



Reno County Health Department  
 209 West 2nd Hutchinson KS 67501 Phone: 620-694-2900 Fax: 620-665-8883

# Soil Profile Worksheet

Soil Type: \_\_\_\_\_

**THIS IS NOT A PERMIT**

Property Owner:				Property Address:			
Property Owner Phone:			Floodplain on Property: Y N		Mailing Address:		
Land Use:	Lot Size:	Enh Tr: Y N	# of Bedrooms:		Location of Profile Pit:		
Garbage Disposal: Y N	Fixed irrigation over system: Y N		Water conditioner/treatment: Y N		Vegetation:		Fees Paid: Y N

Horizon	Depth	Dominant Color	Mottles	Texture	Structure	Consistence	Roots	Remarks

Loading Rate (GPD / Ft<sup>2</sup>): \_\_\_\_\_

Restrictive Layer(s):	Y	N	Depth:
_____			_____
_____			_____
_____			_____
_____			_____
_____			_____
_____			_____
_____			_____

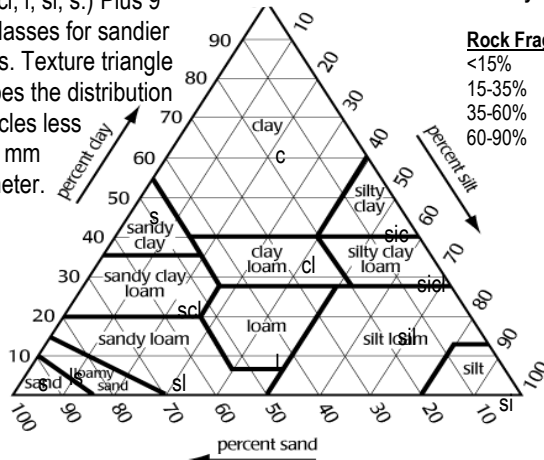
- Minimum Design Standards**
- Refer to the Reno County Sanitation Code, effective October 1st, 2003
  - Refer to the KDHE Bulletin 4-2 Minimum Standards, effective 1997, for design and construction of onsite wastewater systems.
  - Refer to the KAS, KSU, KDHE Environmental Health Handbook, effective 2002, for more design standards.
  - Inspection ports at the ends of each lateral
  - Septic tank manhole riser

Soil Profile Completed by: \_\_\_\_\_ Date: \_\_\_\_\_  
*Environmental Health Specialist*

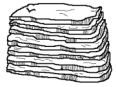
*For Official Use Only:*  
 Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_  
*Environmental Health Coordinator*

## Texture

12 main USDA divisions (e.g. sil, l, sl, s.) Plus 9 other classes for sandier textures. Texture triangle describes the distribution of particles less than 2 mm in diameter.



**Dominant Color:** identifies the color that occupies the greatest volume of the horizon. Use Munsell Color Chart - Hue/Value/Chroma, (e.g. 10YR 5/1).



**Platy:** Thin, flat plates of soil that lie horizontally. Usually found in E-hz or compacted soils.



**Prismatic:** Vertical columns of soil that might be a number of cm long. Usually found in subsoil (B) horizons.



**Columnar:** Vertical columns of soil that have a round "cap" at the top. Found in sodium (Na) affected soils.



**Blocky:** Irregular blocks that are usually 1.5 - 5.0 cm in diameter.



**Granular:** Resembles cookie crumbs usually less than 0.5 cm in diameter. Commonly found in surface horizons with prairie grass root systems.



**Single Grained:** Soil is broken into individual particles that do not stick together. Always accompanies a loose consistence. Commonly found in sandy soils



**Massive:** Soil has no visible structure, is hard to break apart and appears in very large clods.

## Sandier Classes (based on sand size)

**Sand:** cos, s, fs, vfs  
**Loamy Sand:** lcos, ls, lfs, lvfs  
**Sandy Loam:** cosl, sl, fsl, vsl

## Rock Fragments (% Volume)

<15% none used  
 15-35% gravelly (G), cobbly (CB)  
 35-60% very gravelly, etc.: (VG, VVCB)  
 60-90% extr gravelly etc. (EG, ECB)

## Boundary (e.g. cw)

Describe the transition between horizons.

### Distinctness

Abrupt	A	< 2 cm
Clear	C	2-5 cm
Gradual	G	5-15 cm
Diffuse	D	> 15 cm

### Topography

Smooth	S	Nearly a plane
Wavy	W	Waves wider than deep
Irregular	I	Depth greater than width
Broken	B	Discontinuous

## Consistence

Describes particle cohesion and adhesion. Strength describes the resistance to crushing a 25 mm cube or medium sized ped with 5 seconds of force.

### Moist Soil

Loose	ml	falls apart
Very friable	mvfr	very slight
Friable	mfr	slight
Firm	mfi	moderate
Very firm	mvfi	strong
Extremely firm	mefi	squeeze between hands

### Dry Soil

Loose	dl	falls apart
Soft	ds	very slight
Slightly hard	dsh	slight to moderate
Hard	dh	strong
Very hard	dvh	squeeze between hands
Extremely hard	deh	under foot

### Crushing Force

ml	falls apart
very slight	
slight	
moderate	
strong	
squeeze between hands	
falls apart	
very slight	
slight to moderate	
strong	
squeeze between hands	
under foot	

## Mottling

Describe spots of different color - Color / Quantity / Size / Contrast / Shape

### Quantity

Few	f	< 2%
Common	c	2-20%
Many	m	> 20%

### Size

Fine	1	< 5 mm
Medium	2	5-15 mm
Coarse	3	> 15 mm

### Contrast

Faint	f	Difficult to see
Distinct	d	Readily seen
Prominent	p	Conspicuous

### Shape

Note in remarks - streaks, bands, spots, etc.

## Structure (e.g. 2msbk)

Describe units (peds) that separate at surfaces of weakness - Grade / Size / Shape

### Grade

Structureless	0	No aggregation
Weak	1	Barely observable aggregation
Moderate	2	Distinct peds
Strong	3	Durable peds

### Size

Very fine	vf	< 1 mm
Fine (Thin)	f	1-2 mm
Medium	m	2-5 mm
Coarse (Thick)	c	5-10 mm
Very coarse	vc	> 10 mm

### Granular Platy\*

< 1 mm	< 5 mm
1-2 mm	5-10 mm
2-5 mm	10-20 mm
5-10 mm	20-50 mm
> 10 mm	> 50 mm

### Angular, Subangular, Blocky

< 10 mm	< 10 mm
10-20 mm	10-20 mm
20-50 mm	20-50 mm
50-100 mm	50-100 mm
> 100 mm	> 100 mm

### Prismatic, Columnar

< 10 mm	< 10 mm
10-20 mm	10-20 mm
20-50 mm	20-50 mm
50-100 mm	50-100 mm
> 100 mm	> 100 mm

\*For platy structure use thin in place of fine and thick rather than coarse.

## Shape

Platy	pl	Flat, plate like
Prismatic	pr	Taller than wide
- Columnar	cpr	rounded tops
Blocky	bk	cubical
- Angular	abk	sharp edges
- Subangular	sbk	rounded edges
Granular	gr	spherical, crumb-like
No structure		
- Single grain	sg	sandy texture
- Massive	ma	

## Roots (e.g. 2 vf)

### Quantity

Few	1	< 1 / unit area
Common	2	1-5 / unit area
Many	3	> 5 / unit area

### Size

Very fine	vf	< 1 mm	1 cm <sup>2</sup>
Fine	f	1-2 mm	1 cm <sup>2</sup>
Medium	m	2-5 mm	1 dm <sup>2</sup>
Coarse	co	> 5 mm	1 dm <sup>2</sup>

