

Mound Design - Aitkin county

Property Owner: Lyle CarrDate: 5/20/2019Site Address: 34918 444th Pl. Aitkin MN 56431PID: 01-0-077712

Comments: _____

Instructions: = enter data = adjust if desired = computer calculated - DO NOT CHANGE!

- 1) 3 bedroom Type 1 Residential System
- 2) 450 GPD design flow
- 3) No Garbage disposal or pumped to septic Install Jacobson 1650 compartment tank
- 4) 1000 Gal Septic tank (code minimum) 1120 Gal Septic tank (design size / LUG req'd)
Tank options: Effluent filter & alarm req'd
- 5) 1.2 GPD/ft² mound sand loading rate contour loading rate of 12 req's a min 37.5 ft. long rockbed
- 6) 10.0 ft rockbed width 37.5 ft rockbed length
- 7) 3.0 ft lateral spacing 3.0 ft perforation spacing (maximum of 3 for both)
 end feed manifold connection
- 8) 3 laterals 35.5 feet long 12.0 perfs / lateral 36 perfs total
(1/2 a perf means the first perf starts at the middle feed manifold)
- 9) 1/4" inch perfs at 1 feet residual head gives 0.74 gpm flow rate per perforation
for this perf size & spacing, & pipe size on line 12, max perfs/lateral = 16, line #8 must be less --> OK
- 10) 7.0 doses per day (4 minimum)
- 11) 64 gallons per dose (treatment volume) 1.50 5x
- 12) 1.50 inch diameter laterals must be used to meet "4x pipe volume" requirement 2.00 3x
- 13) 45 feet of 2.0 inch supply line leads to 8 gallons of drainback volume
(Tip: "top feed" manifold to control the drainback)
- 14) 72 gallons TOTAL pump out volume (treatment + drainback)
- 15) 12 feet vertical lift from pump to mound laterals, leads to a:
- 16) 27 GPM @ 19 feet of head, Pump requirement (note: >50gpm may require an extra 3-6' of head)
- 17) 500 gal Dose tank (code minimum) 533 gal Dose tank (design size / LUG req'd) at 12.69 gpi
leads to a
- 18) 5.7 inch swing on Demand float, or timed dosing of 2.7 min ON (confirm pump rate with drawdown
(this delivers Average flow, =70% of Peak design flow) 5.1 hrs OFF test and adjust as necessary)
- 19) 12 inches from bottom of tank to "Pump OFF" float
- 20) 18 inches from bottom of tank to "Pump ON" float, or 12 inches to "Timer ON" float if time dosed
- 21) 21 inches from bottom of tank to "Hi Level" float, or 31 inches to "Hi Level" float if time dosed
- 22) 267 gallons reserve capacity (after High Level Alarm is activated)