilities and\or tanks must meet the following guidelines:

- (1) Structure protected from vandalism or sabotage;
- (2) Site well drained and protected;
- (3) Tank access road in good condition;
- (4) Tank can be isolated from system;
- (5) Air vent and overflow are screened;
- (6) Air vent  $\geq 6''$  above tank surface, and down turned or covered from rain;
- (7) Overflow and drain lines terminate 12''-18'' above grade;
- (8) Splash pads for overflow and drain lines;
- (9) Access panel sealed and locked;
- (10) Tank level indicator working properly;
- (11) Ladder caged and/or safety harness system available;
- (12) Tank inspected and cleaned regularly;
- (13) Disinfection procedure in place for repairs and maintenance.

### **Section 118. Source water development**

- (a) Continued protection for all sources. A PWS system shall provide protection for all sources of water from potential sources of contamination through ownership, zoning, easements, leasing or other legal means.
- (b) Reservoir and lake protection. PWS systems shall provide protection for a reservoir or lake used as a source of water. Control the marginal shoreline land by purchase or ordinance. If control is through the use of an ordinance, the ordinance must describe the water district boundaries and enforcement rules which shall include:
  - (1) regulating the public health aspects of the water supply, waste and sewage disposal and recreation activities;
  - (2) regulating the building of structures within the control area;
  - (3) regulating aquatic activities involving human body contact with the water, including restricting body contact with the water during recreational or other activities when the water quality or public health may be adversely affected; and
  - (4) regulating the removal of brush and trees to the high water elevation, regulating the

protection from floods during construction within the control district, and regulating the plugging of wells which are inundated, in accordance with DECS, ERC requirements.

- (c) Groundwater source protection. To protect all groundwater wells from microbiological contamination:
- (1) disinfect every new, modified or reconditioned groundwater well in accordance with American Water Works Association standard specifications after completion of work on the well and the placement of the permanent pumping equipment;
  - (2) upon completion of the well, the PWS system shall submit a copy of the well driller's log to the DECS;
  - (3) upon completion of the well, collect at least two (2) bacteriologically safe samples on consecutive days. Collect samples after chlorine used to disinfect the well has been completely dissipated and submit the sampling records to the DECS;
  - (4) if any samples show the presence of coliform bacteria, additional samples shall be taken to determine the degree of contamination and the treatment required; and
  - (5) if any of the samples show the presence of fecal coliform, a study shall be conducted and a determination made whether the groundwater source is under the direct influence of surface water.
  - (6) provide sufficient distance from a well to possible sources of pollution to assure that a subsurface flow of contaminated water will not reach the well. Minimum separation distances are:
    - (A) one hundred feet from a property line,
    - (B) fifty feet from all septic tank and sewer lines, and
    - (C) fifty feet from lateral fields, unless the percolation rate is one inch in less than five minutes, then the separation distance shall be one hundred feet.

### **Section 119. Authorizations and permits (Minor water systems)**

- (a) Requirement for authorizations and permits. No one may construct a new public water supply system, modify an existing public water supply system, or otherwise operate a public water supply system until ERC has:
- (1) issued an authorization to construct or modify a public water supply system, and /or
  - (2) issued a permit for Public Water Supply Operations.
- (b) Applying for authorization and/or permit. An applicant seeking an authorization to construct a new or modify a public water supply system, or operate an existing system shall submit the following to the ERC:
- (1) Application form. A completed and signed ERC Form "Application for Authorization to Construct or Modify a Public Water Supply System", or Public Water Supply Operations permit.
  - (2) Site drawing. A site drawing that includes (as applicable):
    - (A) the property lines;
    - (B) the location of the proposed or existing well;
    - (C) the location of any one-hundred year flood plains within one-quarter (1/4) mile of the proposed or existing water well site; and
    - (D) all potential sources of pollution within three hundred feet (300') of the proposed or existing water well.
  - (3) Wellhead protection checklist. Complete and sign DECS "Wellhead Protection Checklist."

- (c) Non-authorized or permitted systems. Any person constructing or modifying a drinking water system, or operating a drinking water system without valid permit as required under this Regulation is subject to criminal and/or civil penalties of the Pawnee Nation.

**Section 120. Penalties for authorized systems**

- (a) Access to operating records and reports. Access to all facilities, operating records, and reports must be made accessible to DECS and ERC staff at all times.
- (b) Compliance orders.
  - (1) Except as provided in paragraph (2), whenever on the basis of any information, the ERC or DECS determines that any PWS and/or its operator is in violation of any requirement of this chapter, the ERC or DECS may issue an order requiring compliance within a reasonable specified time period or the ERC may commence administrative enforcement against violations, or the DECS may commence a criminal and/or civil action in the District Court of the Pawnee Nation in which the violation occurred relief, including a temporary or permanent injunction.
  - (2) The DECS shall cooperate with the U.S. EPA to ensure enforcement of federal regulations.
- (c) Penalties. If a violator fails to comply with an order under this subsection within the time specified in the order issued by the ERC or DECS, he or she shall be liable administratively and/or judicially with civil penalties of not more than \$5,000 for each day of continued noncompliance. In determining the amount of a penalty assessed under this section, the Pawnee Nation Court or ERC, as the case may be, shall consider the history, severity and duration of the violation; any good faith efforts to comply with the applicable requirements; the violator's full compliance history, including the severity and duration of past violations, if any; the economic impact of the penalty on the violator; as an aggravating factor only, the economic benefit, if any resulting from the violation; and any other factors that the Pawnee Nation Court or the ERC deems relevant. All penalties collected pursuant to this section shall be deposited into the Environmental Regulatory Revolving Fund. Only facilities and operators having a valid authorization and/or permit issued by the Pawnee Nation ERC or DECS shall be subject to administrative enforcement. Violations occurring with no permit shall be subject to civil and/or criminal enforcement of the Pawnee Nation.

## **CHAPTER 2. Pawnee Nation Wastewater Regulation**

### **Section 201. Purpose**

This Chapter establishes requirements for the design, construction, installation, and operation of individual and small public on-site sewage treatment systems to ensure that sewage is properly treated in order to protect the public health and the environment. This Chapter implements Chapter Ten "Waste Water" at Title 12, Chapter 10 of the Pawnee Nation Natural Resource Protection Act. The Pawnee Nation Environmental Regulatory Commission (ERC) shall implement this regulation by issuance of permits and administrative enforcement actions. The DECS shall assist in inspections and investigations and carry out the adjudicated enforcement actions. This chapter applies to any person or entity, including any federal facility that are subject to operate or are operating an individual and/or small public on-site sewage treatment systems Public Water Supply system within the jurisdiction of the Pawnee Nation.

## Section 202. Definitions

In addition to terms defined in Title 12 of the Pawnee Nation Law and Order Code, the following words or terms, when used in this Chapter, shall have the following meaning unless the context clearly indicates otherwise:

**“Aerobic treatment unit”** means a treatment that provides digestion of organic matter through oxidation and has been tested and certified by an ANSI accredited certifier as meeting the most current ANSI/NSF Standard 40, whether or not it includes nitrogen reduction.

**“ANSI”** means the American National Standards Institute.

**“ASTM”** means the American Society for Testing and Materials.

**“Certified installer”** means a person in the business of installing or constructing on-site sewage treatment systems who have been certified by the Pawnee Nation DECS to inspect and approve his/her own installations.

**“Certified soil profiler”** means a person who has been certified by the Pawnee Nation DECS to perform soil profile descriptions to be used to design on-site sewage treatment systems.

**“DECS”** means Pawnee Nation Department of Environmental Conservation and Safety

**“Distribution structure”** means a watertight concrete or plastic compartment, box, or solid piping that allows the distribution of sewage at the same elevation throughout the subsurface treatment field.

**“Drip irrigation”** means the use of pressure to distribute aerobically treated effluent to a subsurface dispersal field using small diameter tubing equipped with pressure compensation emitters.

**“ERC”** means Pawnee Nation Environmental Regulatory Commission

**“Evapotranspiration/absorption (ET/A)”** means the subsurface dispersal of sewage for treatment field.

**“IAPMO”** means the International Association of Plumbing and Mechanical Officials.

**“Installer”** means any person who installs an on-site sewage treatment system or who is in the business of contracting to install or furnishing labor to install on-site sewage treatment systems.

**“Level”** means within a four-inch range of the same elevation.

**“Lift station”** means a short-term storage reservoir, containing an automatically controlled pump, which pumps sewage to a higher elevation for treatment.

**“Low pressure dosing”** means the use of pressure to distribute effluent evenly throughout the dispersal field through small diameter perforated piping.

**“Modification”** means the expansion or relocation of any part of an existing on-site sewage treatment system, which does not fall under the definition of new installation.

**“New installation”** means the installation of a new on-site sewage treatment system. This includes the replacement of an existing lagoon, aerobic treatment unit and/or dispersal field, even when the existing septic tank is not replaced.

**“NSF”** means the National Sanitation Foundation

**“On-site sewage treatment system”** means an individual or small public on-site sewage treatment system as defined in the Chapter.

**“Redoximorphic soil features”** means soil that, due to wetness, contains features that exhibit a color of less than or equal to two (2) chroma and greater than or equal to four (4) value in concentrations greater than five percent (5%) in two (2) consecutive intervals.

**“Repair”** means the repair of any part of an existing on-site sewage treatment system or the replacement of any part of an existing on-site sewage treatment system as long as the replacement part is placed in the exact same location that the original part had been located. Repair does not include excavation and replacement of a subsurface absorption trench.



**“Retention structure”** is a sealed concrete or plastic structure that retains sewage **until** it reaches a depth of ten inches (10”) and then allows it to flow to another trench.

**“Rock fragment”** means unattached pieces of rock two millimeters (2mm) in diameter or larger that are resistant to rupture (strongly cemented or extremely hard.)

**“Sewage”** means wastewater that generally originates as human waste from certain activities including using toilet facilities, washing, bathing, preparing foods and washing laundry, excluding industrial wastewater.

**“Small public on-site sewage treatment system”** means an on-site sewage treatment system, except one that serves an individual residence or duplex, which has an average daily flow of five thousand (5000) gallons or less.

**“Soil profile description”** means the identification and characterization of soil at a specific site.

**“Soil texture”** means the percent by weight of sand, silt, and clay for particles smaller than two millimeters (2mm) in diameters

**“Storage media”** means a natural or manufactured material that provided void spaces for storage and dispersal of effluent in the trenches of a subsurface treatment system.

**“Water body”** means any reservoir or stream listed in either the most current Pawnee Nation Water Quality Standards.

**“Water body protection area”** means the land area around a water body comprised of Zone 1 and Zone 2.

**“Water saturated soil”** means soil characterized by either the presence of groundwater or redoximorphic soil features.

**“Zone 1”** means the land within six hundred sixty feet (660’) of the highest normal pool elevation established for a reservoir or within six hundred sixty (660’) of a stream bed.

**“Zone 2”** means the land within one thousand three hundred twenty feet (1320’) of the highest normal pool elevation established for a reservoir or within one thousand three hundred twenty feet (1320’) of a stream bed.

**Section 203. Authorizations and permits for on-site sewage treatment systems.**

- (a) Requirement for authorizations and permits are defined in Chapter 10 Section 1001 of Title 12 Natural Resource Protection Act. Permits shall be required for construction or modification of a municipal treatment works, non-industrial wastewater treatment system, sanitary sewer system or other sewage treatment works. No permit shall be required for the construction or modification of a private individual sewage disposal system provided that such system is constructed or modified in accordance with applicable requirements of this chapter.
  
- (b) Applying for authorizations; necessity for permit.
  - (1) An installer seeking an authorization to construct a new or modify existing on-site sewage treatment system shall submit a completed and signed:
    - (A) “Request for Authorization/Permit to Construct an On-Site Sewage Treatment System” along with the appropriate fee(s).
  - (2) Any construction or modification design that deviates from the rules in the Chapter will require the installer to apply for an individual permit to construct a new or modify an existing alternative system.
  
- (c) Applying for permits and alternative systems. Installers seeking an individual permit to construct a new or modify an existing alternative on-site sewage treatment system shall submit a completed and signed:
  - (1) “Request for Authorization/Permit to Construct an On-Site Sewage Treatment System” along with the appropriate fee(s).

## **Section 204. General requirements for on-site sewage treatment systems**

- (a) Inspections. All new installations of, modifications to and/ or repairs to on-site sewage treatment systems shall be inspected and approved by the DECS, certified installer, or self-inspected and approved by a certified installer before new installations, modifications or repairs can be backfilled and/or before the system may be placed into operation.
- (b) Treatment. On-site sewage treatment systems shall only be used for treatment of sewage. All sewage must be treated and dispersed according to the rules in this Chapter.
- (c) Ownership. An on-site sewage treatment system shall be located only where:
  - (1) All components of the on-site sewage treatment system, which includes tanks, pumps, dispersal fields and collection lines(s), are or will be located on property that is:
    - (A) Owned by the owner of the on-site sewage treatment system; and/or
    - (B) Dedicated in a recorded easement for the installation and operation of the on-site sewage system to the owner of the on-site sewage treatment system, or
  - (2) All components of an on-site sewage treatment system, excluding service lines, are or will be located on property that is:
    - (A) Owned by municipality, rural water district, rural sewer district or federally recognized tribe; and/or
    - (B) Dedicated to a municipality, rural water district, rural sewer district or federally recognized tribe in a recorded easement for the installation and operation of the on-site sewage system.
- (d) Requirement for a dispersal field or lagoon. All on-site sewage treatment systems shall utilize one of the dispersal fields described in a lagoon.
- (e) Sizing. All dispersal fields and lagoons shall be sized based on average daily flow. The size of on-site sewage treatment systems should be increased if the actual or anticipated water usage exceeds the above-stated average.
- (f) Separation distances. The designer and the installer shall comply with the required vertical separation distances and the horizontal separation distances
- (g) Pipe specifications. All pipe used in on-site sewage treatment systems shall meet or exceed the minimum specifications.
- (h) Water body restrictions. No dispersal field may be within Zone 1 of a water body protection area unless it is preceded by a nitrogen reduction system that has been tested and certified by an ANSI accredited third party certifier as meeting the most current ANSI/NSF Standard 245.

**Table 1. Pipe Specifications for On-Site Sewage Treatment Systems**

<b>USE</b>	<b>PIPE SIZE</b>	<b>ACCEPTABLE MATERIALS</b>
Building sewer and other solid pipe when used for single family residences only	Minimum 3" diameter	Acrylonitrile Butadiene Styrene (ABS): ASTM D2661 ASTM D2751 ASTM F628
Building sewer and other solid pipe when the average flow is 2,000 gpd or less	Minimum 4" diameter	Polyvinyl Chloride (PVC) ASTM D2665 ASTM D2949 ASTM 3033 ASTM 3034 ASTM F789
Building sewer and other solid pipe when the average flow is greater than 2,000 gpd	Minimum 6" diameter	
Discharge line from lift stations or other pressurized effluent waste water lines	Minimum 1" diameter	Polyvinyl Chloride (PVC) ASTM D2846 ASTM F441 ASTM F442 Schedule 40
Low pressure dosing manifold pipe	3" diameter	
Low pressure dosing perforated pipe	1 ½" diameter	
Perforated pipe when used in a conventional subsurface absorption field or an ET/A field	Minimum 3" diameter	Polyethylene (PE) ASTM F405 ASTM F810 ASTM D3350  Polyvinyl Chloride (PVC) ASTM D2729 ASTM D3034 ASTM D3350

## **Section 205. Operation, repairs and maintenance**

- (a) Proper operation. The owner of an onsite sewage treatment system shall ensure that the system is maintained and operated properly so that:
  - (1) Sewage or effluent from the system is properly treated and does not surface, pool, flow across the ground or discharge to surface waters;
  - (2) Septic tanks, lift stations, low pressure dosing tanks, flow equalization tanks, aerobic treatment units and lagoons shall be maintained so that they do not leak or overflow; and
  - (3) The required security measures are intact (e.g. required fences are intact, septic tank lids are intact, and manhole covers are properly secured.)
- (b) Malfunctioning systems. If an on-site sewage treatment system malfunctions, the person owning or otherwise responsible for the system shall take prompt action to repair the malfunctioning system, prevent further violations and remediate the site.
- (c) Enforcement. Violations of this Chapter are subject to enforcement actions and penalties set forth by the DECS.

## **Section 206. Soil Tests**

- (a) Requirement for soil test. A soil test shall be used to identify the dispersal site for all modifications on on-site sewage systems and/or to identify the dispersal site and size the dispersal field for new installations of on-site sewage treatment systems except for:
  - (1) Lagoons; and
  - (2) Aerobic treatment systems that utilize spray irrigation when sized for Group 5 soil in the corresponding net evaporation zone.
  
- (b) Required credentials. Soil tests may only be performed by Professional Engineers, Professional Land Surveyors, Professional Sanitarians or Professional Environmental Specialists registered to practice in Oklahoma or Soil Scientists as recognized by the Pawnee Nation. Additionally, an individual performing soil profile descriptions must also be either:
  - (1) An Environmental Specialist for the DECS and authorized by DECS to perform soil profile descriptions; or
  - (2) Certified by the DECS to perform soil profile descriptions.
  
- (c) Submission of soil test results to the DECS. When a soil test is required, the results shall be submitted to the DECS.
  
- (d) Verification of design. If there is reason to believe soil test results submitted to DECS are inaccurate or that there is water saturated soil or soil impervious to boring in any of the test holes at any depth up the thirty six inches (36”), the system design may be verified by the DECS.
  
- (e) Fill areas and excavation. If there has been a fill of more than six inches (6”) of soil or any excavation over an identified dispersal site, the DECS office must be contacted to determine if an additional soil test is needed. Soil test shall not be performed in major earth fill areas.

## Section 207. Building Sewer and Collection Systems

- (a) General provisions  
The pipe used for building sewer and collection lines shall comply with the pipe specifications. The joints of all solid pipes are sealed to be watertight.
  
- (b) Installation
  - (1) Minimum fall. The following minimum fall requirements shall be met:
    - (A) Three-inch and four-inch pipe. Pipe having a diameter of three inches (3") or four inches (4") that delivers sewage to a septic tank or a trash tank shall be installed with a minimum fall of one-eighth inch (1/8") per foot.
    - (B) Six-inch pipe. Pipe having a diameter of six inches (6") that delivers sewage to a septic tank or a trash tank shall be installed with a minimum fall of one-sixteenth inch (1/16") per foot.
  - (2) Cleanouts. For all pipe located upstream of a septic tank, a two-way cleanout or a two-way cleanout assembly shall be installed:
    - (A) Within five feet (5') from where the plumbing stubs out of the building or appurtenance to the building;
    - (B) Within five feet (5') after each change in direction of more than forty-five degrees (45); (C) For each one hundred-foot interval of straight pipe.

## Section 208. Septic Tanks

- (a) General Provisions

Once installed, the tops of septic tanks shall have no more than one inch (1") variation in elevation from side to side and end to end. Septic tanks shall be constructed to prevent sewage from leaking out of the tanks and to prevent the infiltration of water into the tanks.
- (b) Types of Tanks
  - (1) Concrete tanks. Concrete tanks shall be reinforced with rebar or fiber, and constructed of a mix which demonstrated a twenty-eight day compressive strength of four (4) thousand pounds per square inch (4,000 psi).
  - (2) Fiberglass and plastic tanks. Fiberglass and plastic tanks shall meet either IAPMO or CSA standards for septic tanks and shall be installed according to the manufacturer's recommendations.
- (c) Design
  - (1) Compartments. A septic tank may consist of one (1) or two (2) compartments. All septic tanks shall have a removable lid or a manhole opening of at least twenty inches (20") in diameter or, if rectangular, having no side less than twenty inches (20") in length over each compartment. All lids and manholes shall be sealed to prevent leakage.
  - (2) Two-compartment tanks. The passage in the common wall of two-compartment tanks shall be located below the liquid level and between twenty percent (20%) to forty percent (40%) of the liquid depth. There shall be a vent through the common wall.
  - (3) Inlets and outlets. The outlet of the septic tank shall be two inches (2") lower than the inlet of the septic tank. Baffles for inlets and outlets shall be constructed and located as follows:
    - (A) Construction. Baffles shall be used on all inlets and outlets. Cleanout openings shall be located directly above the inlet and outlet baffles. Inlets and outlets shall have a watertight seal.
    - (B) Locations. All baffles shall extend at least six inches (6") below the liquid depth of the septic tank.
      - Inlet. Inlet baffles shall extend at least six inches (6") below the liquid depth of the septic tank.
      - Outlet. Outlet baffles shall extend below the liquid level by twenty percent (20%) to forty percent (40%) of the liquid depth.
- (d) Precast concrete tanks. Precast concrete tanks shall have a minimum:
  - (1) Wall thickness of two and one-half inches (2-1/2");
  - (2) Bottom thickness of three inches (3"); and
  - (3) Cover thickness of four inches (4").
- (e) Liquid Capacity
  - (1) Individual on-site sewage treatment system. A septic tank used in an individual on-site sewage treatment system for a residential unit for four (4) or fewer bedrooms shall have a liquid capacity of at least one thousand (1000) gallons. An additional two hundred fifty (250) gallons of capacity must be added for each additional bedroom.



- (2) Small public sewage system. The liquid capacity for a septic tank used in a small public sewage system shall be equal to or greater than the average daily flow plus fifty percent (50%), but in no case shall it be less than one thousand (1000) gallons.
- (3) Two-compartment tanks. The capacity of the influent compartment of a two-compartment tank shall not be less than one-half ( $1/2$ ) nor more than two-thirds ( $2/3$ ) of the total required liquid capacity of the tank.
- (4) All septic tanks. All septic tanks shall be designed to have a liquid depth of at least three feet (3') but not more than six and one-half feet ( $6\ 1/2'$ ); and an air space of eight inches (8') or more inside the tanks.

## Section 209. Pump Tanks

- (a) General Provisions
  - (1) Primary settling. All sewage entering a pump tank (i.e., a lift station, a flow equalization tank or a low pressure dosing tank) must pass through a septic tank or a trash tank for primary settling.
  - (2) Pump tank design and construction. Pump tanks shall:
    - (A) To be constructed to prevent sewage from leaking out of the tank and to prevent the infiltration of water into the tank;
    - (B) When made of concrete, meet the requirements of Section 208.
    - (C) Have a manhole opening of at least twenty inches (20") in diameter or, it rectangular, having no side less than twenty inches (20") in length. The manhole cover shall have a lock, locking bolt, or some type of fastener that requires tools for removal. The manhole opening shall extend a minimum of two inches (2") above ground elevation.
    - (D) Have a threaded union installed in the discharge line located within eighteen inches (18") of the manhole opening so that the pump can be removed without entering the pump tank; and
    - (E) Have a check valve installed in the discharge line after the threaded union. The check valve shall be the same diameter as the discharge line.
  - (3) Pump design. Pumps shall be:
    - (A) Designed to pump sewage or other liquid containing fine particles/suspended solids;
    - (B) Rated to pump at least the average daily flow the required distance and elevation; and
    - (C) When used as a low pressure dosing pump, rated at least fifty (50) gallons per minute with no more than eight feet (8') of head pressure.
  - (4) Prevention of back siphonage. Pump discharges shall flow through a structure or device that prevents the back siphonage of wastewater to the pump tank.
- (b) Sizing Pump tanks shall be sized as follows:
  - (1) Lift stations. The lift station pump tank shall have a minimum liquid storage capacity of one thousand (1000) gallons.
    - (A) Daily flow over 500 gallons. For systems with average daily flows over five hundred (500) gallons, the liquid capacity of the pump tank shall be at least twice the highest daily flow.
    - (B) Daily flow over 2000 gallons. For systems with an average daily flow over two thousand (2000) gallons, the liquid capacity of the pump tank may be reduced to one-half (1/2) of the average daily flow, if a backup pump is available on site.
  - (2) Flow equalization tanks. The flow equalization pump tank shall have a minimum liquid storage capacity of one thousand (1000) gallons. If the daily flow is greater than five hundred (500) gallons, the liquid capacity of the pump tank shall be sized at least the highest daily flow.
  - (3) Low pressure dosing tanks. The low pressure dosing pump tank shall be sized to have a minimum liquid capacity of at least one and one-half (1 ½) times the average daily flow.

- (c) Pump controls. The pump controls shall be set as follows:
- (1) Lift stations. The following control settings apply to lift stations:
    - (A) Never more than ½ full. The pump controls shall be set so that the pump tank is never more than one-half (1/2) full.
    - (B) Alarm. There shall be an alarm set to activate and alert the owner/operator if the pump tank becomes more than one-half (1/2) full.
  - (2) Flow equalization tanks. The following control settings apply to flow equalization tanks:
    - (A) Never more than ½ full. The pump controls shall be set so that the pump tank is never more than one-half (1/2) full.
    - (B) Alarm. There shall be an alarm set to activate and alert the owner/operator if the pump tank becomes more than one-half (1/2) full.
    - (C) Regulating pumping rate. The pumping of wastewater to the treatment system shall be regulated by timers, float switches or by piping and valves that allow excess pumped effluent to be returned to the flow equalization tank. The pumping of wastewater to the treatment system shall not exceed:
      - (i) one-fourth (1/4) of the design capacity of the treatment system in a one-hour period; and
      - (ii) The daily treatment capacity of the treatment system in any given twenty- four hour period.
  - (3) Low pressure dosing tanks. The following control settings apply to low pressure dosing tanks:
    - (A) Alarm. There shall be an alarm set to activate and alert the owner/operator if the reserve volume of the pump tank falls below one day's flow
    - (B) Regulating pumping rate. The pumping of wastewater to the dispersal field shall be regulated by timers, float switches or by piping and valves that allow excess pumped effluent to be returned to the low pressure dog pump tank. The pump controls shall be set so that the pumping of wastewater to the dispersal field shall:
      - (i) Occur at least four (4) times per day; and
      - (ii) Not exceed one fourth (1/4) of the daily flow per dosing event.

## Section 210. Aerobic Treatment System

- (a) Residential sewage treatment only. Aerobic treatment systems shall only be used for treatment of sewage from residential units and cannot be used when the average daily flow is less than one hundred (100) gallons per day or greater than one thousand five hundred (1500) gallons per day.
- (b) Design and installation
  - (1) Fluctuating flows. If the daily flow fluctuates so that the flow on any given day during the week exceeds the aerobic treatment unit's daily capacity, then an aerobic treatment system may not be used unless a flow equalization tank, which meets the requirements of Section 209, is installed between the trash tank and the aerobic treatment unit.
  - (2) Components of aerobic treatment systems. Aerobic treatment systems shall be comprised of the following components:
    - (A) Trash tanks. There shall be a trash tank that meets the requirements of ANSI/NSF Standard 40. The trash tank shall:
      - (i) Be constructed to prevent sewage from leaking out of the tank and to prevent the infiltration of water into the tank;
      - (ii) Have a minimum liquid capacity of three hundred (300) gallons or the average daily flow, whichever is greater, except that the minimum liquid capacity shall not be less than was used in the ANSI/NSF certification process;
      - (iii) Have a removable lid or manhole opening of sufficient size to allow for maintenance. The lid or manhole shall be sealed to prevent leakage and extend a minimum of two inches (2") above ground elevation. The cover for the opening shall have a lock, locking bolt or some type of fastener, or require a tool for removal; and
      - (iv) Have baffles installed at its inlet and outlet. The baffles shall extend to within two inches (2") of the top of the trash tank.
        - (a) Inlet. Inlet baffles shall extend at least six inches (6") below the liquid depth of the trash tank.
        - (b) Outlet. Outlet baffles shall extend below the liquid level by twenty percent (20%) to forty percent (40%) of the liquid depth.
    - (B) Aerobic treatment unit. There shall be an aerobic treatment unit that:
      - (i) Has been tested and certified by an ANSI accredited third party certifier as meeting the most current ANSI/NSF Standard 40 and when required by water body restrictions ANSI/NSF Standard 245;
      - (ii) Is constructed to prevent sewage from leaking out of the tank and to prevent the infiltration of water into the tank
      - (iii) Is rated at or above the design daily flow;
      - (iv) Produces effluent clear enough that the bottom of the pump tank is visible when it is full; and
      - (v) Has an opening of sufficient size to allow for maintenance that extends a minimum of two inches (2") above ground elevation. The cover for the opening shall have a lock, locking bolt or some type of fastener.

- (C) Method of disinfection. If spray irrigation is used as the type of dispersal, then there shall be a method to disinfect the effluent that has been tested and certified by an ANSI accredited third party certifier as meeting the most current ANSI/NSF Standard 46, between the aerobic treatment unit and the pump tank ( or in the pump tank). If chlorination is used as the disinfection method, a free chlorine residual of two tenths of a milligram per liter (0.2 mg/l) must be maintained in the pump tank. All other methods of disinfection shall effectively reduce the fecal coliform count to less than two hundred colonies per one hundred milliliters (200/100ml).
- (D) Pump tank. There shall be a pump tank, which:
- (i) Meet the requirements of ANSI/NSF Standard 40 or Section 208 b;
  - (ii) Have a minimum liquid capacity of seven hundred (700) gallons per day, have a liquid capacity of at least twice the average daily flow;
  - (iii) Have a sampling port in the pump tank at the discharge outlet or in the treated effluent line following the pump.
  - (iv) Have a float in the pump tank set so that the pump tank is never more than one-half (1/2) full;
  - (v) Have a high-water alarm set to activate and alert the owner/operator if the pump tank becomes more than one-half (1/2) full; and
  - (vi) Have an opening of sufficient size to allow for maintenance that extends a minimum of two inches (2”) above ground elevation. The cover for the opening shall have a lock, locking bolt or some type of fastener, or require a tool for removal.
- (E) Dispersal field. Effluent treated by an aerobic treatment unit shall be dispersed as listed in either:
- Conventional subsurface absorption fields
  - Shallow extended subsurface absorption fields
  - Evapotranspiration/absorption fields
  - Low pressure dosing fields
  - Drip irrigation fields; and
  - Spray irrigation fields.
- (i) Level. Once installed, the top of each tank (i.e., trash tank, aerobic treatment unit and pump tank) shall have no more than one inch (1”) variation in elevation from side to side and end to end.
  - (ii) Depth of aerobic treatment system components. The top of all components of the aerobic treatment system, excluding trash tank and dispersal field, shall be covered with no more than twenty-four inches (24”) of soil.
  - (iii) Solid pipe. The solid pipe used to connect the components of an aerobic treatment system must meet the minimum specifications.
  - (iv) Fall. Unless a lift pump is utilized, there shall be fall between: the trash tank and aerobic treatment unit; and the aerobic treatment unit and the pump tank.
  - (v) Manufacture’s specification. All aerobic treatment system shall be installed in accordance with the manufacturer’s specification.

## **Section 211. Lagoons.**

- (a) General provisions
  - (1) Primary settling. All sewage entering a lagoon must first pass through a septic tank for primary settling.
  - (2) Total retention. All lagoons shall be total retention.
  - (3) Location. Installers shall not locate lagoons where vegetation, timber, or terrain could interfere with prevailing wind action or shade the lagoon during daylight hours.
  - (4) Prohibitions. Owner /operator shall not discharge or dispose of sludge from the lagoon prior to obtaining approval from the DECS.
  - (5) Closure. The DECS may, when public health or safety issues arise, require the owner/operator to properly close a lagoon when it is no longer in use.
  
- (b) Lagoon design.
  - (1) Sizing. The lagoon shall be designed according to tables 2 and 3 in this section. No lagoon shall have bottom dimensions smaller than ten feet (10') or, for round lagoons, have a diameter small than fifteen feet (15').
  - (2) Uniform shape. The shape of the lagoon shall be essentially square or round with no island or peninsulas.
  - (3) Total Depth. The total depth of the lagoon shall be at least seven feet (7').

**Table 2. Size of Individual Residential Lagoon**

<b>Length in Feet of Each Side of the Bottom of a Square Residential Lagoon</b>				
Location	Number of Bedrooms in residence			
	Two or Fewer	Three	Four	Five
Kay County	20	25	30	35
Pawnee County	20	30	35	45
Payne County	20	30	35	45
<b>Diameter in Feet of the Bottom of a Round Residential Lagoon</b>				
Kay County	25	30	40	45
Pawnee County	30	40	45	55
Payne County	30	40	45	55

**Table 3. Size of Small Public lagoon**

<b>Size in Feet of the Bottom of a Small Public Lagoon</b>						
Average Daily Flow	Kay County		Pawnee County		Payne County	
In gallons	Square	Round	Square	Round	Square	Round
100	<b>Prohibited</b>					
200	17	23	22	29	22	29
300	28	35	34	42	34	42
400	37	45	44	53	44	62
500	45	54	52	63	52	63
600	52	62	60	72	60	72
700	59	69	68	80	68	80
800	65	76	74	88	74	88
900	71	82	81	95	81	95
1000	76	89	87	102	87	102
1100	81	94	92	108	92	108
1200	86	100	98	114	98	114
1300	91	105	103	120	103	120
1400	95	110	108	126	108	126
1500	100	115	113	131	113	131
1600	104	120	117	136	117	136
1700	108	125	122	142	122	142
1800	112	129	126	147	126	147
1900	116	133	131	151	131	151
2000	120	138	135	156	135	156
2500	137	157	154	178	154	178
3000	154	175	172	198	172	198
3500	168	192	188	216	188	216
4000	182	207	203	233	203	233
4500	195	221	218	249	218	249
5000	207	235	231	264	231	264

(c) Bottom Construction. The bottom of the lagoon shall meet the following requirements:

- (1) Level bottom. The bottom of the lagoon shall be level.
  - (2) Compacted clay. The bottom of the lagoon and the interior slope of the dike shall be constructed of homogeneous clay soil and shall be compacted thoroughly.
  - (3) Leakage test required. During the final inspection, a leakage test shall be conducted on the lagoon.
  - (4) Leakage test procedure. The leakage test shall be performed in a manner approved by the DECS or by:
    - (A) Digging one (1) hole in the bottom of the lagoon and four (4) equally spaced holes on the interior slope of the dike at the four-foot water elevation line of the lagoon. The test hole shall be six inches (6") deep;
    - (B) Presoaking the holes by filling them with water and refilling them as necessary to maintain a water depth of six inches (6") in each hole for at least four (4) hours. The presoak shall commence no earlier than twenty-four (24) hours prior to the start of the leakage test procedure; and
    - (C) After completing the presoak, filling each hole with water and then recording the drop in the water level in sixty (60) minutes or the time it takes until one inch (1") of water has percolated into the soil.
  - (5) Failing leakage test. If the leakage rate in any of the test holes exceeds one inch (1") in sixty minutes (60) minutes, the lagoon shall be lined with twelve inches (12") of compacted clay (Group 5 soil) or bentonite, or a synthetic liner in accordance with of at least 30 mil. The lagoon shall be retested after installation of a clay or bentonite liner and may not be approved until the leakage rate is less than or equal to one inch (1") in sixty (60) minutes. Synthetic liner shall be at least 30 mil (0.030 inch) thick, unless is subject to heavy traffic, then liner shall be at least 60 mil (0.060) thick.
- (d) Dikes. Dikes shall be constructed as follows:
- (1) Topsoil. Before construction, all vegetation and topsoil shall be removed in the area of the dikes.
  - (2) Lifts. Dikes shall be constructed of homogenous clay in six to nine inches (6-9") compacted lifts.
  - (3) Slopes. Dikes shall be constructed with a slope of no more than one foot(1') vertical rise per three feet (3') horizontal run (1:3) with a minimum top width of four feet (4'). The top of dikes shall be uniformly graded with no depressions or mounds that would hinder maintenance.
  - (4) Gravity flow systems. For gravity flow systems, the top of the dike shall be at least six inches (6") below the lowest floor elevation if any building served.
  - (5) Surface runoff. The top of the dike shall be at least one foot (1') above the surrounding terrain to divert surface runoff.
- (e) Lagoon inlet line and septic tank outlet
- (1) Lagoon inlet line. The lagoon inlet line shall:
    - (A) Be made of solid pipe that complies with the minimum specifications listed in Appendix C;
    - (B) Terminate in the center of the lagoon;
    - (C) Be anchored and supported; and
    - (D) Discharge onto a concrete structure that is a minimum of one (1) square foot.



- (2) Septic tank outlet. For gravity flow systems, the outlet of the septic tank shall be at least one foot (1') above the designed five-foot (5') maximum liquid depth of the lagoon.
  
- (f) Fence
  - (1) Fence required. In order to prevent unauthorized access to the lagoon, the lagoon area shall be surrounded with a fence unless the entire property is fenced and access is controlled.
  - (2) Specifications. The fence shall:
    - (A) Be, at a minimum, four feet (4') high and provide protection equivalent to the protection afforded by a woven wire or equally spaced five (5) wire fences. Lagoons that fall within the definition of a small public sewage system and that are located within three hundred fifty feet (350') of existing or platted residential areas or that are in public assess areas shall be surrounded by a six foot (6') woven wire fence or equivalent.
    - (B) Have a gate that provides access to the lagoon for mowing equipment and maintenance needs.
    - (C) Not interfere with wind action to the lagoon's surface or shade the lagoon.
  
- (g) Lagoon Maintenance
  - (1) The Lagoon shall be free from trees, bushes and grasses taller than 6". A grass cover shall be maintained at all times.
  - (2) The Lagoon shall maintain a 2 -5 foot liquid depth to provide for aerobic and anaerobic layers to prevent plants from establishing.
  - (3) The fence shall be inspected and any holes, gaps and sags repaired immediately on discovery.
  - (4) The dike shall be inspected to ensure it maintains the shape and height of original construction.
  - (5) The dike shall be repaired for any damage caused by erosion, rodents and any burrowing animals

## 212 Absorption Fields.

- (a) Conventional subsurface absorption fields
  - (1) Location. All conventional subsurface absorption fields shall be:
    - (A) located in the identified dispersal site; and
    - (B) installed more than five feet (5') from the septic tank or aerobic treatment unit.
  - (2) Fall. Unless a pump is utilized, there shall be a minimum fall of two inches (2") from the bottom of the outlet of the septic tank to the:
    - (A) highest point of the storage media in the conventional subsurface absorption field; or
    - (B) highest point of the sidewall openings of a chamber in the conventional subsurface absorption field.
  - (3) Minimum linear length. All conventional subsurface absorption fields must meet the minimum length requirements set forth in Tables 4-8 in this section. If perforated pipe is used between distribution structures and installed in accordance with the trench requirements of this Section, it may be counted as part of the overall required length of the conventional subsurface absorption field.
  - (4) Trench length limitation. Conventional subsurface absorption fields shall be constructed so that no sewage flows through more than a total of one hundred fifty linear feet (150') of perforated pipe or chambers in any given path.
  - (5) Trench spacing. The trenches in a conventional subsurface absorption field shall be spaced at least eight feet (8') apart, center to center.
  - (6) Trench width. All trenches in a conventional subsurface absorption field shall be twenty-four inches (24") wide.
  - (7) Trench depth. Each trench in a conventional subsurface absorption field shall have a uniform depth of at least eighteen inches (18"), and no more than thirty inches (30"). The bottom of the trenches shall be level.
  - (8) Dispersal and storage. Each trench in a conventional subsurface absorption field shall contain a zone for the dispersal and storage of effluent comprised of either perforated pipe and storage media, or chambers.
    - (A) Perforated pipe with storage media. When perforated pipe and storage media are used to disperse and store effluent throughout the trenches, the following requirements shall apply:
      - (i) Perforated pipe. The perforated pipe shall:
        - (1) meet the minimum specifications listed in Section 204 (g) table 1.
        - (2) extend the entire length of the trenches.
      - (ii) Storage Media. The storage media shall:
        - (1) be at least ten inches (10") deep and at least twenty-four inches (24") wide the entire length of the trench;
        - (2) be installed with at least two inches (2") of storage media above and two inches (2") of storage media below the perforated pipe;
        - (3) be level in each trench and across the dispersal field, unless installed in trenches of different elevations.
    - (B) Chambers. When chambers are used to disperse and store effluent throughout the trenches, the chambers shall:

- (i) have a minimum bottom width of twenty-two inches (22");
  - (ii) have a minimum sidewall height of ten inches (10") with the sidewalls having evenly distributed open space. If the sidewall height is less than ten inches (10"), then the trench shall be backfilled with storage media to meet the ten-inch height requirement;
  - (iii) meet the IAPMO PS 63-2005 standard;
  - (iv) extend the entire length of the trenches;
  - (v) be level in each trench and across the dispersal field, unless installed in trenches of different elevations.
- (9) Retention structure. Retention structures must be used between trenches of different elevations in conventional subsurface absorption fields. When a retention structure is used:
  - (A) the top of the outlet pipe of a retention structure or the top of the outlet pipe of a chamber being used as a retention structure shall be fourteen inches (14") above the trench bottom; and
  - (B) the line from the outlet of a retention structure to the next distribution point shall be constructed of solid pipe and shall be backfilled with compacted native soil.
- (10) Backfill. For conventional subsurface absorption fields:
  - (A) the depth of the backfill shall be consistent and shall not vary more than four inches (4"); and
  - (B) the backfill shall consist of at least eight inches (8") of topsoil.
- (b) Shallow extended subsurface absorption fields
  - (1) Location. All shallow extended subsurface absorption fields shall be:
    - (A) located in the identified dispersal site; and
    - (B) installed more than five feet (5') from the septic tank or aerobic treatment unit.
  - (2) Fall. Unless a pump is utilized, there shall be a minimum fall of two inches (2") from the bottom of the outlet of the septic tank to the:
    - (A) highest point of the storage media in the shallow extended subsurface absorption field; or
    - (B) highest point of the sidewall openings of a chamber in the shallow extended subsurface absorption field.
  - (3) Minimum linear length. All shallow extended subsurface absorption fields must meet the minimum length requirements set forth in Tables 4-8 of this section. If perforated pipe is used between distribution structures and installed in accordance with the trench requirements of this Section, it may be counted as part of the overall required length of the shallow extended subsurface absorption field.
  - (4) Trench length limitation. Shallow extended subsurface absorption fields shall be constructed so that no sewage flows through more than a total of one hundred fifty linear feet (150') of perforated pipe or chambers in any given path.
  - (5) Trench spacing. The trenches in a shallow extended subsurface absorption field shall be spaced at least eight feet (8') apart, center to center.
  - (6) Trench width. All trenches in a shallow extended subsurface absorption field shall be twenty-four inches (24") wide.

- (7) Trench depth. Each trench in a shallow extended subsurface absorption field shall have a uniform depth of at least fourteen inches (14"), and no more than thirty inches (30"). The bottom of the trenches shall be level.
  - (8) Dispersal and storage. Each trench in a shallow extended subsurface absorption field shall contain a zone for the dispersal and storage of effluent comprised of either perforated pipe and storage media, or chambers.
    - (A) Perforated pipe with storage media. When perforated pipe and storage media are used to disperse and store effluent throughout the trenches, the following requirements shall apply:
      - (i) Perforated pipe. The perforated pipe shall:
        - (1) meet the minimum specifications listed in Section 204 (g) table 1.
        - (2) extend the entire length of the trenches.
      - (ii) Storage Media. The storage media shall:
        - (1) be at least six inches (6") deep and at least twenty-four inches (24") wide the entire length of the trench;
        - (2) be installed with at least one inch (1") of storage media above and one inch (1") of storage media below the perforated pipe;
        - (3) be level in each trench and across the dispersal field, unless installed in trenches of different elevations.
    - (B) Chambers. When chambers are used to disperse and store effluent throughout the trenches, the chambers shall:
      - (i) Have a minimum bottom width of twenty-two inches (22");
      - (ii) Have a minimum sidewall height of six inches (6") with the sidewalls having evenly distributed open space;
      - (iii) Meet the IAPMO PS 63-2005 standard;
      - (iv) Extend the entire length of the trenches;
      - (v) Be level in each trench and across the dispersal field, unless installed in trenches of different elevations.
  - (9) Retention structure. Retention structures must be used between trenches of different elevations in shallow extended subsurface absorption fields. When a retention structure is used:
    - (A) the top of the outlet pipe of a retention structure or the top of the outlet pipe of a chamber being used as a retention structure shall be ten inches (10") above the trench bottom; and
    - (B) The line from the outlet of a retention structure to the next distribution point shall be constructed of solid pipe and shall be backfilled with compacted native soil.
  - (10) Backfill. For shallow extended subsurface absorption fields:
    - (A) The depth of the backfill shall be consistent and shall not vary more than four inches (4"); and
    - (B) The backfill shall consist of at least eight inches (8") of topsoil.
- (c) Low pressure dosing fields
  - (1) Location. All low pressure dosing fields shall be:
    - (A) Located in the identified dispersal site;

- (B) Installed more than five feet (5') from the septic tank or aerobic treatment unit; and
  - (C) Preceded by a low pressure dosing tank.
  - (2) Header line. The header pipe (i.e., the pipe between the pump tank and the manifold) shall:
    - (A) Have a diameter the same as the diameter of the outlet of the low pressure dosing pump; and
    - (B) Be no longer than thirty feet (30').
  - (3) Total linear length. All low pressure dosing fields shall meet the total linear length requirements set forth in Tables 4-8 of this section.
  - (4) Trench length. Each trench in a low pressure dosing field shall be forty feet (40') long.
  - (5) Trench spacing. The trenches in a low pressure dosing field shall be spaced six feet apart, center to center.
  - (6) Trench width. All trenches in a low pressure dosing field shall be twenty-four inches (24") wide.
  - (7) Trench depth. Each trench in a low pressure dosing field shall have a uniform depth of at least fourteen inches (14") and no more than thirty inches (30"). The bottom of the trenches shall be level.
  - (8) Dispersal and storage. Each trench in a low pressure dosing field shall contain a zone for the dispersal and storage of effluent comprised of low pressuring dosing pipe and storage media.
    - (A) Low pressure dosing pipe. Low pressure dosing pipe shall:
      - (i) meet the minimum specifications listed in Section 204 (g) table 6;
      - (ii) Have one-fourth inch (1/4") diameter holes spaced five feet (5') apart the entire length of the pipe;
      - (iii) Extend the entire length of the trenches; and
      - (iv) Have all of the joints glued.
    - (B) Storage media. The storage media shall:
      - (i) Be at least six inches (6") deep and at least twenty-four inches (24") wide the entire length of the trench;
      - (ii) be installed with at least two inches (2") of the storage media above and two inches (2") of storage media below the low pressure dosing pipe; and
      - (iii) Be level in each trench and across the low pressure dosing field.
  - (9) Retention structures prohibited. Retention structures may not be used in low pressure dosing fields.
  - (10) Backfill. For low pressure dosing fields:
    - (A) The depth of the backfill shall be consistent and shall not vary more than four inches (4"); and
    - (B) The backfill shall consist of at least eight inches (8") of topsoil.
- (d) Evapotranspiration/absorption (ET/A) fields
- (1) Location. All ET/A fields shall be:
    - (A) Located in the identified dispersal site; and
    - (B) installed more than five feet (5') from the septic tank or aerobic treatment unit.

- (2) Fall. Unless a pump is utilized, there shall be a minimum fall of two inches (2") from the bottom of the outlet of the septic tank to the highest point of the storage media in the ET/A field.
  - (3) Minimum linear length. All ET/A fields must meet the minimum length requirements set forth in Tables 4-8 of section. If perforated pipe is used between distribution structures and installed in accordance with the trench requirements of this Section, it may be counted as part of the overall required length of the ET/A field.
  - (4) Trench length limitation. ET/A fields shall be constructed so that no sewage flows through more than a total of one hundred fifty linear feet (150') of perforated pipe in any given path.
  - (5) Trench spacing. The trenches in an ET/A field shall be spaced at least eight feet (8') apart, center to center.
  - (6) Trench width. All trenches in an ET/A field shall be twenty-four inches (24") wide.
  - (7) Trench depth. Each trench in an ET/A field shall have a uniform depth not to exceed twenty-four inches (24"). The bottom of the trenches shall be level.
  - (8) Dispersal and storage. Each trench in an ET/A field shall contain a zone for the dispersal and storage of effluent comprised of perforated pipe and storage media.
    - (A) Perforated pipe. The perforated pipe shall:
      - (i) Meet the minimum specifications listed Section 204 (g) table 1; and
      - (ii) Extend the entire length of the trenches.
    - (B) Storage media. The storage media used shall:
      - (i) Be at least ten inches (10") deep and at least twenty-four inches (24") wide the entire length of the trench;
      - (ii) Be installed with at least two inches (2") of the storage media above and two inches (2") of storage media below the perforated pipe;
      - (iii) Be level in each trench and across the ET/A field, unless installed in trenches of different elevations.
  - (9) Retention structure. Retention structures must be used between trenches of different elevations in ET/A fields. When a retention structure is used:
    - (A) The top of the outlet pipe of a retention structure shall be fourteen inches (14") above the trench bottom; and
    - (B) The line from the outlet of a retention structure to the next distribution point shall be constructed of solid pipe and shall be backfilled with compacted native soil.
  - (10) Backfill. For ET/A fields:
    - (A) The trenches shall be backfilled with clean sand to within two inches (2") of the ground level;
    - (B) The sand used to backfill the trenches shall be separated from the storage media by material that allows the flow of water but prevents the flow of sand; and
    - (C) After a trench is backfilled with sand, two to four inches (2"-4") of sandy loam soil shall be mounded over the trench.
- (e) Drip irrigation fields
- (1) Location. All drip irrigation fields shall be:
    - (A) Preceded by an aerobic treatment unit;

- (B) Preceded by a filter capable of filtering particles larger than one hundred (100) microns; and
  - (C) Located in the identified dispersal site.
  - (2) Components. All components used in the drip irrigation field shall be designed and manufactured specifically for use in wastewater treatment systems.
  - (3) Pump. The pump shall:
    - (A) Be set to distribute no more than one fourth (1/4) of the designed daily flow to the drip irrigation pipe during each pumping interval;
    - (B) When in operation, maintain a minimum pressure of ten (10) psi and a maximum pressure of forty-five (45) psi throughout the drip irrigation pipe; and
    - (C) Have a high-water alarm set to activate and alert the owner/operator if the pump tank becomes more than one-half (1/2) full.
  - (4) Minimum linear length. All drip irrigation fields shall meet the minimum length requirements set forth in Table 9 of this Section.
  - (5) Drip irrigation pipe. The pipe used in drip irrigation fields shall be designed and manufactured for the purpose of distributing wastewater and comply with the minimum specifications in Section 204 (g) table 1.
  - (6) Installation of pipe. The pipe used in drip irrigation fields shall be:
    - (A) Installed eight to ten inches (8-10") deep;
    - (B) Installed according to the manufacture's specifications; and
    - (C) Equipped with emitters spaced:
      - (1) one foot (1') apart in soil groups 1, 4, and 5; and
      - (2) two feet (2') apart in soil groups 2, 2a, 3, and 3a.
  - (7) Emitters. The emitters shall be set to wet four square feet (4 ft<sup>2</sup>) and be pressure compensating to deliver uniform distribution regardless of the pressure entering the drip line.
  - (8) Prevent backflow. To prevent backflow, at least one (1) vacuum relief valve, located in a valve box lined with gravel, shall be located at the highest point on both the supply manifold and the return manifold.
  - (9) Back flush. There shall be a method to flush the drip irrigation pipe. The flush water shall be returned to the trash tank, aerobic treatment unit or pump tank.
- (f) Spray irrigation fields
- (1) Location. All spray irrigation fields shall:
    - (A) Be preceded by an aerobic treatment unit;
    - (B) Be located in the identified dispersal site, when a soil profile test is used to size the irrigation field;
    - (C) Utilize at least two sprinkler heads to disperse the treated effluent; and
    - (D) Be vegetated and landscaped, and/or terraced to prevent runoff.
  - (2) Sizing. The spray irrigation field shall be sized according to Table 10 f this Section. When calculating the overall area of the spray irrigation field, areas of overlap may only be counted once.
  - (3) Sprinklers. The sprinklers shall be designed to:
    - (A) Provide uniform distribution of treated effluent over the entire spray irrigation field without misting; and
    - (B) Have a trajectory of no more than fifteen-degrees (15°) to keep the spray stream low to the ground surface.

- (4) Spray irrigation. The spray irrigation shall be:
  - (A) Adjusted and maintained at a rate to prevent runoff; and
  - (B) Controlled by a timing device to take place daily between 1:00 a.m. and 6:00 a.m.



**Table 4. Individual Conventional Subsurface Absorption Fields Designed Using a Percolation Test**

<b>Percolation Rate For Dispersal Site</b>	<b>Number of Bedrooms in Residence</b>				
	<b>Two Fewer</b>	<b>or</b>	<b>Three</b>	<b>Four</b>	<b>Each Additional Bedroom</b>
0-15 minutes per inch	160		215	270	55
16-30 minutes per inch	250		330	410	80
31-45 minutes per inch	340		450	560	110
46-60 minutes per inch	470		630	790	160
61-75 minutes per inch	620		830	1040	210
>75 minutes per inch	Prohibited				

Minimum Trench Length in Feet

**Table 5. Individual Conventional Subsurface Absorption Fields Utilizing Chambers When Designed Using Percolation Tests**

Minimum Trench Length in Feet

<b>Percolation Rate For Dispersal Site</b>	<b>Number of Bedrooms in Residence</b>				
	<b>Two Fewer</b>	<b>or</b>	<b>Three</b>	<b>Four</b>	<b>Each Additional Bedroom</b>
0-15 minutes per inch	200		270	340	70
16-30 minutes per inch	310		410	510	100
31-45 minutes per inch	420		560	700	140
46-60 minutes per inch	590		790	990	200
61-75 minutes per inch	770		1030	1290	260
>75 minutes per inch	Prohibited				

**Table 6. Individual Conventional Subsurface Absorption Fields Designed Using a Soil Profile Description for Pawnee and Payne Counties**  
 Minimum Trench Length in Feet

Soil Group	Number of Bedrooms in Residence			
	Two Fewer	or Three	Four	Each Additional Bedroom
1	Prohibited			
2	160	210	260	50
2a	250	330	410	80
3	340	450	550	100
3a	500	665	860	165
4	660	880	1100	220
5	Prohibited			

**Table 7. Small Public Conventional Subsurface Absorption Fields Designed Using a Percolation Test**

Minimum Linear Feet Per Gallon per Day

Percolation Rate for Dispersal Site	Linear Feet per Gallon per Day
0-15 minutes per inch	1.2
16-30 minutes per inch	1.5
31-45 minutes per inch	2
46-60 minutes per inch	2.5
61-75 minutes per inch	3.85
>75 minutes per inch	Prohibited

**Table 8. Small Public Conventional Subsurface Absorption Fields Designed Using a Soil Profile Description**

Minimum Linear Feet per Gallon per Day

Soil Group	Linear Feet per Gallon per Day
1	Prohibited
2	0.8
2a	1.3
3	1.7
3a	2.5
4	3.3
5	Prohibited

**Table 9. Individual Drip Irrigation Fields Designed Using a Soil Profile Description**

Minimum Trench Length in Feet

Soil Group	Number of Bedrooms			
	Two or Fewer	Three	Four	Each Additional Bedroom
1	125	165	25	40
2	160	210	260	50
2a	250	330	410	80
3	340	450	550	100
3a	500	665	830	165
4	660	880	1100	220
5	1000	1330	1660	330

**Table 10. Individual Spray Irrigation Fields Designed Using Soil Profile Description-Net Evaporation Pawnee and Payne Counties Zone 7 and Kay County Zone 8**

Minimum Spray Irrigation Area in Square Feet

Soil Group	Number of Bedrooms in Residence							
	Two or Fewer		Three		Four		Each Additional Bedroom	
	7	8	7	8	7	8	7	8
1	1324	1165	1766	1554	2207	1942	442	389
2	1456	1282	1942	1709	2427	2136	486	427
2a	1589	1398	2119	1864	2648	2330	530	466
3	1721	1515	2295	2020	2868	2525	574	505
3a	1854	1631	2472	2175	3089	2719	618	544
4	1986	1748	2648	2330	3310	2913	662	582
5	2648	2330	3531	3107	4413	3884	883	777

### **Section 213. Penalties for authorized systems**

- (a) Access to operating records and reports. Access to all facilities, operating records and reports must be made accessible to DECS and ERC staff at all times.
- (b) Compliance orders.
  - (1) Except as provided in paragraph (2), whenever on the basis of any information, the ERC or DECS determines that any PWS and/or its operator is in violation of any requirement of this chapter, the ERC or DECS may issue an order requiring compliance within a reasonable specified time period or the ERD may commence administrative enforcement against violations, or the DECS may commence a criminal and/or civil action in the District Court of Pawnee Nation in which the violation occurred relief, including a temporary or permanent injunction.
  - (2) The DECS shall cooperate with the U.S. EPA to ensure enforcement of federal regulations.
- (c) Penalties. If a violator fails to comply with an order under this subsection within the time specified in the order issued by the ERC or DECS, he or she shall be liable administratively and/or judicially with civil penalties of not more than \$5,000 for each day of noncompliance. In determining the amount of a penalty assessed under this section, the Pawnee Nation Court or ERC, as the case may be, shall consider the history, severity, and duration of the violation; any good faith efforts to comply with the applicable requirements; the violator's full compliance history, including the severity and duration of past violations, if any; the economic impact of the penalty on the violator; as an aggravating factor only, the economic benefit, if any resulting from the violation; and any other factor that the Pawnee Nation Court or the ERC deems relevant. All penalties collected pursuant to this section shall be deposited into the Environmental Regulatory Revolving Fund. Only facilities and operators having a valid authorization and/or permit issued by the Pawnee Nation ERC or DECS shall be subject to administrative enforcement. Violations occurring with no permit shall be subject to civil and/or criminal enforcement of the Pawnee Nation.

## Resolution



# Pawnee Nation of Oklahoma

RESOLUTION #17-16  
DECEMBER 14, 2017

## RESOLUTION

- Whereas,** The Pawnee Business Council is the supreme governing body of the Pawnee Nation and is authorized to conduct business on behalf of the Pawnee Nation in accordance with Article IV, Sections 1 and 2 of the Pawnee Nation Constitution and By-Laws; and
- Whereas,** the Pawnee Business Council met in special session on December 14, 2017, at the Pawnee Nation Multi-Purpose Building, duly authorized, with a quorum present; and
- Whereas,** the protection of the natural resources of the Pawnee Nation is extremely important; and
- Whereas,** the Pawnee Nation Wastewater Regulation will provide for the protection of natural resources within the Pawnee Nation. This Regulation will establish the requirements of permitting, notification, reporting and monitoring for future installations and current use of wastewater systems within the Pawnee Nation.

**NOW THEREFORE BE IT RESOLVED,** that the Pawnee Business Council does hereby approve Chapter 2 Wastewater Regulation as authorized by Title XII of the Pawnee Nation Natural Resource Protection Act.

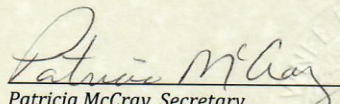
**NOW THEREFORE BE IT FURTHER RESOLVED,** that this Act shall be effective immediately.

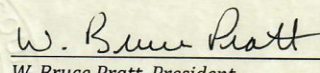
## CERTIFICATION

I, Patricia McCray, Secretary of the Pawnee Business Council, certify that a Special Meeting of the Pawnee Business Council was held on the 14<sup>th</sup> day of December 2017 and that the Pawnee Business Council is composed of eight members of whom 7 were present, 1 absent, compromising a quorum, and the foregoing resolution was duly adopted by a vote of 6 for, 0 against, 0 abstaining, and 1 not voting.

*Signed this 14<sup>th</sup> day of December 2017*

ATTEST:

  
Patricia McCray, Secretary  
Pawnee Nation Business Council

  
W. Bruce Pratt, President  
Pawnee Nation Business Council