

# Crow Wing County Trench/Pressure Bed Design

Property Owner: \_\_\_\_\_ Date: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Home Phone Number: \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Cell: \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

Site Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Driving directions if no address issued: \_\_\_\_\_

Legal Description: \_\_\_\_\_

Sec: \_\_\_\_\_ Twp: \_\_\_\_\_ Range: \_\_\_\_\_ Township Name: \_\_\_\_\_

Parcel Number: \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

Lake/ River: \_\_\_\_\_ Lake/River Classification: \_\_\_\_\_

## Flow Data

Number of Bedrooms: \_\_\_\_\_

Dwelling Classification: I II III

System Type: I II III IV V

GPD: \_\_\_\_\_

Estimated Flow in Gallons per Day (GPD)			
Bedrooms	Class I	Class II	Class III
2	300	225	180
3	450	300	218
4	600	375	256
5	750	450	294
6	900	525	332
7	1050	600	370
8	1200	675	408

## Wells

Deep Well: Y or N Proposed or Existing

Shallow Well: Y or N Proposed or Existing

Wells to be sealed (if applicable): \_\_\_\_\_

## Setbacks

Tank(s) to: Well \_\_\_\_\_ Drainfield to: Well \_\_\_\_\_ Sewer Line to well: \_\_\_\_\_

House \_\_\_\_\_ House \_\_\_\_\_ Air Test (Y or N) \_\_\_\_\_

Property Line \_\_\_\_\_ Property Line \_\_\_\_\_

Designer Name: \_\_\_\_\_ License Number: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Home Phone Number: \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Cell: \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

I hereby certify that I have completed this work in accordance with all applicable requirements.

Designer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

# Crow Wing County Trench/Pressure Bed Design

Property Owner: \_\_\_\_\_

Date: \_\_\_\_\_ Designer's Initials: \_\_\_\_\_

## Tank Sizing

A. Septic Tank  \*Existing  New

\*Sewage Tank Integrity Assessment Form must be attached

Capacity: \_\_\_\_\_ Gallons

Compartmentalized (Y or N): \_\_\_\_\_ Filter (Y or N): \_\_\_\_\_

Garbage Disposal (Y or N): \_\_\_\_\_ Bsmt Lift Station (Y or N): \_\_\_\_\_

B. Pump Tank  Existing  New

Capacity: \_\_\_\_\_ Gallons (7080.2100)

a. Alarm Type: \_\_\_\_\_

Septic Tank Capacity		
Bedrooms	Minimum	GD/BL
5 or less	1,500	2,250
6 or 7	2,000	3,000
8 or 9	2,500	3,750

## Soils

C. Depth to Restricting Layer: \_\_\_\_\_ ft.

D. Native SSF: \_\_\_\_\_ (Perc. Rate [Optional] \_\_\_\_\_ MPI)

## Rock Trenches

E. 6 in. Trench Depth GPD \_\_\_\_\_ × D = \_\_\_\_\_ sq. ft.

F. 12 in. Trench Depth GPD \_\_\_\_\_ × D × .8 = \_\_\_\_\_ sq. ft.

G. 18 in. Trench Depth GPD \_\_\_\_\_ × D × .66 = \_\_\_\_\_ sq. ft.

H. 24 in. Trench Depth GPD \_\_\_\_\_ × D × .6 = \_\_\_\_\_ sq. ft.

I. Divide Sq. Ft. by Trench Width for lineal feet (E-H) \_\_\_\_\_ ÷ \_\_\_\_\_ = \_\_\_\_\_ Lineal Feet

J. Sq. Ft. of Trenches \_\_\_\_\_ ft. × Rock Depth (Trench Depth + 0.5 ft.) \_\_\_\_\_ ft. ÷ 27 = \_\_\_\_\_ yds<sup>3</sup> of rock

## Chamber Trenches

K. Brand: \_\_\_\_\_ Length of one chamber: \_\_\_\_\_ Width of one chamber: \_\_\_\_\_

L. 6-11 in. Chamber Depth GPD \_\_\_\_\_ × D = \_\_\_\_\_ sq. ft.

M. 12 in. Chamber Depth GPD \_\_\_\_\_ × D × .8 = \_\_\_\_\_ sq. ft.

N. Divide Sq. Ft. by Trench Width for lineal feet (L-M) \_\_\_\_\_ ÷ \_\_\_\_\_ = \_\_\_\_\_ Lineal Feet

O. Divide Lineal Feet by Chamber Length for Total Chambers Needed (Round Up) N ÷ Chamber Length: \_\_\_\_\_

## Seepage Beds

P. Seepage Bed GPD \_\_\_\_\_ × D \_\_\_\_\_ × 1.5 = \_\_\_\_\_ sq. ft.

a. Bed Dimensions \_\_\_\_\_ ft. × \_\_\_\_\_ ft.

b. Bed Length \_\_\_\_\_ ft. × Bed Width \_\_\_\_\_ ft. × Rock Depth \_\_\_\_\_ ft. ÷ 27 = \_\_\_\_\_ yds<sup>3</sup> of rock

**Additional System Notes and Information:** \_\_\_\_\_

\_\_\_\_\_

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Please record the depths of all horizons, redoximorphic features, restricting layers, and saturated soils. Include all chroma and hue values.

**#1 Proposed Site**

Depth (in.)	Texture	Color

**#1 Alternate Site**

Depth (in.)	Texture	Color

**#2 Proposed Site**

Depth (in.)	Texture	Color

**#2 Alternate Site**

Depth (in.)	Texture	Color

### Soil Sizing Factors/Hydraulic Loading Rates

Perc. Rate	Texture	SSF	HLR	Perc. Rate	Texture	SSF	HLR
<0.1	Coarse Sand			16 to 30	Loam	1.67	0.60
0.1 to 5	Sand	0.83	1.20	31 to 45	Silt Loam	2.00	0.50
0.1 to 5	Fine Sand	1.67	0.60	46 to 60	Clay Loam	2.20	0.45
6 to 15	Sandy Loam	1.27	0.79	> 60	Clay Loam	****	0.24

### Description of Soil Treatment Areas

	Proposed Site		Alternate Site	
Disturbed Areas?	Yes or No		Yes or No	
Compacted Areas?	Yes or No		Yes or No	
Flooding Potential?	Yes or No		Yes or No	
Run on Potential?	Yes or No		Yes or No	
Limiting Layer Depth	Proposed #1	Proposed #2	Alternate #1	Alternate #2
Slope % and Direction				
Landscape Position				
Vegetation Types				
Soil Texture				
Soil Sizing Factor	0.83	1.27	1.67	2.0
			2.2	
	0.83	1.27	1.67	2.0
			2.2	

## Crow Wing County Trench/Pressure Bed Design

Property Owner: \_\_\_\_\_ Date: \_\_\_\_\_

Please Draw to Scale with North Arrow to top or Left Side of Page

**Please show all that apply (Existing or Proposed):**

Wells within 100 ft. of a Drainfield  
Water lines within 10 ft. of a Drainfield  
Disturbed/Compacted Areas  
Drainfield Areas

Boring Locations  
Component Location  
OHW  
Lot Easements

Access Route for Tank Maintenance  
Property Lines  
Structures  
Setbacks

**Elevations:**

_____	Benchmark Elevation	_____	Pump Elevation
_____	Elevation of Sewer Line at House	_____	Pump Discharge Elevation
_____	Tank Inlet Elevation	_____	Restricting Layer Elevation
_____	Drainfield Elevation		

Designer Signature: \_\_\_\_\_  
License Number: \_\_\_\_\_

Date: \_\_\_\_\_  
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