



Becker County Planning & Zoning
915 Lake Ave
Detroit Lakes, MN 56501
(218) 846-7314
www.co.becker.mn.us



Certificate of Compliance

Inspection Report - Permit #: SS2021-846

Owner & Property Information

Owner Name: KYLE LIENEMANN
Mailing Address: KYLE LIENEMANN
5109 18TH ST N
MOORHEAD MN 56560
Parcel #: 020302701
Secondary Parcel #: na

Site Address: 16605 BIRD DOG RD
Township - Sec/Twp/Rng: AUDUBON - 32/139/042
Legal Description: Lot 001 Block 001 of COURAGE VIEW BEACH
Designer: Renner Excavating LLC, L2567 (Rick Renner)
Installer: Renner Excavating LLC, L2567 (Rick Renner)

Inspector Verified Specifications

Insp- Effluent Screen Installed: Yes
Insp- Alarm Required: Yes
Insp- Lift Pump in System: Yes
Insp- Number of Bedrooms: 5

Insp- Tank Nbr/Size: 2/2250/2 and 1000 pump
Insp- Drainfield Type: Mound
Insp- Drainfield Size: 625
Insp- Soil Verification: #1:24" LL #2:N/A #3:N/A

Inspector Verified Setbacks

Insp- Tank Dist to Road 10+
Insp- Tank Dist to Nearest Prop Line 10+
Insp- Tank Dist to Nearest Structure 10+
Insp- Tank Dist to Well 50+
Insp- Tank Dist to OHW 100+
Insp- Tank Dist to Pond/Wetland N/A
Insp- Tank Dist to Pressure Line 10

Insp- Drainfield Dist to Road 10+
Insp- Drainfield Dist to Nearest Prop Line 10+
Insp- Drainfield Dist to Nearest Structure 20+
Insp- Drainfield Dist to Well 100+
Insp- Drainfield Dist to OHW 100+
Insp- Drainfield Dist to Pond/Wetland N/A
Insp- Drainfield Dist to Pressure Line 10

Certificate of Compliance

(Yes) Certificate is hereby granted based upon the application, addendum from, plans, specifications and all other supporting data. With proper maintenance, this system can be expected to function satisfactory, however this is not a guarantee.

Certification Date: 6/7/2021

Zoning Office Signature:

Jeff Rusness - ISTS Inspector

* Certificate of Compliance is not valid unless signed by a Registered Qualified Employee *

Field Review Form

Permit # SS2021-846

Property and Owner

Owner: KYLE LIENEMANN

Parcel Number: 020302701

Site Address: 16605 BIRD DOG RD

Secondary Parcel: na

Home Information

Does the structure contain any of the following elements?

Designer submitted

Inspector verified

Garbage disposal: Yes
Dishwasher: Invalid Field
Grinder pump: Invalid Field
Lift pump in bsmt: Invalid Field

Garbage disposal? ☒ Y ☐ N
Dishwasher? ☒ Y ☐ N
Grinder pump? ☐ Y ☒ N
Lift pump in basement? ☐ Y ☒ N

Number of bedrooms: 5

Review - Number of bedrooms:

5

Effluent screen

Effluent screen installed? ☒ Y ☐ N

Mfr:

PolyLoc

Alarm: Yes Type: ps patrol

Review - Alarm? ☒ Y ☐ N

Type & Mfr:

PS. Patrol

Lift pump in system: Yes

Review - Lift pump in system? ☒ Y ☐ N

Mfr:

Liberty 1/2 HP

Component Information

Tank size: 2250/2 and 1000 pump

Review - Tank nbr: 2

size:

2 comp Lift
2250/1000

Mfr:

B/W-

Drainfield type: Mound

Review - Drainfield type:

mound

Drainfield size: Full size - 625
Reduced/warr. size -

Review - Drainfield status: none ☒ installed next spring

Review - Drainfield size:

640

Absorption area size: 10"

Review - Absorption area size:

Chamber type/num:

Review - Chamber type:

Num:

Trench sqft/chamber -

Review - Trench sqft/chamber:

N/A

Drainfield rock depth: 10"

Review - Rock depth:

10"

Soil Verification

Vertical separation verified

Boring #1:

Boring #2:

Boring #3:

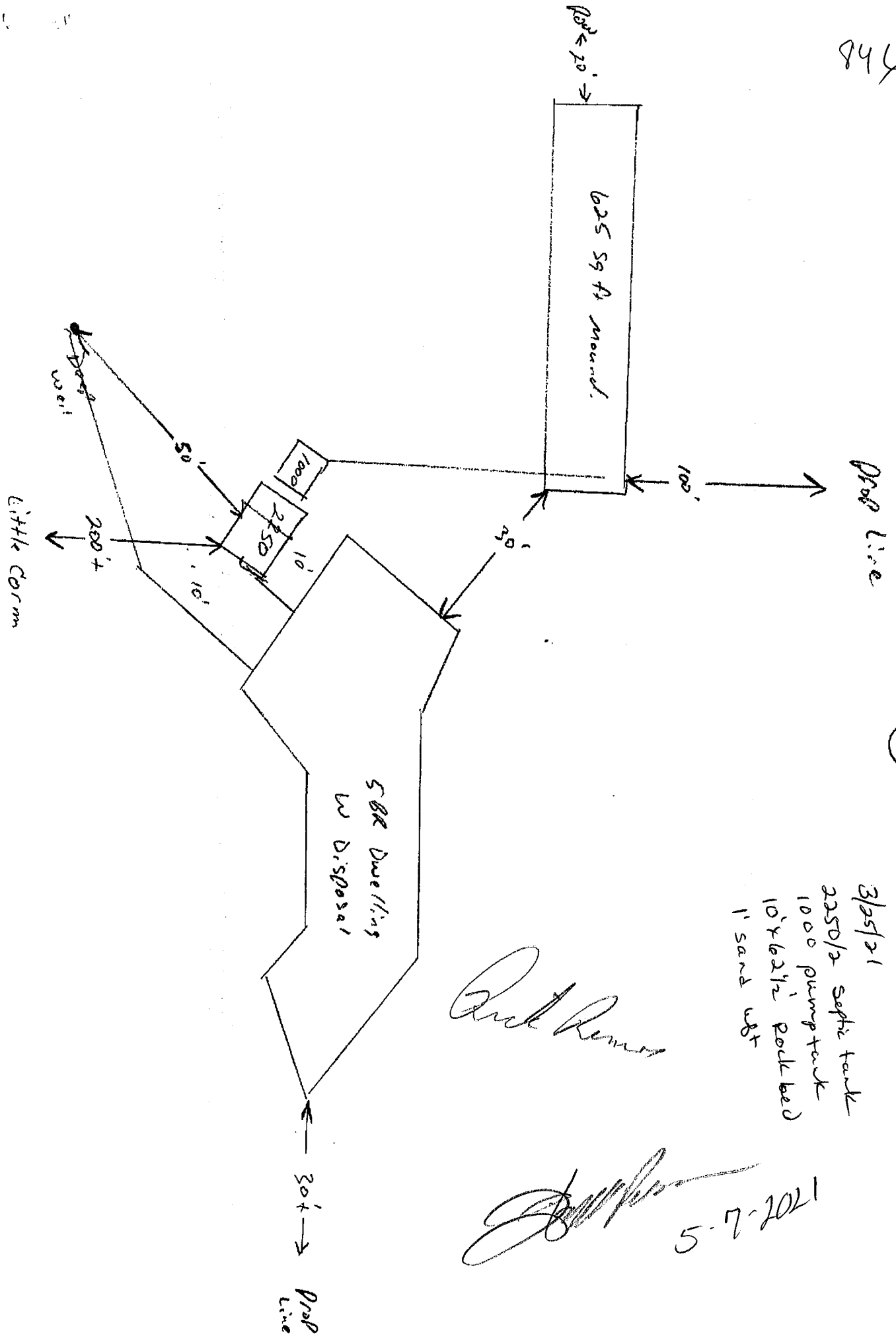
Setback Verification

Distance to...	Designer submitted		Inspector verified	
	Tank	Drainfield	Tank	Drainfield
Road	50'	20'	10+	10+
Nearest prop line	100+	100+	10+	10+
Nearest structure	10'	30'	10+	20+
Well	50'	100'	50+	100+
OHW	200+	200+	100+	100+
Pond/Wetland	na	na	N/A	N/A
Pressure line	10	75	10	75

Date System Installed: 5-7-2021 Installer: Benner etc.

Inspector: [Signature]

448



(2)

3/25/21
2250/2 septic tank
1000 pump tank
10' x 6 1/2' rock bed
1' sand w/lt

Paul Remy

5-7-2021

Becker County Restrictive Layer Verification

Client: <u>Kyle Lienemann</u>		Parcel: <u>020302701</u>		Date: _____	
Address: <u>16605 Bird dog Rd</u>					
Vegetation: _____					
Weather Conditions/Time of Day: _____					
Depth (in)		Texture		Observation#/Location/Method:	
<u>24+L/L</u>		<u>10YR 5/3</u>			
Comments/Notes: <u>Same clay loam</u>					

Certified Statement: I hereby certify that I have completed this work in accordance with all applicable ordinance, rules and laws.			
(Designer) <u>Renner EKC</u>	(Inspector) <u>[Signature]</u>	(License #) <u>C531</u>	(Date) <u>5-9-2022</u>

5. DISTRIBUTION MEDIA: REGISTERED TREATMENT PRODUCTS: CHAMBERS AND EZFLOW

A. Enter Dispersal Media:

B. Enter the Component: Length: ft Width: ft Depth: ft

C. Number of Components per Row = Bed Length divided by Component Length (Round up)

ft ÷ ft = components/row

D. Actual Bed Length = Number of Components/row X Component Length:

components X ft = ft

Check registered product information for specific application details and design

E. Number of Rows = Bed Width divided by Component Width (Round up)

ft ÷ ft = rows *Adjust width so this is a whole number.*

F. Total Number of Components = Number of Components per Row X Number of Rows

X = components

6. MOUND SIZING

A. Clean Sand Lift: Required Separation - Depth to Limiting Condition = Clean Sand Lift (1 ft minimum)

3.0 ft - 3' ft = 1.0 ft Design Sand Lift (optional): ft

B. Upslope Height: Clean Sand Lift + Depth of Media + Depth to Cover Pipe + Depth of Cover (1 ft)

1.0 ft + 0.83 ft + 0.3 ft + 1.0 ft = 3.1 ft

Land Slope %	0	1	2	3	4	5	6	7	8	9	10	11	12
Upslope Berm Ratio 3:1	3.00	2.91	2.83	2.75	2.68	2.61	2.54	2.48	2.42	2.36	2.31	2.26	2.21
Upslope Berm Ratio 4:1	4.00	3.85	3.70	3.57	3.45	3.33	3.23	3.12	3.03	2.94	2.86	2.78	2.70

C. Select Upslope Berm Multiplier (based on land slope):

2.68

D. Calculate Upslope Berm Width: Multiplier X Upslope Mound Height

2.68 ft X 3.1 ft = 8.4 ft

E. Calculate Drop in Elevation Under Bed: Bed Width X Land Slope ÷ 100 = Drop (ft)

10.0 ft X 4.0 % ÷ 100 = 0.40 ft

F. Calculate Downslope Mound Height: Upslope Height + Drop in Elevation

3.1 ft + 0.40 ft = 3.5 ft

Land Slope %	0	1	2	3	4	5	6	7	8	9	10	11	12
Downslope Berm Ratio 3:1	3.00	3.09	3.19	3.30	3.41	3.53	3.66	3.80	3.95	4.11	4.29	4.48	4.69
Downslope Berm Ratio 4:1	4.00	4.17	4.35	4.54	4.76	5.00	5.26	5.56	5.88	6.25	6.67	7.14	7.69

G. Select Downslope Berm Multiplier (based on land slope):

3.41

H. Calculate Downslope Berm Width: Downslope Multiplier X Downslope Height

3.41 X 3.5 ft = 12.0 ft

I. Calculate Minimum Berm to Cover Absorption Area: Downslope Absorption Width + 4 feet

16.0 ft + 4 ft = 20.0 ft

J. Design Downslope Berm = greater of 4H and 4I:

20.0 ft

K. Select Endslope Berm Multiplier:

3.00

(usually 3.0 or 4.0)

L. Calculate Endslope Berm X Downslope Mound Height = Endslope Berm Width

3.00 ft X 3.5 ft = 10.6 ft

M. Calculate Mound Width: Upslope Berm Width + Bed Width + Downslope Berm Width

8.4 ft + 10.0 ft + 20.0 ft = 38.4 ft

N. Calculate Mound Length: Endslope Berm Width + Bed Length + Endslope Berm Width

10.6 + 62.5 ft + 10.6 ft = 83.7 ft



Mound Design Worksheet

≥1% Slope

1. SYSTEM SIZING:

Project ID: ~~200704~~ 020302701

v 04.01.2020

- A. Design Flow: GPD
- B. Soil Loading Rate: GPD/ft²
- C. Depth to Limiting Condition: ft
- D. Percent Land Slope: %
- E. Design Media Loading Rate: GPD/ft²
- F. Mound Absorption Ratio:

Table I MOUND CONTOUR LOADING RATES:			
Measured Perc Rate	OR	Texture - derived mound absorption ratio	Contour Loading Rate:
≤ 60mpi		1.0, 1.3, 2.0, 2.4, 2.6	≤ 12
61-120 mpi	OR	5.0	≤ 12
≥ 120 mpi*		>5.0*	≤ 6*

TABLE IXa

LOADING RATES FOR DETERMINING BOTTOM ABSORPTION AREA
AND ABSORPTION RATIOS USING PERCOLATION TESTS

Percolation Rate (MPI)	Treatment Level C		Treatment Level A, A-2, B,	
	Absorption Area Loading Rate (gpd/ft ²)	Mound Absorption Ratio	Absorption Area Loading Rate (gpd/ft ²)	Mound Absorption Ratio
<0.1	-	1	-	1
0.1 to 5	1.2	1	1.8	1
0.1 to 5 (fine sand and loamy fine sand)	0.6	2	1	1.8
6 to 15	0.78	1.5	1	1.6
16 to 30	0.6	2	0.78	2
31 to 45	0.6	2.4	0.78	2
46 to 60	0.45	2.6	0.6	2.6
61 to 120	-	5	0.3	5.3
>120	-	-	-	-

*Systems with these values are not Type I systems.
Contour Loading Rate (linear loading rate) is a
recommended value.

2. DISPERSAL MEDIA SIZING

- A. Calculate Dispersal Bed Area: Design Flow ÷ Design Media Loading Rate

$$\frac{750 \text{ GPD}}{1.2 \text{ GPD/ft}^2} = 625 \text{ ft}^2$$

If a larger dispersal media area is desired, enter size: ft²

- B. Enter Dispersal Bed Width: ft *Can not exceed 10 feet*

- C. Calculate Contour Loading Rate: Bed Width X Design Media Loading Rate

$$10 \text{ ft} \times 1.2 \text{ GPD/ft}^2 = 12.0 \text{ gal/ft} \quad \text{Can not exceed Table 1}$$

- D. Calculate Minimum Dispersal Bed Length: Dispersal Bed Area ÷ Bed Width

$$\frac{625 \text{ ft}^2}{10.0 \text{ ft}} = 62.5 \text{ ft}$$

3. ABSORPTION AREA SIZING

- A. Calculate Absorption Width: Bed Width X Mound Absorption Ratio

$$10.0 \text{ ft} \times 2.6 = 26.0 \text{ ft}$$

- B. For slopes >1%, the Absorption Width is measured downhill from the upslope edge of the Bed.

Calculate Downslope Absorption Width: Absorption Width - Bed Width

$$26.0 \text{ ft} - 10.0 \text{ ft} = 16.0 \text{ ft}$$

4. DISTRIBUTION MEDIA: ROCK

Project ID: 2E+07

- A. Rock Depth Below Distribution Pipe

$$10 \text{ in} \times 0.83 \text{ ft}$$