

# Websoil Survey & Beacon

A dark blue, diagonal shape that starts from the bottom left corner and extends towards the top right corner, covering the lower half of the slide.

# Why You Should Use Websoil Survey & Beacon?

Iowa Department of Natural Resources  
**Chapter 69: Private Sewage Disposal Systems**

**Site Analysis: 567-69.3(1) p.8**

**(1)Site Evaluation** - Shall be conducted prior to issuing a construction permit....Consideration shall be given but not limited to.....evidence of unstable ground, alteration of existing soil profile, soil characteristics, percolation tests, and soil survey maps, if available. **AND.....**

# More Chapter 69 – Site Analysis

## **Site Analysis: 567-69.3(1)(a) - pg.9**

- (a) **Soil Survey Reports.** During a site analysis and investigation, maximum use should be made of soil survey reports, which are available from USDA NRCS. A general identification of the percolation potential can be made from soil map units in Iowa. Verification of the soil permeability of the specific site must be performed... **AND**

# More Chapter 69 - Secondary Treatment

## Secondary Treatment-Subsurface soil absorption systems: General Requirements: 567- 69.9(1) - p13

- (a) Locations: All subsurface soil absorption systems shall be located on the property to maximize the vertical separation distance from the bottom of the absorption trench to the seasonal high groundwater level, bedrock, hardpan or other confining layer, but under no circumstance shall this vertical separation be less than 3 feet. **AND**

# More Chapter 69 – Secondary Treatment Soil absorption

## **General Requirements: 567- 69.9(1) - p13**

- (a) **Locations:** All subsurface soil absorption systems shall be located on the property to maximize vertical separation distance from the bottom of the trench to the seasonal high g.water, bedrock, hardpan, other confining layer
  
- (b) **Soil Evaluation:** A perc test **OR** professional soil analysis is required before any soil absorption system is installed.
  - (1) Perc Test
  - (2) Alternative Analysis - if performed, document the soil content, color, texture, structure. & Determine loading rate.
  - (3) Acceptable Perc Rate - determined by code
  - (4) Confining Layer determination - additional test hole 6 feet in depth or to rock
- (c) **Groundwater...** present within 3 feet
- (d-h) **Limitations....Easements**

# Soil Sizing Factor Form

## Determine Soil Sizing Factor

1. Average the final 3 perc readings:

$$\underline{\quad} + \underline{\quad} + \underline{\quad} + 3 = \underline{\quad}$$

*average perc rate*

2. Determine Soil Sizing Factor:

Average Perc Rate Minutes per Inch (MPI)	Soil Texture	Design <small>(not including high water table or bedrock problems)</small>	Soil Sizing Factor (Square feet /gallon/day)
Faster than 0.1	Coarse Sand	Poor treatment ability of the soil, use liner system (12" loamy sand liner) or use mound system.	Liner - 1.67 Mound - 0.83
0.1 to 5	Sand	Poor treatment ability of soil before biomat formation use the following design options: Mound ..... 0.83 Pressure distribution system ..... 0.83 Serial distribution system ..... 0.83 Liner System (12" loamy sand liner) ..... 1.67	
0.1 to 5	Fine sand <small>Soils having 50% or more fine sand plus very fine sand</small>	no special considerations	1.67
6 to 15	Sandy Loam		1.27
16 to 30	Loam		1.67
31 to 45	Silt Loam		2.00
46 to 60	Clay Loam		2.20
60 to 120	Clay	If the system is inground, trenches must be used (no beds). Use a sand liner if using rock filled trenches.	4.20
Slower than 120	Clay	Must be an above ground system.	4.20

# Chapter 69: Professional Soil Analysis

## **69.1(2) p. 2 - Definitions**

Means an alternative to the percolation test which depends upon a knowledgeable person evaluating the soil characteristics such as color, texture, and structure in order to determine an equivalent percolation or loading rate.

A person performing a professional soil analysis shall demonstrate training and experience in soil morphology, such as testing absorption qualities of soil by physical examination of the soil's color mottling, texture, structure, topography, and hillslope position.

# Websoil Survey or Beacon

- **Code says we will use Websoil Survey (code p.9)**
- **Beacon is a supplemental tool**



# Beacon

Where do you find it.....GOOGLE

<https://beacon.schneidercorp.com/>

- Search for your state and then your county
- Search by address
- View map
- All counties are set up slightly different.

# Things you can find on Beacon

- **Property Owner Information**
- **Township/Section/Range**
- **Previous Owners**
- **Dates of property transfers**
- **Several options for layers**
- **Map of the property**
  - **Edit and draw on the map**
  - **Soil Information**

**AND MORE - Schneider has training**

# The Map - Beacon

- Multiple uses for the map - put in file
  - Measuring Tool
  - Mark well location
  - Mark your soil evaluation locations
  - Mark area of leach field installation
  - Use in winter to help contractors with estimations for system design

# Websoil Survey

Where do you find it? **GOOGLE** - of course

<https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

**Click on Start WSS**

The simple yet powerful way  
to access and use soil data.



# Start WSS

1. There is a lot of information available on this site
2. Notice the tabs across the top. In order on how you will use the page.
3. Start with Area of Interest (AOI)
4. Left side - Several ways to search for soil info
  - a. Quick Navigation - Address
  - b. GPS Coordinates ( lat & long)
  - c. Section/Twp/Range
5. Use the AOI Interactive map
6. Pan, Zoom in and out, designate AOI
7. Soil Map Tab
8. Clickable Soils in Map Unit Legend - Can print
9. Can click on printable map
10. Click on add to shopping cart
11. Click on shopping cart
12. Check out
13. Click on shopping cart tab
14. Generate Report
15. Print report

# The Soil Report

- Review the report
  - Soil number matches a soil name
  - Each soil name has a list of characteristics
  - Look at the profile and the depth to the water table.
- Remember this is a tool. **The code says this needs to be verified.**
- **You have to go to the site and perform a soil evaluation to confirm the Websoil survey**
  - **Soil probe/auger**
  - **Min depth=to confining layer or 6 feet deep**

SOIL AUGER & SOILS = THIS  
IS A TOPIC FOR A  
DIFFERENT DAY

# Now What.....

## Gatekeeper & the Key Master

- These tools are key to maintaining the gate.
- Use information to make code compliant design decisions.
- Follow the process to get to the next step
  - Documentation & Record Keeping

Protecting the environment & the groundwater

Protecting the homeowner/septic system owner

Protecting you and the county



**Cory Frank**

**You have done your due diligence to be the gatekeeper** (because you are the key master)



# Questions

**PLEASE CLOSE  
THE GATE  
BEHIND YOU  
THANK YOU**

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