

KEN OLSEN, CIVIL ENGINEER, PE

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DATE: Sep 10, 2011

OWNER: Keith Parsons  
ESTABLISHMENT: Commercial Warehouse/ Shop Building  
APN: PPF WAY, Moundhouse, Nevada

RE: New Metal Building, Office, Storage, & Shop, (2) potential Spaces  
2 Bathrooms, (1) w/ shower, (2) mop sinks

New Septic Tank & Leach Field

**Sewage Rate; Gallons per Day: Per NAC 444.8312, p444-168**

2a) Staff @ 20 gpd/employee = 8 employees \* 20 = 160 gal/day  
Customers : 1gpd/10sf office space = (2)x 20' square offices =  $\frac{40}{200}$  "

2b) Min Septic Tank Gallon for Demand =  $1.5 \times 200 = 300$  gal Tank

**Fixture Units:**

3a) Table 7-3	# fixtures	fixture units	Total
(2) w.c.		4	8
(2) Lavatory		1	2
(1) Shower		1	1
(2) Mop Sink		3	3
(2) Water Fountain		1/2	1
			15 fixture units

3b) p444-172 Minimum septic tank for Fixture Units = 1000 (33 max fixture units)  
**Provide 1000 gallon Septic Tank**  
**Recommend pumping tank every 2 to 3 years**

**Absorption Area:** Weathered Sandy Clay & Broken Rocks, see attached log

Max absorption thickness is 4', & gravel to within 1' of surface

$ST / (5 / (\text{perc sq root})) = 1000 / [5 / (60 \text{ sq root})] = 1549 \text{ sq ft}$   
Leach Field LF =  $1549 / 4' * 2 = 193 \text{ lf of } 4' \text{ deep sidewall}$   
Leach Lines = 2 lines each 97' long or 3 lines 65' each

**System Requirements:**

1000 gallon Septic Tank

(2) leach lines each 97' Long with 4' of drain rock under distribution Line

## Soils Analysis & Depth to Ground Water

Define soil by type and color at 1' intervals to 10' below grade.

Identify highest potential to ground water.

Date: 9.4.18

Soils Analysis	Depth to Ground Water
1'	1'
2'	2'
3'	3'
4'	4'
5'	5'
6'	6'
7'	7'
8'	8'
9'	9'
10'	10'

DEEP GROUND WATER

PER USGS

#413 LAPON - FULSTONE OLD CAMP

FOR KATH PARSONS

**Percolation Test Results**

Percolation Test # 1      <sup>4 PM</sup> Presoak Start Time: 9.4.18      Presoak End Time: 4 PM  
 Depth of Hole: 2 1/2      No Hours Presoak: 24      Date of Test: 9.5.18

EAST

Start Time	Water Depth Start	Stop Time	Water Depth Stop	Time Intervals	Drop in Inches
4:20	6 1/8	4:50	5 5/16	30	13/16
4:50	5 5/16	+ 1/2 HR	4 4/16	↓	10/16
5:20	4 7/16	↓	4 1/4		7/16
5:50	4 1/4		3 3/4		1/2
6:20	6"		5 1/2		1/2
6:50	6"		5 1/2		1/2

Perc Rate 60

Percolation Test #2      SAME Presoak Start Time: \_\_\_\_\_      Presoak End Time: \_\_\_\_\_  
 Depth of Hole: 3'      Tot. Hours Presoak: \_\_\_\_\_      Date of Test: \_\_\_\_\_

WEST

Start Time	Water Depth Start	Stop Time	Water Depth Stop	Time Intervals	Drop in Inches
4:20	6 1/8"	4:50	5 5/8	30	1/2
4:50	5 5/8	+ 1/2 HR	5 3/16	↓	1/4
5:20	5 3/8	↓	5"		3/8
5:50	5"		4 5/8		3/8
6:20	6"		5 1/2		1/2"
6:50	6"		5 1/2		1/2

Perc Rate 60

Use lowest drop in inches to compute perc rate.  
Divide time interval in minutes by drop in inches equals perc rate.  
Minimum design rate is 10.

Trenches 12' oc x 2' wide, with 1' cover over straw or filter fabric, over gravel covering pipe.

Please call if there are any questions.

Sincerely,  
Ken Olsen Civil Engineer  
Nevada #3971 & California #29550

11obie714

**Site Pictures:**

