

Reno County Sanitation Code



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Chapter One

ADMINISTRATIVE

Article 1: General Provisions

Section I. Title – This Code shall be known and referred to as the Reno County Sanitation Code.

Section II. Legal Authority – This Code is adopted under the authority granted to the Board of County Commissioners by K.S.A. 19-3701 et. Seq. as amended.

Section III. Findings and Declaration of Policy – The County Commissioners find that provisions for adequate and reasonable control over the environmental conditions in unincorporated areas of the county are necessary and desirable; and that it is necessary to adopt a sanitation code to:

- A. Eliminate and prevent the development of environmental conditions that are hazardous to health and safety; and
- B. Promote the economical and orderly development of land and water resources of the county. For those reasons and objectives, it shall be the policy of the Board of County Commissioners to amend this code from time to time with respect to any matter affecting environmental sanitation and safety.

Section IV. Purpose – The purpose and intent of this code is:

- A. To prescribe the administrative procedures to be followed in administering this sanitation code or any amendments thereto.
- B. To prescribe regulations for controlling practices to minimize health and safety hazards.
- C. To establish administrative procedures to facilitate fair and equitable regulation while recognizing the rights of affected persons to receive reasonably prompt processing and to appeal administrative decisions.

Section V. Jurisdiction and Application – This Code and all authorized regulations, restrictions, and requirements shall apply from and after the effective date and adoption to and throughout the unincorporated area of Reno County, Kansas, and to all persons, property, establishments, and business activities located or conducted, regardless of ownership and acreage, within Reno County, Kansas, and outside municipal boundaries of any city.

Section VI. Severability – If any clause, sentence, paragraph, section, or subsection of this Code shall be adjudged invalid for any reason whatsoever, such judgment shall not affect, repeal, or invalidate the remainder thereof, but shall be confined to the clause, sentence, paragraph, section or subsection thereof found to be invalid.

Section VII. Disclaimer of Liability – This Code shall not be construed or interpreted as imposing upon the County, or its officials or employees: (1) any liability or responsibility for damages to any property; or (2) any warranty that any installation, system, or portion thereof that is constructed, repaired, or modified under permits or inspections required by this Code shall function properly. In addition, any employee charged with the enforcement of this Code, who acts in good faith and without malice in the discharge of his duties, shall not thereby be personally liable for damage which may occur to any person or property as a result of the discharge of his duties.

Section VIII. Amendments and Additions – This Code may be supplemented, or its provisions may be amended by Resolution adopted by the Board of County Commissioners, after notice and hearing, as required by law, and any such amendments or additions shall be incorporated within and codified as a part of this Code. Any changes, modifications or additional provisions adopted and imposed by State or Federal law or regulation which are applicable to and administered through the jurisdiction of Reno County, Kansas shall be incorporated within and made part of this Code, with or without notice and hearing, as authorized or required by State or Federal law.

Section IX. Repeal and Supersede Effect – This Code shall supersede any and all previously adopted Resolutions or regulations, which are, in whole or in part, in conflict with any provision of this Code, where applicable, any regulation or resolution which is or was in effect upon the effective date of this Code shall be repealed to the extent necessary to give this Code full force and effect, and in the case of any conflict of provisions, whether real or apparent, then the provision of this Code shall govern wherever applicable.

Section X. Effective Date – This Code shall become effective from and after the date of adoption by the Board of County Commissioners, or other appropriate jurisdiction, and publication of notice as required by law.

Article 2: Administration

Section I. Administering Authority – This code shall be administered by the Reno County Public Works Department, and the Director of that department or his or her designee(s) shall have the authority and responsibility for the administration of this Code. Here in after the Reno County Public Works Department shall be referred to as RCPWD. Under the authority of any particular Chapter or Article of this Code, the RCPWD may implement such administrative procedures consistent with this Code.

Section II. Administrative Actions and Decisions –

- A. It is the intent of this Code to establish regulations and standards for the protection of the public’s health and safety. To the extent possible, all administrative actions and decisions required or authorized for the administration of this Code shall be made solely in accordance with the standards enumerated in the Code. Whenever in the course of an administrative decision or taking action for which standards are not provided then the decision or action shall be made according to the purpose and intents of this Code so that the result best serves the public health and safety.
- B. Any Policies created by the Reno County Public Works Director for the implementation of this code shall be reported to the Board of County Commissioners at their next regular meeting.

Section III. Interpretation of Terms or Words – All terms and words used in this Code shall be interpreted and given meaning according to their common understanding and to provide reasonable application of the purposes and intent of the Code. Whenever applied to this Code, the terms and phrases used shall be interpreted in the following manner:

- A. Words appearing in the singular number shall include the plural, and those appearing in the plural shall include the singular.
- B. Words used in the present tense shall include the past tense and future tense, and words used in the future tense shall include the present tense and past tense.
- C. The word “shall” be mandatory; the word “may” be permissive.
- D. The phrase “this Code” shall refer to the Code and all authorized regulations, restrictions and

requirements, and the phrase “the regulations” shall include regulations, restrictions, and requirements authorized by the Code.

Section IV. Definitions – The following words, terms and phrases appear in more than one Section of this Code and, thus, have general application and usage. Words, terms, and phrases appropriate or applicable to specific Chapters within this Code are defined, where necessary, within those Chapters. Unless the Code requires or specifies otherwise the following words, terms or phrases, as used in this Code, shall be given the meaning defined in this Section.

- A. Access: Entry into or upon any real estate, structure or vehicle including any part thereof.
- B. Administrative Agency: The Reno County Public Works Department; also referred to herein as “Agency”.
- C. Administrative Regulations: Those regulations contained in Chapter One of this Code which prescribe general procedures to be followed in the administration of the Code adopted by the County.
- D. Applicant: Any person who submits an application or requests permission to do some act regulated by this Code.
- E. Application: The application forms provided by the RCPWD including the filing fee and any other supporting documents required by the Agency.
- F. Authorized Representative: Any employee of the Reno County Public Works Department (RCPWD) who is designated by the Department Director to administer this code.
- G. Board of County Commissioners: Means the Board of County Commissioners of Reno County, Kansas.
- H. Board of Health: The Board of County Commissioners acting as the Reno County Board of Health.
- I. KDHE: Kansas Department of Health and Environment (KDHE)
- J. Inspection: A careful examination of property and proposal.
- K. Final Inspection: A careful examination of the permitted proposal.
- L. Law: Includes federal, state, and local statutes, ordinances, regulations, and resolutions.
- M. License: Identifies an individual that has the authority to perform wastewater tasks.
- N. Permit: Document provided by the Agency on standard forms to perform tasks required by this Code.
- O. Person: Any municipality, political subdivision, institution, corporation, partnership, association, or individual.
- P. Premises/Parcel: Any one or more lots or tracts of land that have separate deeds that were created by a survey, including all buildings, structures, or facilities located thereon.
- Q. Reno County Sanitation Commission: Shall consist of the Reno County Planning and Zoning Commission which will operate The Reno County Sanitation Commission as needed.
- R. Sanitation Code: Procedures, standards and regulations adopted by the County designed to minimize or control those environments and environmental conditions that may adversely affect the health and wellbeing of the public. Such environments and environmental conditions may include but are not restricted to domestic wastewater and domestic wastewater disposal; water supply; food and food handling. Whenever the term “Code” is used herein, such reference shall be to the Sanitation Code of Reno County, Kansas.
- S. Schedule of Compliance: A schedule of remedial measures and times including an enforceable sequence of actions or operations leading to compliance with any regulation or limitation.
- T. Subdivision: Any tract of land that is or has been subdivided into two or more lots for the purpose of sale or building development, whether immediate or future, including the streets,

alleys or other portions thereof intended to be dedicated for public use; and any re-subdivision of land or lots.

Section V. Technical and Scientific Terms – Unless otherwise defined, any technical or scientific term used within this Code or within any regulation, restriction, or requirement shall be given the meaning most commonly known and applied within the appropriate literature or manuals applicable for that science, industry or technological skill.

Section VI. Vested Interests – Nothing contained in this Code, or any regulations shall be deemed or construed to grant any vested interest or protected right to any person beyond the express limited terms of any permit or ruling issued under this Code, and the Code and regulations are expressly declared to be subject to amendment, change or modification.

Section VII. Compatibility with Other Laws – Nothing contained in this Code or any regulations shall be deemed to alter or modify the application of any other laws, codes or regulations which are or may be applicable to the property, use, business activity or other object or matter regulated under this Code, and any permit, approval or other condition given or acknowledged under this Code shall be limited in effect to the requirements of this Code and shall not, under any circumstances, relieve the holder from compliance with all other applicable laws, codes, regulations or requirements.

Section VIII. Variance of Requirements – In unusual cases where compliance with the requirements of this Code is not feasible, the RCPWD shall have the authority, and sole discretion, to waive the requirements, provided the RCPWD Administration is furnished with reliable information to show that such variance does not and will not impair the potability of the groundwater or otherwise endanger the health and safety of the individuals involved or the general public. Affected property owner must also provide written approval of any variance. Approval shall be filed of record with the Register of Deeds at the applicant's expense. Requests for exception to any of the regulations as set out within this Code shall be submitted to the RCPWD in writing and shall contain all information relevant to the request. Occasionally an existing variance will be on file for a property that may apply to the current situation and no additional variance is needed. The RCPWD shall review each site on a case-by-case basis and make a determination. The RCPWD shall recommend variances that meet the applicable state minimum standards. Appeals from the decision of the RCPWD shall be made to the Reno County Sanitation Commission at a regular or special meeting of that Board, which shall advise the Reno County Public Works Department Director to approve a variance or sustain the decision of RCPWD. Any such decision may be appealed to the Board of County Commissioners, who may or may not take it up at their next regular meeting. If not taken up the decision of the Reno County Public Works Department Director shall stand.

Article 3: Applications, Permits and Licenses

Section I. Application Forms and Procedures

- A. Content** – A completed Application for a permit or license shall be made on forms provided for that purpose. The application shall give a description of the character of the work proposed to be done, or activity to be engaged in, and, if appropriate, the locations, ownership, occupancy, and use of the premises in connection therewith. An application for any permit or license required under this Code shall be filed with the Agency. Applications are not transferable to another owner.

- B. **Verification** – An application for a permit must be signed by the owner of the property to be improved and for which the permit is being requested or by his authorized representative. The RCPWD may require proof of such authorization, including approval of proposed plans.
- C. **Compliance** – The applicant and owner shall be responsible for compliance with the permit requirements as further set out in this Code. Only a person who complies with the requirements of this Code shall be entitled to receive or retain a permit or license.

Section II. Permits and Licenses Required – No person shall conduct, carry-on or perform any business or activity identified in this Section without first having obtained a valid permit in conformance with the requirements of this Code.

- A. ***Permit for Private or Semi-Public Wastewater Disposal System** – Every person who installs, removes, alters, repairs or replaces or causes to be installed, removed, altered, repaired or replaced any private wastewater disposal system or part thereof shall, prior to commencement of any work, apply for and obtain a permit to perform such work, and no private wastewater disposal system shall be installed, removed, altered, repaired or replaced except pursuant to a permit issued under this Article. Permits are required for all wastewater tank installations or replacements, lateral field installation or replacements, installation of units that alter the wastewater system’s chemistry and function, and other wastewater systems that would be installed or replaced.
- B. ***License for Wastewater Contractor/Site Specific Wastewater Contractor/ Installer** – Every person who conducts the activity of an installer as defined in Chapter 2 of this Code, shall apply for, obtain, and maintain a valid operator’s license to perform that activity.
- C. **Licensed Wastewater Reciprocity** – Installers who are not licensed in Reno County but are licensed in a county with similar testing requirements may submit their testing and experience and request license based on reciprocity.
- D. **License for Sanitary Service Contractor** – Every person who engages in or conducts the activity of a Sanitary Service Contractor, as defined in Chapter 2 of this Code, shall apply for, obtain and maintain a valid operator’s license to perform that activity.
- E. ***Permit for Private Water Supplies** – Every person who installs, drills, develops, constructs, or reconstructs any private water supply on any premises subject to the Code shall, prior to commencement of any work, apply, and obtain a permit, to perform such work.

* Includes Homeowners.

Section III. Construction Plans – The RCPWD shall require plans, specifications or drawings and such other information as deemed necessary in pursuant of a permit or license.

Section IV. Permit/License Issuance; Investigations – If the RCPWD determines that the application complies with the requirements of this Code, a permit for construction or license for operation shall be issued. In making this determination the RCPWD may perform an inspection to determine compliance with this Code. Within ten (10) working days after receipt of an application for a permit or license, the RCPWD shall begin such investigations and inspections as it shall deem necessary to determine whether the permit or license shall be issued or not issued and shall issue the permit or license within twenty (20) working days of receipt of the application or explain in writing the reason it cannot be issued. If the application is not issued, the RCPWD shall give the applicant written reason it is not issued. It shall be the duty of the person performing the work authorized by a permit to notify the RCPWD when work is ready for any required inspection. Such notification shall be given not less than one regular working day before the work is to be inspected. Permits usually shall be issued within 2 business days following the receipt of plans and staff confirming no conflicts exist with other agencies. In rare situations when more

time is required, staff shall communicate within 2 business days of the reason for the delay and approximate time a permit decision shall be made.

Section V. Permit and License Conditions – Every permit and license issued under this Code shall be subject to the terms and conditions specified in this Section.

- A. Right of Access** – Application for, and acceptance of, any permit issued under this Code shall grant to any inspector, code or law enforcement officer, and any representative of the RCPWD the right to enter upon any property subject to the permit, at any reasonable time during standard business hours, with or without notice, for the purpose of inspection to determine and ensure qualifications for and compliance with the permit, and shall allow for reasonable access to and review of records, property or other materials necessary to perform the inspection.
- B. Authorized Activity** – Each permit or license issued under the authority of this Code shall be limited to and expressly provide for the type and manner of activity permitted for the holder and shall not be used nor applied for any other purpose, type, or manner of activity. The permit or license issued shall specifically refer to the activity description contained within the permit or license application, and any change in the type, manner, scope, or location of any activity shall require application for and modification of the permit or license.
- C. Application, Permit or License Non-transferable** – No application, permit, or license, required by this Code shall be transferable to another activity, person or premises and the holder of the permit or license shall notify the RCPWD prior to any change in ownership or location of any permitted licensed activity.
- D. Term Expiration** – Each permit for construction or license issued under the authority of this Code shall clearly state the date of issuance, the term of the permit or license, and the expiration date. The term of each permit or license issued under this Code shall be for a period not to exceed one (1) year unless the RCPWD determines, for cause shown, that the permit or license should be issued for a period of time other than one (1) year; in which case, the RCPWD may designate a lesser time when the activity can or maybe fully completed within the shorter period, or may designate a greater time, but in no event more than three (3) years, subject to annual review and payment of any required fee, where the activity is reasonably known or contemplated for continuation beyond one year.
- E. Permit Factors Conditions and Assumptions** – A permit is approved subject to the conditions and upon the terms, details and requirements of the approved construction plan, wastewater application, soil profiles, and the county’s wastewater inspection. It is assumed the property owner has read and informed themselves in regard to the maintenance and operation of the wastewater system that may be constructed or repaired. It is also assumed the owner has or obtained legal authority to utilize a utility easement or physically crossing a utility easement line for the placement of the wastewater system where applicable. Without a survey from a Kansas Licensed Surveyor, the county staff cannot determine with certainty that the proposed system conforms to the code’s setback requirements from the adjacent property lines and road right of way. Therefore, the County’s inspection of the proposed site or the county’s issuance of a permit is based on information provided by the Owner and or contractor. RCPWD shall confirm tract sizes based on recorded deeds as necessary, generally when preliminary records show the tract is within 0.5 acres of a minimum code size. Water well construction shall comply with Kansas law described in K.S.A., 82a-1201, et seq. (Article 12), and KDHE water well regulations described in K.A.R. 28-30-2, et seq., and amendments thereto. Water well construction shall meet the current standards of KDHE Article 30 and 12.
- F. Permit Renewal** – Any permit issued under the authority of this Code may be renewed for one

or more additional terms upon application for renewal filed with the RCPWD on a form authorized for that purpose. No permit which has been expired for more than thirty (30) working days or which is subject to revocation, for any reason, may be renewed, and such permits may be reissued only upon the filing of a complete application for a new permit. All applications and fees expire in (3) years if a permit has not been issued. See other chapters for permit renewal details (i.e. semi-public permit renewal).

- G. Error and Omissions** – The issuance of a permit or license shall not prevent the RCPWD from thereafter requiring the correction of errors in plans and specifications or from preventing construction activity being carried on thereunder when such activity would be in violation of this code or of any other code or resolution or from revoking any permit or license when issued in error. The RCPWD may, in writing, suspend or revoke a permit issued under provisions of this Code whenever the permit is issued in error or on the basis of incorrect information provided by the applicant or contractor.

Section VI. Permit and License Revocation – A permit or license may be revoked for failure to comply with this Code. The revocation procedure shall comply with the provisions of Chapter 5.

Section VII. Fees

- A. Standard Fees** – For the purpose of defraying all or part of the cost of administration of this Code, the Board of County Commissioners shall establish a schedule of fees for all permits and licenses required by the Code. The fees imposed under this Code shall be paid by the applicant prior to the issuance of any permit or license authorized by the Code, and all annual fees shall be paid prior to the anniversary or expiration date of a permit or license, where applicable. Fees shall accompany all applications and be remitted prior to any site evaluation or license issuance.
- B. Double Fee for Unauthorized Practices** – Any person who shall commence any activity for which a permit is required by this Code without first having obtained the permit shall, if subsequently permitted to obtain a permit, pay double the permit fee fixed by this section for such activity, provided, however that this provision shall not apply to emergency work when such work was urgently necessary to protect public health and safety and it was not practical to obtain a permit before commencement of such emergency work. In all such cases, a permit must be obtained within three (3) working days after the performance of such work or a double fee as herein provided shall be charged.

Section VIII. Supplemental to State Regulations – The permits or licenses, and all fees, conditions and regulations imposed under this Section, or any other Section of this Code shall be supplemental to and in addition to any permits, licenses, fees or regulations imposed or required by any other law, including but not limited to those administered by the Kansas Dept. of Health & Environment, the Kansas Department of Agriculture’s Division of Water Resources, the Equus Beds Groundwater Management District No. 2, etc.

- A. Conflict in Regulations or Requirements** – All regulations, restrictions, and requirements of this Code shall remain in effect and shall apply to any activity or condition covered by this Code except when in direct conflict with a provision of the State regulations, in which case the State-imposed regulations shall apply. Terms and conditions, requirements, regulations or limitations which are supplemental to those imposed by the State and which are not specifically or expressly excluded or prohibited shall not be considered conflicting and shall be imposed and in effect.
- B. Additional Regulations** – Regulations and requirements applicable to any conduct, activity,

condition or standard, which are not expressly regulated by operation of State law, but which are regulated by this Code, shall be and remain in full force and effect as specifically applied under this Code for and within Reno County, Kansas.

Article 4: Inspections and Investigations

Section I. Inspections Required – Physical site inspections shall be authorized and performed for all activities under this code.

- A. Construction Activity** – Whenever plans and specifications are required by this Code to be submitted as part of a permit application, the RCPWD shall inspect the premises prior to the start of operations to determine compliance with the approved specifications and with any other requirements of this Code.
- B. Private, Semi-Public Water Wells and Wastewater Systems** – Private and semi-public water wells and wastewater systems shall be inspected by the RCPWD prior to being placed in operation to ensure compliance with this code. Such systems shall be inspected thereafter as often as necessary to ensure compliance with this Code. No portion of the wastewater system shall be covered or made inaccessible to inspection prior to approval. Private and Semi-public water wells shall be inspected by staff of above ground construction requirements for KDHE Article 12 and 30. Staff shall use the approved/permitted plans on file submitted by the contractor or owner as a guide to conducting the final inspection. Staff shall use photographs and GIS to document inspection findings whenever possible. Applicants may submit photographs for approval and use by county staff. Staff may provide educational handouts as appropriate.

Section II. Inspection Reports – A written inspection report shall be made for all inspections conducted under the authority of this Code, stating the name of the inspector, the date and time of the inspection, the type of inspection and the property inspected. The report shall enumerate all findings made during the inspection. Staff may use photographs and GIS to document inspection findings whenever possible. Applicants may submit photographs for approval and use by county staff. Staff may provide educational handouts as appropriate. Whenever a private or semi-public water well or wastewater system is inspected after a permit is issued, the findings of the inspector shall describe any identified violations, the Code section violated, and the correction to be made. A copy of the completed report shall be issued to the owner of the premises and, if different than the owner, to the holder of the permit. All final County forms are public records available upon request. Drafts and county staff documents such as notes, and electronic communications are not public record.

Section III. Inspection Scheduling and Re-inspections – Whenever inspections are required under this Code to be scheduled for any installation, construction, initial activity, or for the correction of any violation or other non-conforming condition, it shall be the duty of the holder of the permit or license or the establishment to notify the RCPWD and schedule the time and date for the inspection. Use of electronic software for permit processes and investigations maybe used by staff whenever possible and applicants and contractors are encouraged to use electronic software as well. Staff may not complete forms that are intended to be completed by the applicant or contractor. Staff will make best efforts to keep track of all communications from all parties in a chart and to retain all records related to the permit.

Section IV. Access and Right of Entry – The RCPWD shall have the right to make inspections of establishments, premises, places, and localities for the purpose of determining compliance with this Code. Inspections shall be done at a reasonable time. The RCPWD may examine the water usage records of any establishment that uses a private sewage disposal system for information pertaining to the amount of water used by the establishment. If the building, premises, or establishment to be inspected is occupied, the RCPWD representative shall first present proper identification and request entry; if such building or premises be unoccupied, he shall first make a reasonable effort to locate the owner, or other persons having charge or control of the building or premises, to request entry. If entry is refused, the RCPWD shall have recourse to all remedies provided by law to secure entry. The RCPWD shall have reasonable access to the business records of any person licensed to perform any activity under this Code where the records, daily logs, or other documents are reasonably necessary to determine compliance with the requirements of this Code.

Section V. Educational handouts and lists – The County will update educational handouts and lists as needed and post on the county’s website as needed. This will include updates of new products or design approvals. Relevant state laws and regulations shall also be posted on the county’s website.

Chapter Two

DOMESTIC WASTEWATER TREATMENT

Article 1: General

Section I. Purpose – Wastewater is a potential source of disease and a potential hazard to the health, safety, and welfare of the public. It also poses a direct threat to the environment as a potential pollutant of the air, water, and soil, and presents a hazard to all forms of plant and animal life. It is the purpose of this Chapter to provide minimum standards for the sanitary treatment of all sewage generated or transported within Reno County unless otherwise regulated by competent authority.

Section II. Scope – All wastewater must be disposed of by the use of a sanitary sewer system as defined in this Section. A sanitary sewer system may be classified as either a: public wastewater system, semi-public wastewater system or a private wastewater system.

Section III. Definitions – Unless the context requires or specifies otherwise, the following words, terms or phrases, as used in this Code, shall be given the meaning defined in this section.

- A. **Absorption System**: A private wastewater system for the treatment of sewage by means of absorption trenches and the biological decomposition of wastewater effluent in the adjacent soil.
- B. **Absorption Trenches**: One or more trenches of varying length and depth and of fixed horizontal separation in which effluent is percolated into the soil.
- C. **Agriculture Land**: Any land that is currently classified as agricultural by the Reno County Planning Commission.
- D. **Alternative Wastewater System**: A domestic wastewater system other than an anaerobic septic tank-soil absorption system, lagoon or privy that is used or designed to be used, to collect, treat, hold or discharge domestic waste from residential, industrial or commercial property. This includes, but is not limited to, such systems as; mounds, shallow and at-grade absorptions fields.
- E. **ANSI: American National Standards Institute** certification for wastewater products.
- F. **Bedrock**: A soil horizon which contains greater than 50% consolidated material, by volume.

- G. **Cesspool:** A drywell that receives untreated sanitary wastes containing human excreta.
- H. **Class V Injection Well:** A septic system receiving only domestic wastewater and having the potential to serve 20 or more persons a day, any septic system receiving non-domestic wastewater, or any well authorized by the KDHE to inject as a UIC Class V well for remedial purposes.
- I. **Composting Toilet:** A dry toilet that treats human waste using organic matter.
- J. **Distribution Box:** A watertight chamber below the outlet level of a septic tank or treatment unit and from which effluent enters the absorption system.
- K. **Domestic Septage:** The liquid and solid material removed from a septic tank, lagoon, privy (portable or stationary), alternative wastewater system, portable toilet or similar device that receives only domestic wastewater. Domestic septage does not include commercial or industrial wastewater or grease removed from a grease trap.
- L. **Domestic Wastewater:** All water-borne wastes produced at family dwellings in connection with ordinary living including kitchen, toilet, laundry, shower, and bathtub wastewater. It also includes similar type wastewater produced at businesses, churches, industrial and commercial facilities, or establishments. Stormwater shall not be mixed with domestic wastewater.
- M. **Drywell:** A well or excavation completed above the water table so that its bottom and sides are typically dry except when receiving fluids.
- N. **Enhanced Treatment System:** This includes any private or semi-public wastewater system which has been designed to improve the quality of wastewater effluent going into the soil absorption field that is of higher quality than from a conventional septic tank. Includes all media filters, aerated tanks, retro fit units, followed by a soil absorption system. one or more of the following: biological oxygen demand, dissolved solids, suspended solids, nitrates, phosphorus, or bacteria is reduced prior to dispersal. Examples of such systems are aerobic septic tanks, sand, textile or peat filters and constructed wetlands.
- O. **Flood Plain:** The Flood Plain refers to land that is currently designated as part of the Flood Plain by the Federal Emergency Management Agency.
- P. **Lateral Field Fill:** Fill material should be sandy loam, free of debris including roots, man made materials, minimal to no clay content, and cannot contain characteristics of a water features.
- Q. **GPD:** Gallons Per Day.
- R. **Graywater:** All domestic water that does not contain water from toilets.
- S. **Holding Tank:** A watertight receptacle for the retention of wastewater either before, during or after treatment.
- T. **Lateral Field:** System of perforated or pen joint sewer pipe positioned underground or cover within crushed rock/gravel beds, chambers, gravel less pipe or other approved material to effect transfer of septic tank or enhanced treatment effluent for final treatment and dispersal.
- U. **New Construction:** Means the initial construction or enlargement of the onsite wastewater treatment system, modification of the method or extent of sewage treatment, or replacement of a significant portion of the existing onsite wastewater treatment system.
- V. **NSF:** National Science Foundation certification for wastewater products.
- W. **Non-Domestic Wastes:** Any liquid or water-borne wastes, other than domestic wastewater, produced in connection with any industrial or commercial process or operation.
- X. **Onsite Wastewater System:** Treatment system means of arrangement of devise, structures and mechanisms to treat and modify wastewater system from a structure, in locations where public sewerage is not available, in such a fashion as to prevent sewage from being a public health hazard, a detriment to environment or natural resources, or water pollutants.
- Y. **Wastewater Contractor/Installer:** Any person duly licensed to construct, install and/or repair

private sewage treatment systems.

- Z. **Private Wastewater System**: Any septic system, lagoon, alternative wastewater system, privy, holding tank or other means of wastewater treatment that does not discharge to a public or semi-public wastewater system.
- AA. **Pit Privy/Privy**: A facility designed and/or used for the biological composting and disposal of human excreta.
- BB. **Public Wastewater System**: A wastewater system that is used or designed to be used for the collection, treatment, and discharge of domestic wastewater or industrial or commercial wastes and has a valid permit from KDHE.
- CC. **Reconstruction**: The replacement, alteration or repair of existing components of a private or semi-public wastewater system that improves or enhances the performance of the system or changes the classification of the wastewater system.
- DD. **Sand Trap Waste**: The sand, gravel and other solid material along with its associated liquid which settles from the effluent flow produced in connection with the commercial or industrial process of washing vehicles.
- EE. **Sanitary Service**: The pumping out and/or removal of wastes, sludge or human excreta from privies, septic systems, lagoons, alternative wastewater systems, enhanced treatment systems and other private or semi-public wastewater systems, and the transportation of such material to a point of final disposal treatment.
- FF. **Sanitary Service Contractor**: Any person duly licensed to perform sanitary disposal services.
- GG. **Semi-Public Wastewater System**: A wastewater system used for the on-site collection and treatment of domestic wastewater only, that accepts, or is designed to accept, greater than 1,000 GPD but no more than 2,500 GPD and does not discharge to the surface waters of the State.
- HH. **Septic System**: An anaerobic septic tank-soil absorption system used for the collection and treatment of domestic wastewater.
- II. **Septic Tank**: An approved, watertight, accessible, covered receptacle designed and constructed to receive sewage in which three processes take place: settling of the solids, the digestion of some of the accumulated solids by anaerobic action, and separation of the floatable scum.
- JJ. **Single Family Waste Stabilization Pond**: An artificial or man-made structure which is not a public wastewater system and into which 1,000 GPD or less of domestic wastewater is discharged and confined for treatment. It is otherwise referred to as “lagoon” herein.
- KK. **Site specific Licensed Wastewater Contractor**: A property owner that is only licensed to construct, install, maintain, and repair private sewage treatment system(s) on their own property.
- LL. **Soil Mottles**: Spots or streaks of contrasting soil colors that indicate the presence of a seasonal water table zone.
- MM. **Wastewater Contractor**: Any individual or company that constructs, reconstructs, or modifies private or semi-public wastewater systems.
- NN. **Wastewater (Sewer) District**: A special district authorized and empowered by state statutes to plan, construct and operate a public wastewater system.

Section IV. Rules of Application – The requirements established by Chapter 2 of the Reno County Sanitation Code shall apply and be applicable to any and all private and semi-public wastewater systems now or hereafter installed, used or operated upon any property located within Reno County, Kansas subject to the provisions of this Code.

- A. **General Regulation**: No person shall construct, reconstruct, or modify, nor cause or allow the construction, reconstruction, or modification of any private wastewater system except as

permitted or allowed within the requirements of this Code. No commercial or industrial waste shall be directed to a private or semi-public wastewater system.

- B. Existing Systems Treating Domestic Waste:** Any private sewage treatment system installed prior to the effective date of this Code and used exclusively for domestic sewage, and not industrial nor commercial wastes, may remain in use if, and as long as, it continues to operate in accordance with the original design and location, does not experience any system failure, and does not present any hazard to the public health, safety or welfare; however, any replacement, alteration, enlargement, repair, removal, conversion, improvement or demolition shall comply with the requirements of this Code or any later amendments, revisions or versions. Existing wastewater system components shall be brought up to code at the time of permit issuance and noted in plans.
- C. Existing Tank Replacement:** Will not require a soil profile test to be conducted but will require photo or inspection of uncovered tank installed in the new location, prior to back filling. Staff will conduct a final inspection.
- D. Installation of Holding Tanks:** will not require a soil profile test to be conducted but will require photo or inspection of uncovered tank installed in the new location, prior to back filling. Staff will conduct a final inspection.
- E. Consultation:** Staff may consult with KDHE in unusual circumstances and follow KDHE interpretations during the permit process.

Section V. Approval of Plans and Specifications

- A. Private and Semi- Public Wastewater Systems-** Plans and specifications for all wastewater systems shall be submitted to and approved by the RCPWD prior to starting any construction of such systems. Wastewater systems shall meet the minimum design standards of the publications below, including depth and elevation of a wastewater system, setbacks, and in coordination of the proposed wastewater system and soil profile results. See below and Appendix 2 for setbacks distance.

Private and Semi-Public Wastewater System Setbacks Distance

	Minimum Setbacks for wastewater systems
Setback	Required
Septic tank/Aerobic unit/ Retro Fit to foundation of a house or other building	10 Feet
Soil Absorption system to a dwelling foundation	20 Feet
Any part of the wastewater system to:	
Public potable water line	25 Feet
Private potable water line	10 Feet
Property line	10 Feet (road right of way may not be included)
Public water supply well or suction line	100 Feet
Private water supply well or suction line	50 Feet
Surface watercourse	50 Feet
Wastewater Lagoons (Lagoon 5' water level) to:	
Property line	50 Feet (road right of way may not be included)
Dwelling foundation	50 Feet

Any other distances not listed are subject to KDHE interpretation and KDHE Bulletin 4-2, and amendments thereafter. Any setbacks not identified in the above table refer to KDHE Environmental

health handbook or other KDHE publications.

The standards of design, construction and location for such systems shall be extracted from independent standards current to the time of plan review. Such standards applicable at the time of this codes adoption are KDHE Bulletin 4-2, Minimum Standards for Design and Construction of Onsite Wastewater Systems, KDHE Environmental Health Handbook, KSU Extension, EPA Onsite Wastewater Manual, and any amendments thereafter. Under unique circumstances the RCPWD may require the system to be designed by an active Kansas licensed professional engineer or ask for review of the proposal by KDHE.

Section VI. Wastewater Product Reviews- Wastewater storage and/or treatment product reviews will be conducted on products that are not included in KDHE Bulletin 4-2, and are intended to be installed as enhanced treatment, new style of soil absorption system, or treat/alter sewage treatment. Literature submission shall include: an engineer approval, engineered designs, NSF or ANSI certification, regimen for maintenance, limitation of installations, and other information as requested by staff. Other Wastewater certification may be accepted if comparable to either NSF or ANSI. Proprietary wastewater products may only be installed per the certifications provided. County will issue an approval or non-approval letter that will be sent to the local dealer.

Section VII. Criteria for Plan Approval – Prior to issuing a permit for construction, a soil profile test of the proposed wastewater building site shall be conducted, in order to identify site limitations or restrictions. Staff may also conduct a site inspection to determine any other site limitations and evaluate proposed plans for code compliance. Credentialing of persons wishing to complete a soil profile must meet the following criteria: Soil profile abilities approved by a Kansas licensed soil scientist, Kansas licensed professional engineer, or have completed a soils class from Kansas Small Flows that was instructed by a college accredited professor or approved personnel. Proof of certification must be design standards for the conditions determined by the soil profile test. Soil profile findings shall include property owner name, address, date, location of soil profile, soil horizons, soil color, any mottling encountered, texture, structure, consistency, roots, remarks, loading rate, vegetation present ground level, and depth in inches to restrictive features, and signature and date of qualified person that conducted the soil profile. County soil form can be provided for use if needed. Soil profile results shall be submitted to the county in combination with other forms needed in the permit process. Applicants may be asked to excavate additional soil profile pits or observational holes as needed. If an existing soil profile has been completed in the area of the existing system, no future soil profiles are needed to be repeated, unless the site has undergone major changes. If the location of the wastewater system moves over 50' from the original soil profile pit, then another soil profile pit may need to be completed by either the RCPWD or credentialed persons. Soil fill to be used may also be evaluated by staff or credentialed persons.

- A. Enhanced wastewater systems may be installed at owners' discretion.
- B. Parcels and lots established after the date of this code shall meet minimum code setbacks.
- C. New lots of record created after the date of this code shall meet the minimum setbacks and current design standards as identified in the following KDHE Bulletin 4-2, Minimum Standards for Design and Construction of Onsite Wastewater Systems and the KDHE Environmental Health Handbook, KSU Extension, and EPA Onsite Wastewater manual, and any amendments thereafter.
- D. In all circumstances, regardless of lot size, there should be a suitable area for immediate and eventual use as a private wastewater system, exclusive of buildings, non-porous driveways, and other public right of way easements. This area is to be comparable in size to the current or proposed wastewater system. In all cases sewage saturated soils and past wastewater system

components may not be used for new lateral field installations.

- E. **Inspection Ports** – All lateral fields are required to have an inspection port installed at the end of each lateral. Inspection port shall be constructed of solid PVC that is a 90 degree turn up and extending to at least grade level. A solid removable PVC cap is to be installed.
- F. **Effluent Filter** – All existing or newly installed septic tanks shall be fitted with an effluent filter and installed per manufacturer specifications.
- G. **Wastewater Construction Plans** – Plans shall include setbacks, depth, and elevation of a wastewater system, in coordination of the proposed wastewater system, soil profile results, and soil amendments, site restrictions, and use of easements if applicable and reflect meeting the minimum design criteria for the above publications and any additional site criteria listed on the wastewater inspection form. If a floodplain or floodway is present on the property, additional criteria may be listed in the permit or on plans. Use of staff aerial, existing diagrams maybe used as part of plan submitted, if applicable. Plans can be amended during the final inspection by the contractor to reflect the true installation. Plan amendments in all circumstances are to be initialed and dated. Contractors are responsible to ensure aggregate used meets the above design spec publications. Following the issuance of a permit for construction, and prior to covering any portion of the wastewater system, the permit holder shall contact the RCPWD and arrange for an inspection of construction for the purpose of assuring compliance with the conditions of this Code.
- H. **Easements** – Use of easements maybe considered by the RCPWD and approved by the county counselor.
- I. **Engineer approved Exceptions** – Reno County has had an experienced wastewater engineer review several historically used wastewater designs and installations, and upon approval they have been posted on the County’s website and may be used consistent with that approval. Any other designs and installations that are not in the publications must be evaluated by a licensed engineer and that evaluation included with the application.
- J. In unique circumstances of same ownership of multiple homes and buildings on one parcel, the structures may be connected to one wastewater system. Plans must reflect future wastewater system reserve areas may be located.
- K. No private or semi-public wastewater system shall be constructed if the applicant’s property line is within 400 feet of an existing public sewer, unless the RCPWD finds that connection to such a sewer is not feasible and that a domestic wastewater system, meeting the requirements of this Code, can be constructed on the property.
- L. **Final Inspections of Construction** – Staff shall use permitted plans as a guide to conduct a final inspection. Multiple final inspections may be conducted, depending on the type of wastewater system installed and violations encountered. Staff may use photos, collect measurements, and GIS to document inspection findings. Photo corrections by the contractor are allowed in some circumstances. Contractor will need to call staff if inclement weather is approaching and make arrangements for the wastewater system to be covered up, prior to staff completing a final inspection. Photo submission is allowed as part of the arrangement upon staff approval.
- M. **Class V Injection Wells** – Owner/operators of private and semi-public wastewater systems meeting the KDHE definition of a class V injection well shall contact the KDHE and comply with or satisfy all requirements and regulation adopted by the KDHE, pursuant to Kansas Administrative Regulations, Article 46.

Article 2: Prohibited Practices

Section I. Private or Semi-Public Wastewater Systems – No person shall sell, use, or lease for use any real estate upon which is located a private or semi-public wastewater system which:

- A. Improperly discharges effluent as prohibited by Chapter Five, Article 1, Section I, Paragraph G of this code; or
- B. Discharges or receives industrial or commercial waste; or
- C. Discharges onto the surface of the ground, into watercourses, lakes, ponds, or any impoundment; or Causes fly breeding, produces offensive odors or any other condition that is prejudicial to health and comfort, and has documented violations that are not corrected.

Article 3: Semi-Public Wastewater Systems

Section I. Annual Permit – The owner of every semi-public wastewater system shall obtain a permit for the initial operation of the system and annually thereafter from the Agency. A permit for operation shall be issued by the RCPWD following an inspection of the system and said Agency’s determination that the system has been constructed according to approved plans and presents no significant health risk. No semi-public wastewater system shall be constructed or operated until the owner has obtained the required permit.

Article 4: Semi-Public and Private Wastewater System Operation and Maintenance

Section I. Proper Maintenance and Operation of Semi Public and Private Wastewater Systems

- A. All private and semi-public wastewater systems shall be maintained in good working condition, operating per permit issued, and shall not discharge onto the surface of the ground or drain into any stream or roadside ditch, or produce offensive odors or become a breeding place for flies, mosquitoes, or rats. Whenever the RCPWD shall find any private or semi-public wastewater system malfunctioning and causing any of the above prohibited conditions the RCPWD shall order the owner and/or user to correct the condition within thirty (30) working days and subsequent inspections will occur as needed.

Article 5: Regulations for Sanitary Service Contractors

Section I. License Required – No person shall remove, haul, transport, or dispose of any domestic septage without a valid license from the Agency. A valid sanitary service contractor’s license issued to a sole proprietor, a partnership or a corporation shall be valid as to all its agents and employees.

Section II. License Term and Renewal – Any license issued under this Section shall expire on December 31st of each year and must be renewed annually. All required license fees shall be paid at the time of application for the license or renewal, and no fee required under this Code shall be prorated or refunded for any partial term of part-year application.

Section III. Standard of Performance-Every person licensed as a sanitary service contractor under this Section shall comply with the performance requirements specified in this Code.

- A. **Equipment**-A license holder shall maintain equipment to ensure that no spillage of sewage shall

occur during transportation, and that employees of the licensee are not subjected to undue health hazards. All sewage shall be transported in an enclosed watertight tank.

- B. Vehicles**—Sewage shall be transported only in vehicles approved for that purpose by the Agency. Each such vehicle must be inspected prior to issuance or renewal of a license to a sanitary services contractor. The vehicle must be kept in good working condition and the name of the licensee shall be clearly displayed on both sides of the vehicle in bold letters not less than 5 inches high.
- C. Disposal**—All licensees shall comply with the requirements of Title 40, Part 503 of the Code of Federal Regulations: Sewage Sludge Use and Disposal and the KDHE Kansas Environmental Health Handbook and KDHE EPA 503 Land Application of Septage publication and any amendments thereafter. Land application disposal logs shall be kept by the licensee for at least a period of 5 years and will need to be made available upon request of RCPWD staff.

Article 6: Regulations for County Wide and Site-Specific Licensed Wastewater Contractors

Section I. License Required – No person shall install, engage in the installation of, repair or modify a private or semi-public wastewater system unless that person holds a valid wastewater contractor license issued by the Agency. Employees of a validly licensed installer are not required to be separately licensed.

Section II. License and License Renewal – Any license issued under this Section shall expire on December 31st of each year and must be renewed annually. All required license fees shall be paid at the time of application for the license or renewal, and no fee required under this Code shall be prorated or refunded for any partial term of part-year application. Proof of CEUs must be submitted with renewal application. Site specific Wastewater contractors shall only be issued one license and it will expire by anniversary date.

Section III. Standard of Performance – Prior to the issuance or renewal of a license under this Article, the applicant shall be required to demonstrate adequate knowledge of State and Local regulations pertaining to private and semi-public wastewater systems and general engineering principles pertaining to such systems. The RCPWD may consider actual experience, education, or professional licensing of the applicant in the granting or not granting of an application for an initial license or renewal, including prior revocations or disciplinary action. The County Wide Wastewater Contractor may list employees that are capable to work under the applicant’s license as a benefit to complete or edit plans. Attendance by any applicant to an appropriate training workshop, conducted or sponsored by the RCPWD or other recognized governmental, education or professional institution, and satisfactory completion of 80%, a written examination administered by the RCPWD covering subjects related to public health concerns, wastewater treatment techniques, standards for design or construction or installation of wastewater systems, wastewater treatment theory, and/or soil science, shall satisfy the requirements of this Section.

Section IV. Reciprocity – Licensure in other counties shall be reciprocal if training, exam, and passing scores are equal or greater than those of Reno County.

Section V. Continuing Education – Every person licensed as a wastewater contractor, under the authority of this Article, must obtain a minimum of three (3) hours of annual continuing education regarding onsite wastewater that must be approved by the RCPWD each calendar year, and no license issued under this Article shall be renewed without submission of a certification of the training to the Agency. Continuing education is not a requirement for site specific licensing.

Section VI. License Revocation – A license may be revoked for failure to comply with this Code. The revocation procedure shall comply with the provisions of Chapter 7 of this Code.

Chapter Three WATER SUPPLIES

Article 1: General Provisions

Section I. Purpose and Intent – The provisions of this code are for the purpose of regulating and controlling the development, maintenance, and use of private or semi-public water supplies in the unincorporated area of Reno County, Kansas, to ensure that public health is protected and contamination and pollution of the water resources within the county are prevented.

Section II. Compliance Required – After the effective date of this code, no person shall construct or reconstruct on any property subject to this code, any semi-public or private water supply that does not comply with the requirements of this code.

Section III. Definitions – In addition to the definitions provided in Chapters 1, 2 and 4 of this Code the words, terms and phrases listed below, for purposes of this chapter, are defined as follows:

- A. **Abandoned Well:** If meets at least one of the following conditions: (1) Use of the water well has been permanently discontinued. (2) Pumping equipment has been permanently removed from the water well. (3) The water well either is in such disrepair that it cannot be used to supply water or has the potential for transmitting surface contaminants into the aquifer, or both. (4) The water well poses potential health and safety hazards. (5) The water well is in such a condition that it is not an active well or cannot be placed in inactive status.
- B. **Above Ground Surface Completion:** The termination of a water well or boring if the casing used is at least 12 inches above the surrounding ground surface.
- C. **Active Well:** A water well which is an operating well used to withdraw water, monitor, or observe groundwater conditions.
- D. **Annular Space:** The space between the well casing and the bore hole or the space between two or more strings of well casings.
- E. **Aquifer:** An underground formation that contains and is capable of transmitting groundwater.
- F. **Confined Aquifer:** An aquifer overlain and underlain by impermeable layers. Groundwater in a confined aquifer is under pressure greater than atmospheric pressure and may rise in a well above the point at which it is first encountered.
- G. **Construction:** All acts necessary to create a water well as defined in LL herein.
- H. **Domestic Purpose:** The use of water by any person(s) for household purposes, or for the watering of livestock, poultry, farm and domestic animals used in operating a farm, or for the irrigation of lands not exceeding a total of two acres for the growing of gardens, orchards and lawns. These wells will be commonly referred to as household wells or lawn and garden wells or small livestock wells.
- I. **Groundwater:** That part of the subsurface water which is in the zone of saturation.
- J. **Grout:** Material such as cement, neat cement, bentonite clay or other such material approved by KDHE used to create a permanent impervious watertight bond between the casing and the

- undisturbed formation surrounding the casing or between two or more strings of casing.
- K. **Grout Tremie Pipe or Grout Pipe**: A steel or galvanized steel pipe or similar pipe having equivalent structural soundness that is used to conduct pumped grout to a point of selected emplacement during the grouting of a well casing or plugging of an abandoned well or test hole.
 - L. **Heat Pump Hole**: A hole drilled to install piping for an earth-coupled source heat pump system.
 - M. **Household Purpose**: The use of water by a person for cooking, cleaning, washing, bathing, human consumption, rest room facilities, fire protection, and other uses normally associated with the operation of a household.
 - N. **Inactive Status**: A water well that is not presently operating but is maintained in such a way that it can be put back in operation with a minimum of effort.
 - O. **Lawn and Garden well**: A water well used for the outdoor watering of land not exceeding two (2) acres (gardens, trees, shrubs, and plants), or for filling swimming pools or the washing of vehicles, boats, trailers or building exterior associated with a residence or farm.
 - P. **Pitless Well Adaptor or Unit**: An assembly of parts installed below frost line that permits pumped groundwater to pass through the wall of the well casing or an extension of the casing and prevent the entrance of contaminants.
 - Q. **Potable Water**: Water free from impurities in amounts sufficient to cause disease or harmful physiological effects in humans and conforming to the most recent EPA primary drinking water standards.
 - R. **Private Water Supply**: A water well supply used for domestic purposes, excluding public water supplies, semi-public water supplies and water supplies used for the watering of livestock on lands exceeding ten acres. Wells used for watering livestock less than 10.0 acres will be commonly referred to as small livestock wells.
 - S. **Public Water Supply**: A water well that meets both of the following conditions: (1) Provides groundwater to the public for human consumption; and (2) has at least 10 service connections or serves an average of at least 25 individuals daily for at least 60 days during a calendar year.
 - T. **Pump Pit**: A watertight structure constructed at least two (2) feet away from the water well and below ground level to prevent freezing or pumped groundwater and which houses the pump or pressure tank, distribution lines, electrical controls, or other appurtenances.
 - U. **Reconstructed Water Well**: An existing water well that has been deepened or has had the casing replaced, repaired, added to, or modified in any way for the purpose of obtaining groundwater.
 - V. **Sanitary Well Seal**: A manufactured seal installed at the top of the well casing which, when installed, creates an air and watertight seal to prevent contaminated or polluted water from gaining access to the groundwater supply.
 - W. **Semi-Public Water Supply**: A water supply used for domestic purposes serving three (3) to nine (9) residential units (rental or under separate ownership) on a piped system.
 - X. **Setback Distances**: The minimum distance a structure must be from another defined boundary or structure.
 - Y. **Small Livestock wells**: A well to water livestock on property less than 10 acres.
 - Z. **Static Water Level**: The highest point below or above ground level which the groundwater in the well reaches naturally.
 - AA. **Test Hole**: Any excavation constructed for the purposes of determining the geologic, hydrologic and water quality characteristics of underground formations.
 - BB. **Treatment**: The stimulation of production of groundwater from a water well by a properly licensed person through the use of hydrochloric acid, muriatic acid, sulfamic acid, calcium or sodium hypochlorite, polyphosphates or other chemicals and mechanical means, for the purpose of reducing or removing iron and manganese hydroxide and oxide deposits, calcium and magnesium carbonate

deposits and slime deposits associated with iron or manganese bacterial growths which inhibit the movement of groundwater into the well.

- CC. **Uncased Test Hole:** Any test hole in which casing has been removed or in which casing has not been installed.
- DD. **Unconfined Aquifer:** An aquifer containing groundwater at atmospheric pressure. The upper surface of the groundwater in an unconfined aquifer is the water table.
- EE. **Water District:** Any special district authorized and empowered by state statutes to plan, construct and/or operate a public water supply system.
- FF. **Water Well:** Any excavation that is drilled, cored, bored, washed, driven, dug jetted, or otherwise constructed, when the intended use of such excavation is for the location, diversion, artificial recharge, or acquisition of groundwater.
- GG. **Water Well Contractor or Contractor:** Any person who constructs, reconstructs or treats a water well. The term shall not include: (1) An individual while in the act of constructing a water well on land which is owned by such individual and is used by such individual for domestic purposes at such individual's place of abode, but only when the well is constructed in compliance with prescribed minimum well standards as provided in this act; or (2) an individual who performs labor or services for a licensed water well contractor at such contractor's direction and under such contractor's supervision.

Article 2: General Regulations

Section I. Requirements of Application – The requirements established by Chapter 3 of the Reno County Sanitation Code shall apply and be applicable to all private and semi-public water wells now or hereafter installed, used, or operated upon any property located within Reno County, Kansas subject to the provisions of this Code.

- A. **General Regulations** – Unless otherwise provided or accepted in accordance with this Section, from and after the effective date of the Code, no person shall construct, reconstruct, or modify, nor cause or allow the construction, reconstruction, or modification of any private or semi-public well as permitted under and which complies with the established requirements of this Code. No public water supply wells shall be permitted by this code.
- B. **Existing Water Wells** – Any private or semi- public water well existing prior to the date of this code may remain in use if, and as long as, it continues to operate in accordance with the original design and location, does not experience any system failure, and does not present any hazard to the public health, safety or welfare; however, any replacement, alteration, enlargement, repair, removal, conversion, improvement or plugging shall comply with the requirements of this Code or any later amendments, revisions or versions.
- C. Staff may consult with KDHE in unusual circumstances and follow KDHE interpretations during the permit process.

Section II. Use Limitations and Prohibited Practices

- A. No permit for drilling a water well for private water supply purposes shall be issued to any person when in the discretion of the RCPWD the property can be served at a reasonable cost by a public water supply, or when the water supply to be accessed constitutes a significant, quantified health risk.
- B. No use of surface water (lakes, ponds, or streams) as a source of water for a private water supply shall be permitted.
- C. No person shall sell, lease, or rent any real estate upon which is located a private or semi-public water supply which fails to comply with the provisions of this Code after written notice of the defective condition has been given to the owner or responsible person by the Agency.

Section III. Approval of Plans and Specifications

A. Private and Semi- Public Water wells – Plans and specifications for all well water systems shall be submitted to and approved by the RCPWD prior to starting any construction of such systems. Each water well shall comply with KDHE Minimum Construction Standards in Article 30. Setback distances are listed below and in Appendix 2.

Article 3: Private and Semi-Public Water Supplies

Section I. Permit and plans – No person shall construct or reconstruct any private or semi-public water supply on any premises subject to the regulations of this code until a permit has been obtained from the Agency. See below and Appendix 2.

Private and Semi-Public Well Setback Distances

	Required Minimum Setbacks for water wells
Property line or public right of way	25 feet (road right of way may not be included)
*Contamination Source	50 feet
Watertight sewer line	10 feet
Surface water	50 feet
Pump pit	2 feet

*Contamination sources include sewer lines, pressure sewer lines, septic tanks, laterals, pit privies, seepage pits, fertilizer storage, pesticide storage, feed lots or barn yards, and other wastewater systems. Any other contamination sources and distances not listed are subject to Kansas law and/or KDHE interpretation and regulations in Article 30.”

Section II. Criteria for Plan Approval

- A.** Plans shall include setback distances, site restrictions, and easements, and indicate compliance with minimum construction standards in Article 30 and any additional site criteria listed on the well inspection form. If a floodplain or floodway is present on the property, additional criteria may be listed in the permit or on plans. Use of staff aerial, existing diagrams may be used as part of plan submitted, if applicable. Plans can be amended during the final inspection by the contractor/owner to reflect the true installation. Plan amendments in all circumstances are to be initialed and dated. If a proposed well location is within one (1) mile of known ground water contamination site, staff shall consult with KDHE.
- B.** Use of easements shall be considered by the RCPWD and approved by the county counselor.
- C.** In unique circumstances of same ownership of multiple homes and buildings on one parcel, the structures may be connected to one water well. If a structure or land is divided for new ownership and a common well is not to be shared, then a new water well shall be required that meets the Code’s standards. Plans must reflect when a future division occurs, the land division for each home and the proposed future well location.
- D.** No private or semi-public water well intended for human consumption shall be constructed within a water district. RCPWD shall notify water districts of when permitting any lawn and garden and small livestock wells within the district. If the applicant proves to RCPWD that a hardship exists such that connection to such a water system is not feasible and domestic water well system meeting the requirements of this Code can be constructed on the property. RCPWD

may grant a hardship permit for such a well.

- E. Final Inspections of Construction** – Staff shall use permitted plans as a guide to conduct a final inspection. Multiple final inspections may be conducted, as needed, if violations are encountered. Staff may take/use photographs, measurements, GIS data to document inspection findings. Photographs of corrected issues taken by the contractor or owner may be allowed. Staff shall send final wellhead construction criteria to the contractor/owner. Photo submission is allowed as part of the arrangement upon staff approval.

Article 4: Semi-Public Water Supplies

Section I. Requirements for Semi-Public Water Supplies – No person shall operate or maintain a semi-public water supply system that has been:

- A.** Constructed or reconstructed after January 1, 1988, until it has been inspected and a permit issued by the Agency.
- B.** Temporarily or permanently enjoined as a public health nuisance by a court of competent jurisdiction.
- C.** Found by the RCPWD not to comply with the provisions of this code and written notice thereof has been given to the owner or his agent.

Section II. Conditions of Use – In addition to applicable the requirements of Article 3 of this Chapter, which pertain to semi-public water wells, the following is recommended:

- A.** An initial test for all contaminants for which primary drinking water standards have been established by the KDHE.
- B.** An initial and at least annual sample collection and testing for bacterial and nitrate.

Article 5: Well Status and Maintenance

Section I. Plugging of Abandoned Wells, Cased and Uncased Test Holes, Inactive Status – All abandoned water wells and cased and uncased test holes shall be plugged in accordance with Article 12 and KDHE and/or GMD#2 water well regulations in Article 30. Water wells not in use may obtain KDHE and/or GMD#2 approval to place a well in inactive status rather than plug the well, if the landowner can present evidence as to the condition of the well and the landowner’s intentions to use the well in the future.

Section II. Private and Semi-Public Operation and Maintenance – All private and semi-public wells shall be maintained in good working condition, as permitted. Whenever the RCPWD finds any private or semi-public wellhead that is in violation of the code, the owner and/or user shall correct the condition within thirty (30) working days and subsequent inspections will occur as needed.

Chapter Four

PUBLIC WATER SUPPLY PROTECTION

Article 1: General Provisions

Section I. Purpose and Intent – The provisions of this chapter are adopted for the purpose of protecting

the sources of water for public water supplies through the regulation and control of practices contributing to non-point source pollution within wellhead protection zones that have been approved by the governing body of the public water supply and the Reno County Board of County Commissioners.

Section II. Definitions – In addition to the definitions provided in Chapters 1,2 and 3 of this code, the words, terms, and phrases listed below, for purposes of this Chapter are defined as follows:

- A. **Animal Unit**: Means a unit of measurement calculated by using the most current formula described by K.S.A. 65-171d and any future amendments thereof. See Appendix 2.
- B. **Confined Animal Feeding Operation**: Means any lot, pen, pool, or pond, which is:
 - 1. Used for the confined feeding of animals or fowl for food, fur or pleasure purposes.
 - 2. Not normally used for raising crops; and
 - 3. Not used for growing vegetation for animal food.
- C. **Publicly Owned Treatment Works**: Means any wastewater treatment facility licensed by the Kansas Department of Health and Environment which is operated, owned, or licensed to a benefit district, township, city, county, or state unit of government.
- D. **Wellhead Protection Zone**: Means a groundwater sensitive area identified by the public water supplier as being within the zone of capture, withdrawal, or other accepted method of delineating a public water supply well. Also referred to as source water protection zone or groundwater protection zone.

Article 2: Prohibited Practices

Section I. Confined Animal Feeding Operation – No person shall operate a confined animal feeding operation within a wellhead protection zone that has been constructed after the effective date of this Code that:

- A. Contains more than 1,000 animal units; or
- B. Contains any number of animal units within 300 feet of a public water supply well.

Section II. Unlined Pit Privies – No person shall sell, use, lease or rent any unlined pit privy within a wellhead protection zone.

Section III. Commercial Storage Tanks – Owners of commercial storage tanks located within a wellhead protection zone shall report to the public water supplier for their respective wellhead protection zone any release or unaccounted loss of inventory within 24 hours.

Section IV. Publicly Owned Treatment Works Sludge – Within a wellhead protection zone, publicly owned treatment works sludge shall not be applied on or below the ground.

Chapter Five PUBLIC HEALTH NUISANCES

Article 1: Public Health Nuisances

Section I. Purpose and Intent – The purpose and intent of this article is to outline those conditions which constitute a public nuisance and are deemed hazardous to public health.

- A. **General** – The RCPWD shall have the authority and power to examine all nuisances, sources

of filth and causes of sickness that in its opinion may be injurious to the health of the inhabitants within the county. Whenever any such nuisance, source of filth or cause of sickness shall be found to exist on any private property or upon any watercourse in this county, the RCPWD shall have the power and authority to order, in writing, the owner or occupant thereof at his own expense to remove the nuisance, source of filth, or cause of sickness within 24 hours, or within such reasonable time thereafter as the RCPWD may order. Public nuisances shall include but shall not be restricted to the following:

1. Any privy, privy vault, or other place used for the deposit of human excreta which permits animals or insects access to the excreta; which produces foul or objectionable odors; or is located so as to make pollution of any water supply probable.
2. The collection or accumulation of any organic materials such as swill, meat scraps, dead fish, shells, bones, decaying vegetables, tree waste, dead carcasses, human or animal excrements, or any kind of offal that may decompose and create an attraction or breeding place for insects or rodents.
3. Any animal pen that pollutes a water supply, underground water-bearing formation, or stream in a manner that is hazardous to human health or is maintained in a manner that creates an attraction or insect breeding place or is a rodent harborage or breeding place.
4. Solid waste, which is stored, collected, transported, processed, treated, or disposed of contrary to the regulations, standards, or orders of the RCPWD, or in such a manner as to create a public nuisance.

Section II. Inspections Required – Physical site inspections shall be authorized and performed for all activities under this code.

Section III. Inspection Reports – A written inspection report shall be made for all inspections conducted under the authority of this Code, stating the name of the inspector, the date and time of the inspection, the type of inspection and the property inspected. The report shall enumerate all findings made during the inspection. Staff may use photographs and GIS to document inspection findings whenever possible. Time frames of corrections will be based on the severity of the public health nuisance. Multiple inspections may occur. A copy of the completed report shall be issued to the owner of the premises. Final versions of County forms are public records available upon request. Drafts and County staff documents such as notes, and electronic communications are not public record.

Section IV. Inspection Scheduling and Re-inspections – Whenever inspections are required under this Code to be scheduled for any correction of any violation or other non-conforming condition, it shall be the duty of the property owner to notify the RCPWD and schedule the time and date for the inspection.

Chapter Six

ENVIRONMENTAL HEALTH ASSESSMENTS

Article 1: Environmental Health Assessments

Section I General Provisions – RCPWD coordinates with the Planning and Zoning Department in the evaluation of land development to ensure proposals can meet the sanitation code.

Section II. Scope – Proposed Zoning permits and cases may be reviewed by environmental Staff to ensure the proposal does not interfere with the existing wastewater system or well, nor should the proposal have impeded future wastewater and well placement or replacement.

Section III. Definitions – Unless the context requires or specifies otherwise, the following words, terms, or phrases, as used in the Code, shall be given the meaning defined in this section.

- A. Interoffice Communication:** A notification from the Planning and Zoning office to the Environmental Health Section requesting an evaluation of a proposal.
- B. Environmental Health Well Assessment:** Either an office review or a site evaluation review of the proposal in regard to the existing or possible future well placements or replacements. Review may contain notices of violations or agreements if discovered.
- C. Environmental Health Wastewater Assessment:** Either an office review or a site evaluation review of the proposal in regard to the existing or possible future wastewater system placements or replacements. Review may contain notices of violations or agreements if discovered.
- D. Site Evaluations:** An onsite inspection that is not associated with a permit process, to determine if a proposal shall meet code compliance requirements.

Section IV. Requirements of Application – The requirements established by Chapter 6 of the Reno County Sanitation Code shall apply and be applicable to any and all private and semi-public wastewater systems and wells now or hereafter installed, used or operated upon any property located within Reno County, Kansas subject to the provisions of this Code.

Section V. Reviews, Site Evaluations, and Reporting – Staff shall review proposals that have been sent from the Planning and Zoning office via interoffice communication or requested from individuals. Environmental Well and Wastewater Assessments forms shall be completed per proposal.

- A. Requests and Fees** – All requests and fees shall be paid prior to any site evaluation.
- B. Site Plans** – Site plans shall be submitted with each request.
- C. Office Reviews** – Office reviews shall be completed by staff for all proposals, excluding subdivision reviews. Unique circumstances may arise, and a site evaluation may be required.
- D. Site Evaluations** – Site evaluations shall be completed for all proposals as needed by owner/applicant or as needed by staff.
- E. Subdivision Reviews** – Subdivision reviews shall include a site evaluation per lot that includes a soil profile to determine adequate space for well and wastewater. A test well shall be required to determine if water is present. Water well shall be tested for at least bacteria and nitrates. Staff may also review water geology with the Groundwater Management Districts. Each lot shall be identified prior to staff arrival. Soil profile shall be required per lot and to be conducted by staff

or qualified persons. Other agencies may be consulted as needed. Applications for subdivision review and fees shall be submitted prior to any evaluation.

- F. **Reporting** – Staff shall complete the necessary inspection forms, including photos, GIS, soil profile forms, as needed for a determination of code compliance. Final reports can include supportive documents and possible notice of violations. Multiple inspections can occur if necessary. All documentation shall be shared with the Planning and Zoning office, or other agencies as needed.
- G. **Non-Approval** – Non-approval of proposals will be in written format to owner/developer, and the Planning and Zoning office.
- H. **Public Hearings** – Staff can attend public hearings for the Reno County Sanitation Commission, Board of Zoning Appeals as requested from Planning and Zoning staff or applicant.

Chapter Seven CODE ENFORCEMENT

Article 1: Unlawful Conduct

Section I. General Provisions – For the purpose of enforcing the regulations, conditions, requirements, and prohibitions established by this Code the following acts shall be unlawful:

- A. **Obstruction of the Agency** – No person shall willfully impede or obstruct a representative of the RCPWD in the discharge of his official duties under the provision of this Code.
- B. **Operation without a Permit or License** – No person shall do any act or engage in any activity for which a permit or license is required by this Code unless first obtaining such permit or license. The existence of emergency conditions may be a defense to this provision.
- C. **Failure to Comply with Emergency Order** – No person shall fail or refuse to comply with an emergency order of the RCPWD issued under Section A of this chapter.
- D. **Failure to Comply with Permit or License** – No person shall fail to comply with the specified terms or conditions of any permit or license issued under this Code nor do any act or engage in any activity of conduct regulated by this Code without a valid permit or license, nor continue activities or conduct subject to any permit or license which has expired, been suspended or been revoked under this Code.
- E. **Failure to Comply with Regulations** – No person shall do any act or engage in any activity which is regulated by any Section or Chapter of this Code except as authorized and permitted under the Code, and no person shall knowingly operate any activity regulated by this Code in any manner which does not comply with the requirements of the conditions and regulation specified in this Code.
- F. **Falsification and Misrepresentation** – No person shall falsify nor misrepresent any fact, information, produce, or data provided, required or submitted for any application, permit, license, inspection, examination, investigation, report, record, test or other determination required under this code.
- G. **Failure to Repair or Correct** – No person shall fail or refuse to repair or to correct any defect, deficiency, or other condition, whether natural or otherwise, in any private or semi-public wastewater system which has caused, or which the RCPWD determines is likely to cause, within reasonable certainty, any improper discharge or other health hazard, unsanitary condition, or unlawful pollution.
- H. **Prohibited Practices** – No person shall permit, or allow to permit, any prohibited practice as

established by this Code.

Article 2: Enforcement Proceedings

Section I. Emergency Orders – The RCPWD or other authorized code enforcement office or representative of the Agency, may issue such orders or directives as he deems necessary upon a determination that such action is required to prevent, contain, or eliminate an obvious violation of this Code or an imminent threat to the health or safety of the public.

- A. Health Risk** – Whenever the RCPWD finds that an emergency exists which requires immediate action to protect the public health he may without notice or hearing, issue an order reciting the existence of such an emergency and require that such action be taken as he may deem necessary to meet the emergency, including the suspension of the permit or license. Notwithstanding any other provisions of this Code, such order shall be effective immediately and shall be enforceable in Reno County District Court.
- B. Work Stoppage** – Whenever any work is being performed on a private sewage disposal system contrary to the provisions of this Code, the RCPWD representative may order the work stopped immediately by issuing an emergency order and serving it on any persons engaged in the doing or causing such work to be done, and any such person shall forthwith stop such work until authorized by the RCPWD to proceed with the work.
- C. Compliance** – Any person, to whom an emergency order is directed, shall comply therewith immediately, but upon written request filed within five (5) days of issuance, shall be afforded a hearing before a Reno County Sanitation Commission as soon as possible. A hearing shall be held within ten (10) days of the issuance of such emergency order.

Section II. Suspension of Permit or License – The RCPWD may suspend any permit or license that it issues if the holder thereof does not comply with the requirements of this Code. The suspension shall become effective ten (10) days after the holder of the license or permit, or the premises subject to the permit, receives written notice of such suspension.

The holder or other aggrieved party may request a hearing in accordance with Article 4, Section I of this Chapter. After a hearing, the hearing officer may uphold the suspension as originally ordered or modify it as he sees fit, but in no event shall he enter an order of suspension for a period longer than that set out in the original order. Both the original order and any order entered after an appeal may condition the length of suspension upon correction of the conditions upon which the suspension is based.

Section III. Revocation of License – The RCPWD may revoke a license for serious or repeated violations of any of the requirements of this Code or for interference with the RCPWD in the performance of its duties. Prior to revocation, the RCPWD shall notify, in writing, the holder of the license, of the specific reason (s) for which the license is to be revoked and that the license shall be revoked at the end of the ten days following service of such notice unless a written request for hearing is filed with the regulatory authority by the holder of the license within the 10-day period. If no request for hearing is filed within the 10-day period, the revocation of the license becomes final.

Whenever a revocation of a license has become final, the holder of the revoked license may make a written application for a new license and pay the fee required.

Article 3: Penalties and Prosecution

Section I. Penalties – Any violation of any provision or requirement of this Code or the commission

of any unlawful act or conduct specified in this Chapter shall be deemed to be a Class C misdemeanor punishable upon conviction by a fine of not less than \$100.00 and not more than \$500.00. Each day's violation shall constitute a separate offense.

Section II. Prosecution – The RCPWD is hereby authorized to apply to the District Court for enforcement of this Code, unless a municipality adopting this Code provides otherwise for the prosecution of violations arising within its municipal jurisdiction. In that event, the City Attorney of the municipality adopting this Code may prosecute violations of this Code in the name of the city in the municipal court of that city.

Article 4: Appeals

Section I. Appeal for Hearing – Except as otherwise provided in Section V or this Chapter, any person aggrieved by any notice, final order, or non-approval of a permit or license by the RCPWD files with the RCPWD within ten (10) days after the date of issuance of the notice, order, or non-approval a written request for a hearing setting forth the grounds on which the request is made. The filing of the request for hearing shall operate as a stay of any notice or order except an emergency order.

Section II. Hearings – Appeals shall be heard by the Reno County Sanitation Commission at a regular or special meeting of that Board, which shall operate as the Hearing officers for appeals.

Section III. Conduct of Hearing – Upon receipt of the appeal request, The Reno County Sanitation Commission shall set a time and place for a hearing and shall give the petitioner written notice thereof. The hearing shall commence not later than ten (10) days after the date on which the request for hearing was filed; provided that upon request of the aggrieved party, the hearing may be postponed for a reasonable time beyond such ten-day period.

A record shall be made at the hearing, and the aggrieved party may be represented by counsel or another authorized person. The RCPWD shall have the burden to sustain any notice, final order, or other decision subject to the appeal.

Section IV. Decision – Within ten (10) days after the conclusion of the appeal hearing, The Reno County Sanitation Commission shall issue a written recommendation to the Reno County Public Works Director and to the petitioning party. That recommendation may be to sustain, modify or overturn the decision of the Agency. The Reno County Public Works Director shall then make a determination to follow or not follow the recommendation. Any such decision may be appealed to the Board of County Commissioners, who may or may not take it up at their next regular meeting. If not taken up the decision of the Reno County Public Department Director shall stand.

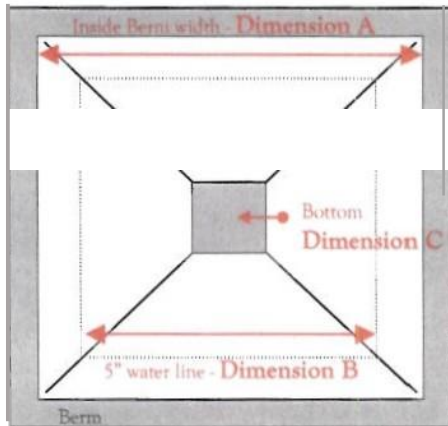
Section V. Proceedings of Hearings – A summary of all proceedings of hearing, including the findings and appeal decisions of The Reno County Sanitation Commission, together with a copy of every notice and order related thereto, shall be filed with RCPWD.

Section VI. Application of State Law Procedures – The appeal of any final decision action of the RCPWD which is taken under the authority of a state administrative RCPWD in application of the Laws of the State of Kansas shall be subject to and conducted in accordance with the Kansas Administrative Procedures Act, K.S.A. 77-501, et Seq., and the provisions of that Act shall supersede any and all time limitations and procedures otherwise specified in this Code.

The Kansas Administrative Procedures Act shall not apply to any proceeding arising out of an appeal from any decision or action taken solely under the authority of the Board of County Commissioners or the governing body of any city

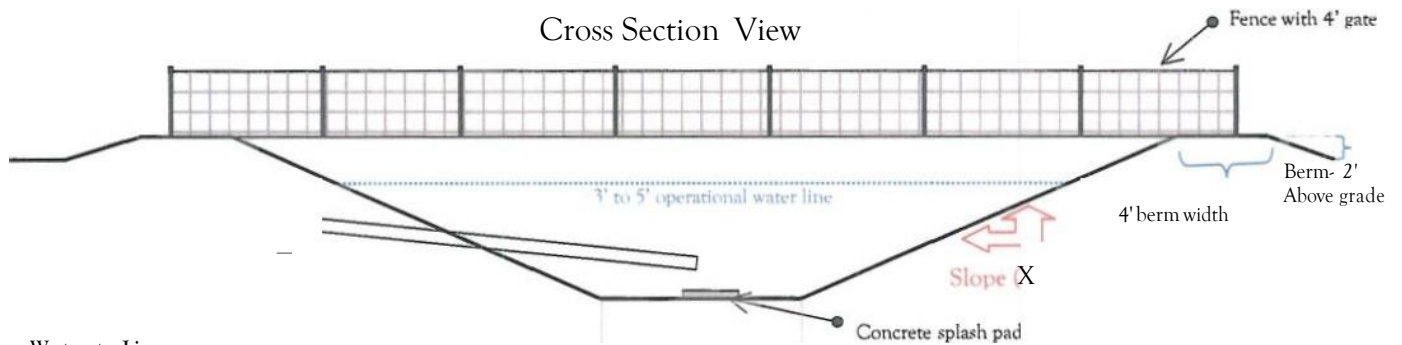
APPENDIX 1: Lagoon Construction Diagram

Top View



Lagoon Size	A	B	C	X (Slope)
M-35	47'X47'	35'x35'	5'X5'	3:1
M-40	52'X52'	40'x40'	10'X10'	3:1
M-45	59'X59'	45'X45'	10'X10'	3.5:1
M-50	64'X64'	50'x50'	15'X15'	3.5:1

Cross Section View



Wastewater Line

- Cleanouts at every turn and no greater than 100' apart.
- Installed at grade of 0.125 • 0.25" drop **I** foot.

Fencing Requirements:

- Mesh size opening no larger than 2" by 4".
- Minimum fence height of 4 feet.
- Minimum gate width of 4 feet.
- Fence on outside of berm if livestock are present.
- Fence may be on top of berm if no livestock are present.

References: KDHE Environmental Health Handbook, Kansas State University

APPENDIX 2: Setbacks Distance

Table 1. Wastewater Setbacks Distance

	Minimum Setbacks for wastewater systems
Setback	Required
Septic tank/Aerobic unit/Retro Fit to foundation of a house or other building	10 Feet
Soil Absorption system to a dwelling foundation	20 Feet
Any part of the wastewater system to:	
Public potable water line	25 Feet
Private potable water line	10 Feet
Property line	10 Feet (road right of way may not be included)
Public water supply well or suction line	100 Feet
Private water supply well or suction line	50 Feet
Surface watercourse	50 Feet
Wastewater Lagoons (Lagoon 5' water level) to:	
Property line	50 Feet (road right of way may not be included)
Dwelling foundation	50 Feet

Any other distances not listed are subject to KDHE interpretation and KDHE Bulletin 4-2, and amendments thereafter. Any setbacks not identified in the above table refer to KDHE Environmental health handbook or other KDHE publications or interpretations.

Table 2: Water well setbacks Distance

	Required Minimum Setbacks for water wells
Property line or public right of way	25 Feet (road right of way may not be included)
*Contamination Source	50 Feet
Watertight sewer line	10 Feet
Surface water	50 Feet
Pump pit	2 Feet

Contamination sources include sewer lines, pressure sewer lines, septic tank, laterals, pit privy, seepage pits, fertilizer storage, pesticide storage, feed lots or barn yard, and other wastewater systems. Any other distances not listed are subject to KDHE interpretation and KDHE Article 12 and 30 an amendment thereafter.

Table 3: Animal Units Definition

Animal	Animal Unit Value
Horses	2.0
Mature Dairy Cattle	1.4
Beef Cattle over 700pounds	1.0
Cattle over 700pounds	.5
Swine over 55pounds	.4
Ducks	.2
Swine less than 55 pounds	.1
Sheep or lambs	.1
Laying hens or Broilers with a liquid manure system	.033
Turkeys	.018
Laying Hens or Broilers with continuous overflow watering	.01

Total Animal Units = (# Animals) x (Corresponding Animal Unit Value) *Reference: K.A.R. 28-16-56C (O) 1-10*

APPENDIX 3: Wastewater Treatment Manual Charts

EPA Onsite Wastewater Treatment Manual Charts Pgs. 3-4, 3-5, 3-6

Table 3-4. Typical wastewater flow rates from commercial sources^{a,b}

Facility	Unit	Flow, gallons/unit/day		Flow, liters/unit/day	
		Range	Typical	Range	Typical
Airport	Passenger	2-4	3	8-15	11
Apartment house	Person	40-80	50	150-300	190
Automobile service station ^c	Vehicle served	8-15	12	30-57	45
	Employee	9-15	13	34-57	49
Bar	Customer	1-5	3	4-19	11
	Employee	10-16	13	38-61	49
Boarding house	Person	25-60	40	95-230	150
Department store	Toilet room	400-600	500	1,500-2,300	1,900
	Employee	8-15	10	30-57	38
Hotel	Guest	40-60	50	150-230	190
	Employee	8-13	10	30-49	38
Industrial building (sanitary waste only)	Employee	7-16	13	26-61	49
Laundry (self-service)	Machine	450-650	550	1,700-2,500	2,100
	Wash	45-55	50	170-210	190
Office	Employee	7-16	13	26-61	49
Public lavatory	User	3-6	5	11-23	19
Restaurant (with toilet)	Meal	2-4	3	8-15	11
	Conventional Customer	8-10	9	30-38	34
	Short order Customer	3-8	6	11-30	23
	Bar/cocktail lounge Customer	2-4	3	8-15	11
Shopping center	Employee	7-13	10	26-49	38
	Parking space	1-3	2	4-11	8
Theater	Seat	2-4	3	8-15	11

^a Some systems serving more than 20 people might be regulated under USEPA's Class V Underground Injection Control (UIC) Program. See <http://www.epa.gov/safewater/uic.html> for more information.

^b These data incorporate the effect of fixtures complying with the U.S. Energy Policy Act (EPACT) of 1994.

^c Disposal of automotive wastes via subsurface wastewater infiltration systems is banned by Class V UIC regulations to protect ground water. See <http://www.epa.gov/safewater/uic.html> for more information.

Source: Crites and Tchobanoglous, 1998.

Chapter 3: Establishing Treatment System Performance Requirements

Table 3-5. Typical wastewater flow rates from institutional sources^a

Facility	Unit	Flow, gallons/unit/day		Flow, liters/unit/day	
		Range	Typical	Range	Typical
Assembly hall	Seat	2-4	3	8-15	11
Hospital, medical	Bed	125-240	165	470-910	630
	Employee	5-15	10	19-57	38
Hospital, mental	Bed	75-140	100	280-530	380
	Employee	5-15	10	19-57	38
Prison	Inmate	80-150	120	300-570	450
	Employee	5-15	10	19-57	38
Rest home	Resident	50-120	90	190-450	340
	Employee	5-15	10	19-57	38
School, day-only:	Student	15-30	25	57-110	95
	With cafeteria, gym, showers	Student	15	38-76	57
	Without cafeteria, gym, or showers	Student	5-17	11	19-64
School, boarding	Student	50-100	75	190-380	280

^a Systems serving more than 20 people might be regulated under USEPA's Class V UIC Program. See <http://www.epa.gov/safewater/uic.html> for more information.

Source: Crites and Tchobanoglous, 1998.

Table 3-6. Typical wastewater flow rates from recreational facilities*

Facility	Unit	Flow, gallons/unit/day		Flow, liters/unit/day	
		Range	Typical	Range	Typical
Apartment, resort	Person	50-70	60	190-260	230
Bowling alley	Alley	150-250	200	570-950	760
Cabin, resort	Person	8-50	40	30-190	150
Cafeteria	Customer	1-3	2	4-11	8
	Employee	8-12	10	30-45	38
Camps:					
Pioneer type	Person	15-30	25	57-110	95
Children's, with central toilet/bath	Person	35-50	45	130-190	170
Day, with meals	Person	10-20	15	38-76	57
Day, without meals	Person	10-15	13	38-57	49
Luxury, private bath	Person	75-100	90	280-380	340
Trailer camp	Trailer	75-150	125	280-570	470
Campground-developed	Person	20-40	30	76-150	110
Cocktail lounge	Seat	12-25	20	45-95	76
Coffee Shop	Customer	4-8	6	15-30	23
	Employee	8-12	10	30-45	38
Country club	Guests onsite	60-130	100	230-490	380
	Employee	10-15	13	38-57	49
Dining hall	Meal served	4-10	7	15-38	26
Dormitory/bunkhouse	Person	20-50	40	76-190	150
Fairground	Visitor	1-2	2	4-8	8
Hotel, resort	Person	40-60	50	150-230	190
Picnic park, flush toilets	Visitor	5-10	8	19-38	30
Store, resort	Customer	1-4	3	4-15	11
	Employee	8-12	10	30-45	38
Swimming pool	Customer	5-12	10	19-45	38
	Employee	8-12	10	30-45	38
Theater	Seat	2-4	3	8-15	11
Visitor center	Visitor	4-8	5	15-30	19

* Some systems serving more than 20 people might be regulated under USEPA's Class V UIC Program.

Source: Crites and Tchobanoglous, 1998.

APPENDIX 4: Lagoon Gal./Day

KSU Wastewater and Pond Design and Construction Handout

Table 1. Recommended sizes of square and round wastewater ponds.

	Side Length or Diameter (ft)		Area (sq ft)	Volume (1,000s gal)	
	square	round		pond ^a	per mo ^b
Western					
<i>Small</i>	35	40	1,225	18	4
<i>Medium</i>	40	45	1,600	26	5.5
<i>Large</i>	45	51	2,025	32	7
East Central					
<i>Small</i>	40	45	1,600	26	4
<i>Medium</i>	45	51	2,025	32	5
<i>Large</i>	50	56	2,500	43	6
Eastern					
<i>Small</i>	45	51	2,025	32	3
<i>Medium</i>	50	56	2,500	43	4
<i>Large</i>	55	62	3,025	56	5

Small = 3 or fewer people; Medium = 3 to 5; Large = 6 or more
^aContents at 5 foot depth ^bMinimum flow to maintain 3 foot depth

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G. Morgan Powell et. al, *Wastewater Pond Design and Construction*, MF-1044, Kansas State University, October 1997.