

Dog Kennel and Veterinary Clinic Wastewater Treatment Recommendations

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Animal wastewater is not covered in Minnesota Rules Chapter 7080. Septic system sizing in 7080 is based on research of typical flows and wastewater characteristics from domestic residences. If human waste is being combined with process water all the requirements of 7080 apply along with any other applicable regulations.

A septic system receiving animal waste is considered by EPA to be a Class V system. No rules in Minnesota or from the EPA specifically deal with animal facilities whose wastewater goes into a septic system although EPA does require that a Class V inventory form be completed and mailed to appropriate agencies. Local ordinances administered by counties, cities and townships may have provisions regarding these facilities and must be consulted.

Option 1

All waste could go into a holding tank and either land applied or taken to a waste water treatment plant.

Option 2

Use an onsite septic system to treat the wastewater.

Recommendations

1. A flow meter must be installed to track water use. Flow data should be collected at representative times (trying to target busy days) and over several months. If no facility exists or an expansion is planned, estimates should be made which include a safety factor (1.5 x the highest weekly average). A flow meter should be installed to verify estimates.
2. It is critical that no hazardous waste enter any onsite septic system as they are not designed to treat such waste.
3. The use of cleaning chemicals should be limited including medicines and any antibacterial soaps. Onsite septic systems can deal with a small amount of cleaning chemical, but if the amount is above typical domestic usage the performance of the system may be impacted.
4. All solid material should be dealt with as a solid waste. Fine grates should be put on all floor and sink drains to catch any small particles and hair.
5. A commercial size effluent filter (designed for high strength waste) should be placed on the outlet of the last septic tank. A manhole should be located over this filter as there is high potential for maintenance at this location.

6. If existing septic tanks are in place, samples should be taken to determine the quality of the effluent. These samples should be taken from either the outlet baffle of the last septic tank or a pump tank if one exists. This effluent should be sampled for BOD, TSS and Ammonia. If these levels come back high a pretreatment units should be designed to lower the levels to normal domestic strength levels. Normal levels in 7080 for human sewage leaving a septic tank are:
 - a. BOD < 220 mg/l
 - b. TSS < 65 mg/l
 - c. Ammonia < 60 mg/l
7. If no septic tanks exist or if it is a new facility, the wastewater characteristics must be estimated. Wastewater characteristics are hard to predict and should be sampled once the facility has been in operation for 3 months and pretreatment designed to deal with known levels.
8. A maintenance contract should be in place with a licensed onsite professional to assure the proper operation and maintenance of the treatment system.
9. Cleanouts should be provide at the ends of gravity and pressure distribution lines in the event that hair does make it out to the distribution system for line cleaning.

Questions

If you have further questions please contact Sara Christopherson at heger001@umn.edu or 612-625-7243.