

APPENDIX B – Chapter 2 - Sewage and Excreta Treatment Background Information

Sewage and Excreta Disposal

Historically, improperly operating wastewater treatment systems have been associated with an increase in the incidence of disease within a population.

For most private wastewater treatment systems, soil type is the most important factor in determining which wastewater treatment system can be recommended for a particular geographic location. According to the current 1981 Lyon County Soil Survey 100% of soils in Lyon County are rated as having severe limitations for septic tank/absorption field systems. Over 39% of Lyon County soils are rated as having severe limitations for wastewater stabilization ponds. An additional 54.9% of soils within Lyon County are rated as having moderate limitations for wastewater stabilization ponds. A sloping topography increases the risk of runoff into ditches, streams, and onto adjoining property. Over 70% of Lyon County soils are sloping. Sewage is also known to contribute to increased water pollution. Of 325 private well water screenings conducted in Lyon County between the years of 1980 and 1995, 28% were above the maximum contaminant level for Nitrate in drinking water as established by the Environmental Protection Agency. The Lyon County Water Quality Assessment Report issued by the Kansas Department of Health and Environment in 1996 indicated that ten of fifteen surface water sampling sites are testing above the guidelines for BOD₅, Total Suspended Solids, Phosphorous, Nitrate, and Fecal Coliform bacteria. A sanitation code has been in effect in Lyon County since 1970. As of March 2000 only 679 or 27 per cent of known systems have applied for and received permits. This would indicate that 1,857 or 73 percent of the 2,536 known systems have not applied for and received permits.

Area Reserved For Replacement Systems

Costs for replacing failed sewage systems may be significantly reduced if a backup reserve area is identified and maintained when an initial sewage system is constructed. A new location with fresh undisturbed soil is required when replacing a subsurface system, such as a septic tank with laterals. If a clean area is not available, expensive alternative systems may be required. Property owners may be able to maintain the same location of a failed lagoon system. However, the costs to pump out the liquids, remove the bottom sludge, seal any possible leaks, and make any other necessary repairs to the failed system may exceed the construction costs of a new system.

An area reserved for installation of a replacement sewage system is **strongly** encouraged. Second site recommendations include:

- Precautions should be taken to prevent damage to the soil in the second site that would limit or prevent its use as a site for a replacement system.
- Nothing should be constructed on or around the second site that would prevent the installation or proper operation of the replacement private wastewater system.
- Proper setbacks to wells, property lines, surface water, buildings and easements will need to be identified for the second site as well as the initial site.
- If a property is sold or ownership is transferred after a second site is identified and maintained, notice should be given to the new owners of this second site.