

## 100.94 Acre Parcel on Buckethead Ranch, Routt County, OWTS Calculations

### Existing Barn and Bunkhouse + New Yurt with 2 additional bedrooms:

6 Bedrooms = 7 persons @ 75 Gallons/ day/ person = 675 Gal./day design flow

Minimum tank size = 1,250 Gallons, with 2 chambers and an approved effluent filter plus a 500 Gallon Dosing Tank with a Fluid Dynamics, Inc., #216 Auto-siphon, giving average 30 gpm flow for an approx. 250 gallon dose. Plus an additional 1000 Gallon tank at the yurt.

### Leach Field Sizing : 'Infiltrator' Quick 4 chambers in center fed trenches.

Long Term Acceptance Rate (LTAR) = 0.35 Gal./ sq. ft. / day into Type 3 Soil, sandy clay loam (per Bear Valley Design, Ltd., letter, dated 6/27/19)

$(675 \text{ Gal./day}) \times (.7 \text{ (reduction factor for use of chambers)}) \times (.9 \text{ (reduction factor for dosing)}) / (0.35 \text{ Gal./day/ sq. ft.}) = \underline{1,215 \text{ sq. ft. (required absorption area)}}$

System will be designed to use 'Infiltrator' 'Quick 4' chambers. Said chambers provide an effective absorption area 48" x 34".  $(48 \times 34)/144 = \underline{11.33 \text{ sq. ft./ chamber}}$

$1,215 \text{ sq. ft.} / (11.33 \text{ sq. ft./ chamber}) = \underline{108 \text{ chambers required (4 rows of 27), center fed}}$

This translates to adding 3 chambers to each end of each row in the existing field of 4 rows of 21 chambers each, which are center fed.

8 inspection ports must be relocated to the relocated ends of each row.

