

Preliminary & Field Evaluation Form

Type III Mound

www.SepticResource.com vers 12.4

| Owner Information | |
|-------------------------------|-----------------------------------|
| Date | 11/2/2022 |
| Parcel ID | 03-0-051901 |
| Property Owner: | Ellen Mortenson |
| Property Address: | 52855 145th PL. Tamarack MN 55787 |
| City / State / Zip: | Tamarack MN 55787 |
| Sec / Twp / Rng | S-32, T-50, R-22 |
| LUG (county, city, township) | Aitkin Co. |
| Owners address (if different) | 52855 145th Pl. |

| Flow Information and Waste Type / Strength | |
|--|--|
| Estimated Design flow | 450 |
| Comments: | Existing System failing soil separation. 2 wells on this property, Dry Deep well NE of House 40 ft New Deep well approx. 200 ft SE of house Abandon existing system Type III Mound 3 ft washed sand under rockbed. Aitkin County requires an Aitkin Co. Operating Permit Event counter required on pump controller |
| Anticipated Waste strength | <input type="checkbox"/> Hi Strength <input checked="" type="checkbox"/> Domestic |
| Any Non-Domestic Waste | <input type="checkbox"/> Yes (class V) <input checked="" type="checkbox"/> No |
| Sewage ejector/grinder pump | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water softener | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Garbage Disposal | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Daycare / In home business | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

| Site Information | |
|---|---|
| Existing & proposed lot improvements located (see site map) | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Easements on lot located (see site map) | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Property lines determined (see site map) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Req'd setbacks determined (see site map) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Utilities located & identified (gopher state one call) | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Access for system maintenance (shown on site map) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Soil treatment area protected | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Construction related issues | Will have to go around house and shed to get to mound location. |
| Req'd setbacks determined (see site map) | |

| | |
|--|--|
| Utilities located & identified (gopher state one call) | |
| Existing & proposed access for system maintenance | |

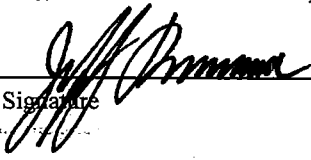
Soil Information

| | | |
|--|---|---|
| | | Evidence of site: |
| | | Cut <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| | | Filled <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| | | Compacted <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| | | Disturbed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Original soils | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| Soil logs completed and attached | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Perk test completed and attached (if applicable) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Soil loading rate (gpd/ft ²) | <u>0.78</u> | Percolation rate (if applicable) _____ |
| Depth/elev to SHWT | <u>7"</u> | Flooding or run-on potential <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (comments) |
| Depth to system bottom maximum (or elev minimum) | <u>(+ 36")</u> | Flood elevation (if applicable) <u>NA</u> |
| Depth/elev to standing water (if applicable) | _____ | Elevation of ordinary high water level (if applicable) _____ |
| Depth/elev to bedrock (if applicable) | _____ | Floodplain designation and elev - 100 yr/10 yr (if applicable) <u>NA</u> |
| Soil Survey information determined (see attachment) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| Differences between soil survey and field evaluation (if applicable) | _____ _____ | |

Depth/elev to bedrock (if applicable)

Soil Survey information determined (see at

I hereby certify this evaluation was completed in accordance with MN 7080 and any local req's.


Designer Signature

Brummer Septic LLC.
Company

L-1347
License #

Soil Observation Log

www.SepticResource.com vers 12.4

Owner Information

Property Owner./ project: Ellen Mortenson

Date 11/2/2022

Property Address / PID: 52855 145th PL. Tammarack MN 55787

Soil Survey Information

refer to attached soil survey

Parent mat'l's: Till Outwash Lacustrine Alluvium Organic Bedrock

landscape position: Summit Shoulder Side slope Toe slope

soil survey map units: 504B slope 1 % direction- East

Soil Pit #1

Boring Pit Elevation 96.9' Depth to SHWT 7"

| Depth (in) | Texture | fragment % | matrix color | redox color | consistence | grade | shape |
|------------|-----------------------|------------|--------------|-------------|-------------|-------|----------|
| 0 - 7 | Topsoil Sandy Loam | <35 | 10YR3/2 | | Loose | Loose | Granular |
| 7 - 14 | Sandy Loam | <35 | 10YR4/4 | 7.5YR5/6 | Loose | Loose | Granular |
| 14 - 18 | Clay Loam | <35 | 10YR4/4 | 7.5YR5/6 | Friable | Weak | Blocky |
| | | | | | | | |
| | | | | | | | |

Comments: Old Hay Field plowed to a depth of 7 inches

52855 145th PL. Tammarack MN 55787

Soil Pit #2

| | | <input type="checkbox"/> Boring | <input checked="" type="checkbox"/> Pit | Elevation <u>97'</u> | | Depth to SHWT <u>16"</u> | |
|----------------|-----------------------|---------------------------------|---|----------------------|-------------|--------------------------|----------|
| Depth (in) | Texture | fragment % | matrix color | redox color | consistence | grade | shape |
| 0 - 7 | Topsoil Sandy Loam | <35 | 10YR3/2 | | Loose | Loose | Granular |
| 7 - 16 | Sandy Loam | <35 | 10YR4/4 | | Loose | Loose | Granular |
| 52855 145th PI | | | | | | | |
| 16 - 20 | Sandy Loam | <35 | 10YR4/4 | 7.5YR5/6 | Loose | Loose | Granular |
| 7 - 16 | Sandy | | | | | | |

52855 145th PL. Tammarack MN 55787

Soil Pit #3

| | | <input type="checkbox"/> Boring | <input checked="" type="checkbox"/> Pit | Elevation <u>96.9'</u> | | Depth to SHWT <u>7"</u> | |
|----------------|-----------------------|---------------------------------|---|------------------------|-------------|-------------------------|----------|
| Depth (in) | Texture | fragment % | matrix color | redox color | consistence | grade | shape |
| 0 - 7 | Topsoil Sandy Loam | <35 | 10YR3/2 | | Loose | Loose | Granular |
| 7 - 14 | Clay Loam | <35 | 10YR4/4 | 7.5YR5/6 | Friable | Weak | Blocky |
| 52855 145th PI | | | | | | | |
| 16 - 20 | | | | | | | |
| 7 - 14 | Clay Lr | | | | | | |

I hereby certify this work was completed in accordance with MN 7080 and any local req's.


 Designer Signature

Brummer Septic LLC.
 Company

L-1347
 License #

Mound Design - Aitkin county

Property Owner: Ellen Mortenson Date: 11/2/2022
 Site Address: 52855 145th PL. Tammarack MN 55787 PID: 03-0-051901
 Comments: Type III because of soils. 7 inches to mottles

Instructions: = enter data = adjust if desired = computer calculated - DO NOT CHANGE!

- 1) bedroom Type Residential System
- 2) GPD design flow Install 1650 Jacobson 2?Compartment septic tank.
- 3) Yes No Garbage disposal or pumped to septic 50% larger tank with multiple comp/tanks
- 4) Gal Septic tank (code minimum) Gal Septic tank (design size / LUG req'd)
Tank options: Multiple tanks or compartments req'd
- 5) GPD/ft² mound sand loading rate contour loading rate of req's a min ft. long rockbed
- 6) ft rockbed width ft rockbed length
- 7) ft lateral spacing ft perforation spacing (maximum of 3 for both)
 manifold connection
- 8) laterals feet long perms / lateral perms total
(1/2 a perf means the first perf starts at the middle feed manifold)
- 9) Yes No inch perms at feet residual head gives gpm flow rate per perforation
for this perf size & spacing, & pipe size on line 12, max perms/lateral = , line #8 must be less --> OK
- 10) doses per day (4 minimum)
- 11) gallons per dose (treatment volume)
- 12) inch diameter laterals must be used to meet "4x pipe volume" requirement 1.50 5x
- 13) feet of inch supply line leads to gallons of drainback volume 2.00 3x
(Tip: "top feed" manifold to control the drainback)
- 14) gallons TOTAL pump out volume (treatment + drainback)
- 15) feet vertical lift from pump to mound laterals, leads to a:
- 16) GPM @ feet of head, Pump requirement (note: >50gpm may require an extra 3-6' of head)
- 17) gal Dose tank (code minimum) gal Dose tank (design size / LUG req'd) at gpi
leads to a
- 18) inch swing on Demand float, or timed dosing of min ON (confirm pump rate with drawdown test and adjust as necessary)
 (this delivers Average flow, =70% of Peak design flow) hrs OFF
- 19) inches from bottom of tank to "Pump OFF" float
- 20) inches from bottom of tank to "Pump ON" float, or inches to "Timer ON" float if time dosed
- 21) inches from bottom of tank to "Hi Level" float, or inches to "Hi Level" float if time dosed
- 22) gallons reserve capacity (after High Level Alarm is activated)

5.7 inch swing
 this deliver

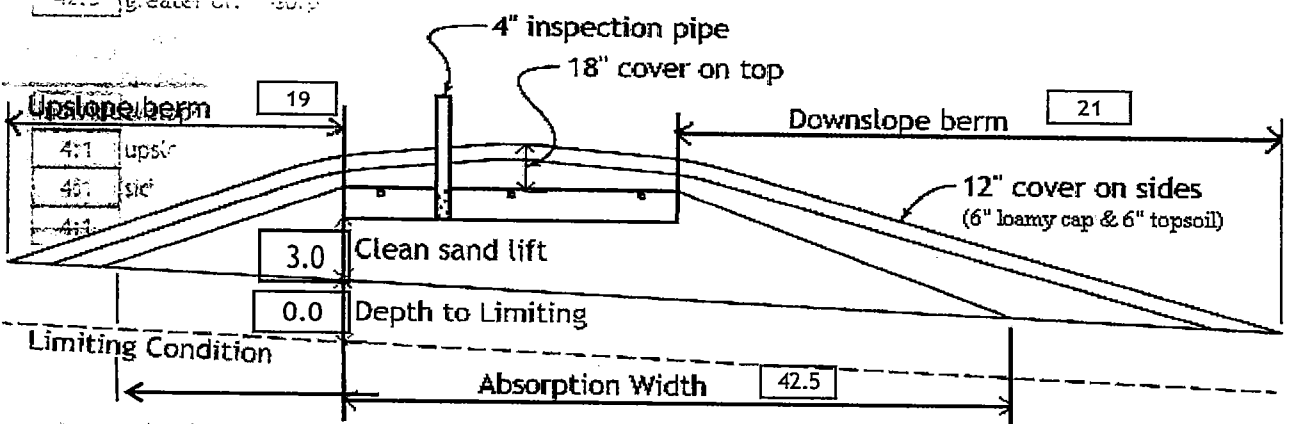
23) 0.78 gpd/ft² Absorption area Soil Loading Rate, which gives a mound ratio of 1.5 (minimum)
 17 inch (this must match the soil boring log) desired mound ratio 1.5
 24) 20 percent site slope (0-20% range) 1 (% downslope site slope, if different than upslope)

25) 0 inches, or 0.0 ft. to Redox or other limiting condition (need at least 12" to be a Type I)
 Treatment zone contains 0 inches of 0% soil credit, and 0 inches of 50% soil credit. Giving a:
 26) 36 inch, or 3.0 ft. Sand Lift Mound **CRITICAL FOR FUTURE CERTIFICATIONS!!!**

27) 15.0 ft. base absorption width (with sand beyond rockbed as follows):
 42.5 greater of: absorption width OR sand slope
 28) 2.5 ft. upslope and sideslope sand upslope 15.4
 2.5 ft. Downslope sand down slope 17.1

Individual slope ratios give BERM widths (topsoil beyond rockbed) of:
 29) 4:1 upslope ratio 19 ft. upslope berm
 30) 4:1 sideslope 20 ft. sideslope berms
 31) 4:1 downslope 21 ft. downslope berm

32) Overall Dimensions: 10.0 ft. wide by 37.5 ft. long Rock bed
 50 ft. wide by 78 ft. long Mound footprint



Note:
 For 0 to 1% slopes, Absorption Width is measured from the Bed equally in both directions.
 For slopes >1%, Absorption Width is measured downhill from the upslope edge of the Bed.

33) Rock Bed: 10.0 ft. by 37.5 ft. by 9 inches under pipe, plus 20% gives 17 yd³ or *1.4= 24 ton

34) Mound Sand: (note: volume is based on 3:1/4:1 slope from top of rockbed, Exchange sand for loamy cap if desired)
 79.3 up + 90.2 downslope + 24.9 ends + 42.4 under rock = 284 yd³ or *1.4= 398 ton
 plus 20%

35) Loamy Cap: 46 ft. by 74 ft. 6" deep, plus 20% gives 76 yd³ or *1.4= 106 ton

36) Topsoil: 50 ft. by 78 ft. 6" deep, plus 20% gives 87 yd³ or *1.4= 122 ton

I hereby certify that I have completed this work in accordance with all applicable ordinances, rules and laws.
 Rock Bed: Brummer Septic LLC. L-1347 11/2/2022
 Designer Signature: [Signature] Company License# Date

Aitkin Co Operating Permit Required
 Event Counter and Alarm on Pump controller (Aitkin Co. Operating Permit)

Installer Summary

Capacity
1500 gallon Septic tank (minimum)

Tank options: Multiple tanks or compartments req'd
 50% larger tank with multiple comp/tanks
 at **16.57** gpi

Dose tank
520 gallon Dose tank (minimum)

27 GPM @ **23** ft. of head, Pump required
5.1 inch swing on Demand float which translates to roughly **3.6** inches of float tether length
 if time dosing is required --> **3.1** minutes ON time & **5.1** hours OFF time
17 inches from bottom of tank to "pump ON" float, or **12** inches to "timer ON" float
20 inches from bottom of tank to "Hi Level Alarm" or **30** inches to "Hi level alarm" if time dosed

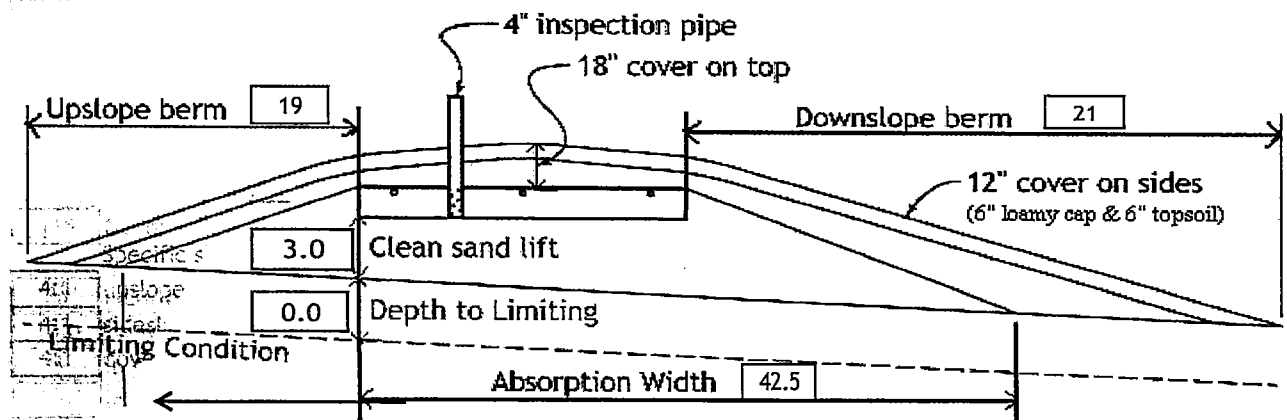
1.5 ft. of **2.0** inch supply line with **end feed** manifold connection
 (Tip: "top feed" manifold to control drainback)

36 inch, or **3.0** ft. Sand Lift Mound
10.0 ft. wide by **37.5** ft. long Rock bed
3 laterals **1.50** inch diameter **35.5** ft. long **3.0** ft. lateral spacing
1/4" inch perfs **3.0** ft. perforation spacing

No Effluent filter & alarm
3 clean out & valve box assemblies

42.5 ft. Total sand ABSORPTION width (minimum)
15.4 ft. upslope and sideslope (sand beyond rockbed, minimum)
17.1 ft. Downslope (sand beyond rockbed, minimum)

Specific slope ratios give BERM widths (topsoil beyond rockbed) of:
4:1 upslope ratio **19** ft. upslope berm
4:1 sideslope **20** ft. sideslope berms
4:1 downslope **21** ft. downslope berm



Note:
 For 0 to 1% slopes, *Absorption Width* is measured from the *Bed* equally in both directions.
 For slopes >1%, *Absorption Width* is measured downhill from the upslope edge of the *Bed*.

| | | | |
|-------------|--------------------------------------|----------------|---------------------|
| Rock Bed: | 17.0 yd ³ or *1.4= | 24 ton | 9 inches under pipe |
| Mound Sand: | 284 yd ³ or *1.4= | 398 ton | |
| Loamy Cap: | 76 yd ³ or *1.4= | 106 ton | 6" deep |
| Topsoil: | 87 yd ³ or *1.4= | 122 ton | 6" deep |

INSPECTOR CHECKLIST - mound

52855 145th PL. Tammarack MN 55187

-
-
-
-
-
-

WELL setbacks: 20' to pressure tested sewer line (5 psi for 15 min)
 Property Cap: 50' to everything 100' to dispersal area with shallow well
 PROPERTY LINES setback: 10' to everything
 Road setback: platted: 10' prop line. Metes & bounds: out of road easement, or outer ditch.
 LAKE/BLUFF setback: 20' for bluff. Lakes: GD ____, RD ____, NE ____ Protected wetland ____
 Building setbacks: 10' for everything, 20' for dispersal area.
 WATER LINE under pressure se 10' to bed, tank & sewer line. (else sewer line > 12" below, else ok w/pvc)

-

Sewer line & baffle connection (no 90's, 3' between 45's, slope min 1" in 8', max 2" in 8')
 (no depth req's, clean out every 100', Sch 40 pipe)

-

Septic tank and risers (water tight, insulated, proper depth, existing verified by pumping)
 mfg _____ 1500 gallons Multiple tanks or compartments req'd

-

Riser over outlet, riser over inlet or center, and 6"+ inspection pipe over any remaining baffles.
 No effluent filter & alarm

-

Dose tank risers and piping (water tight, insulated, proper depth, drainback)

-

mfg _____ 520 gallons
 WATER dose pump _____ 27 gpm 23 head VERIFY PUMP CURVE 3.1 min ON 5.1 hr OFF

-

float setting drop 5.1 inches at 16.6 gpi "DESIGNED" 3.6 inches approx float tether length
 84.0 gal dose divided by _____ gpi "INSTALLED" = _____ inches float drop (field corrected)
 LABEL pump requirements and drawdown on riser or panel

-

Cam lock reachable from grade - 30" max. J-hook weep hole. Supply line access (no hard 90's)
 2.0 inch supply pipe: Sch40, sloped 1/8"+, supported by 4" sch40 sleeve or compacted, and buried 6"+.

-

splice box / control panel / electrical connections
 riser over outlet
 flow measurement: CT, ETM, time dosed, home water meter

-

No effluent
 mound absorption area rough up
 Dose tank riser
 mound rock dimensions 10.0 X 37.5
 Sand lift depth 36 inches. (Jar test : 2" sand leaves < 1/8" silt after 30 min)

-

Absorption Sand beyond rock 15.4 upslope 17.1 downslope

-

Bermed topsoil beyond rockbed 19 upslope 20 sideslope 21 downslope

-

cover depth of 12-18"+ VERIFY
 3.0 laterals (1-2' from edge of rock)

-

2.0 inch supply
 1.50 inch pipe size (Sch40 pipe & fittings)

-

splice box / control
 3.0 ft lateral spacing

-

flow measurement
 mound absorp
 1/4" inch perforations

-

mound absorp
 3.0 ft perforation spacing

-

Air inlet at end of laterals, and at top feed manifold if necessary. VERIFY

-

clean outs (no hard 90's)

-

4" inspection pipe to bottom of rock, anchored VERIFY

-

Abandon existing system - if necessary Re-use existing tank certification

-

monitoring plan and type _____
 well abandonment form - if necessary

-

1.50 inch pipe s

-

3.0 ft laterals

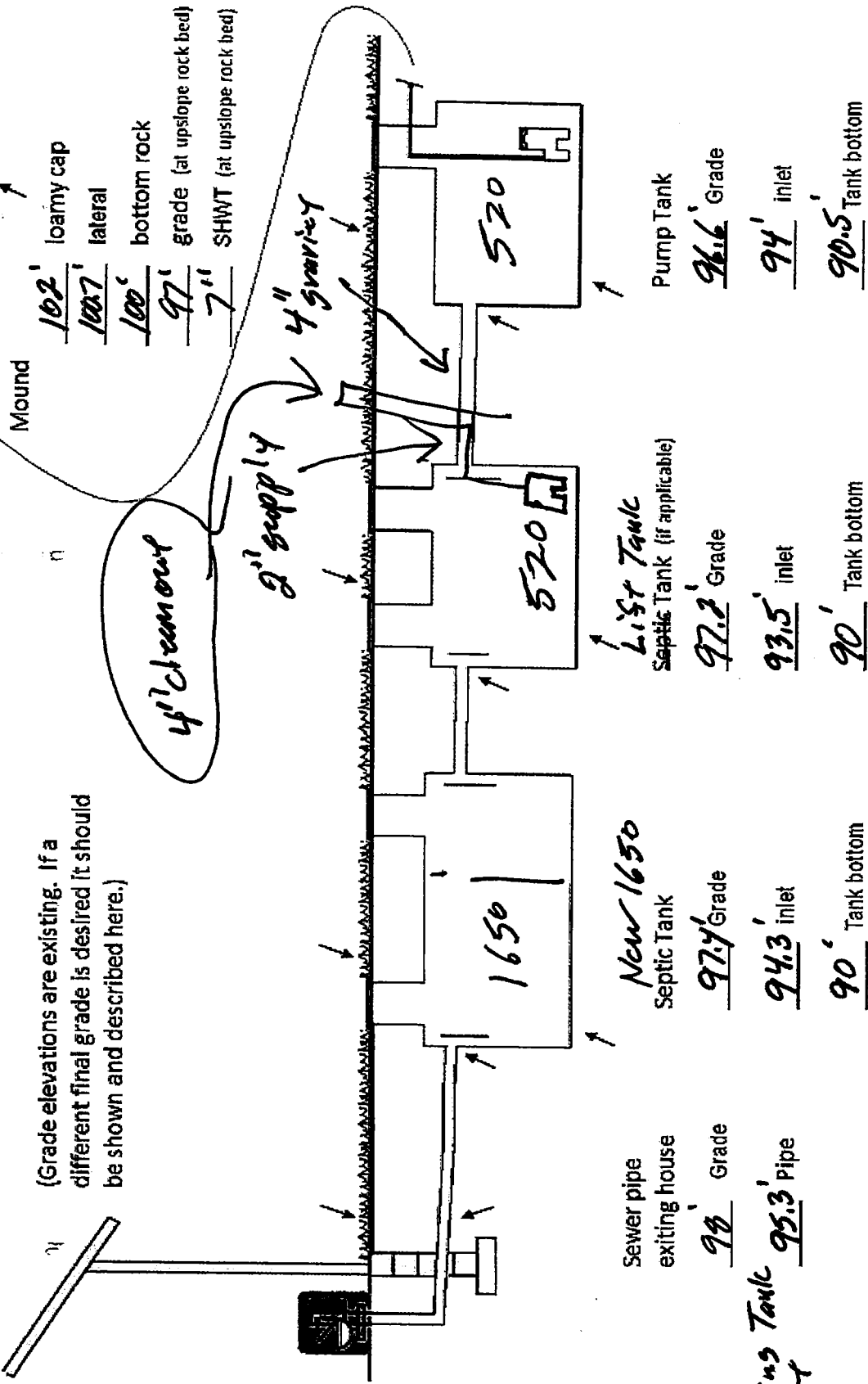
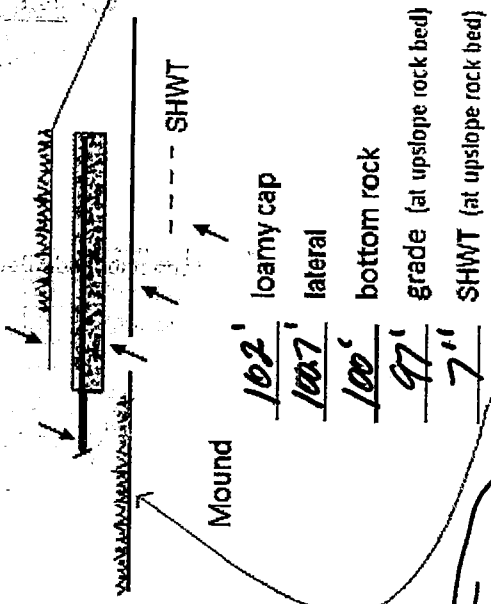
-

1/4" inch

System Elevations

back ELV = 100' benchmark Nail on Power Meter Post.

(Grade elevations are existing. If a different final grade is desired it should be shown and described here.)



Sewer pipe exiting house 99' Grade
Existing Tank 95.3' Pipe Inlet

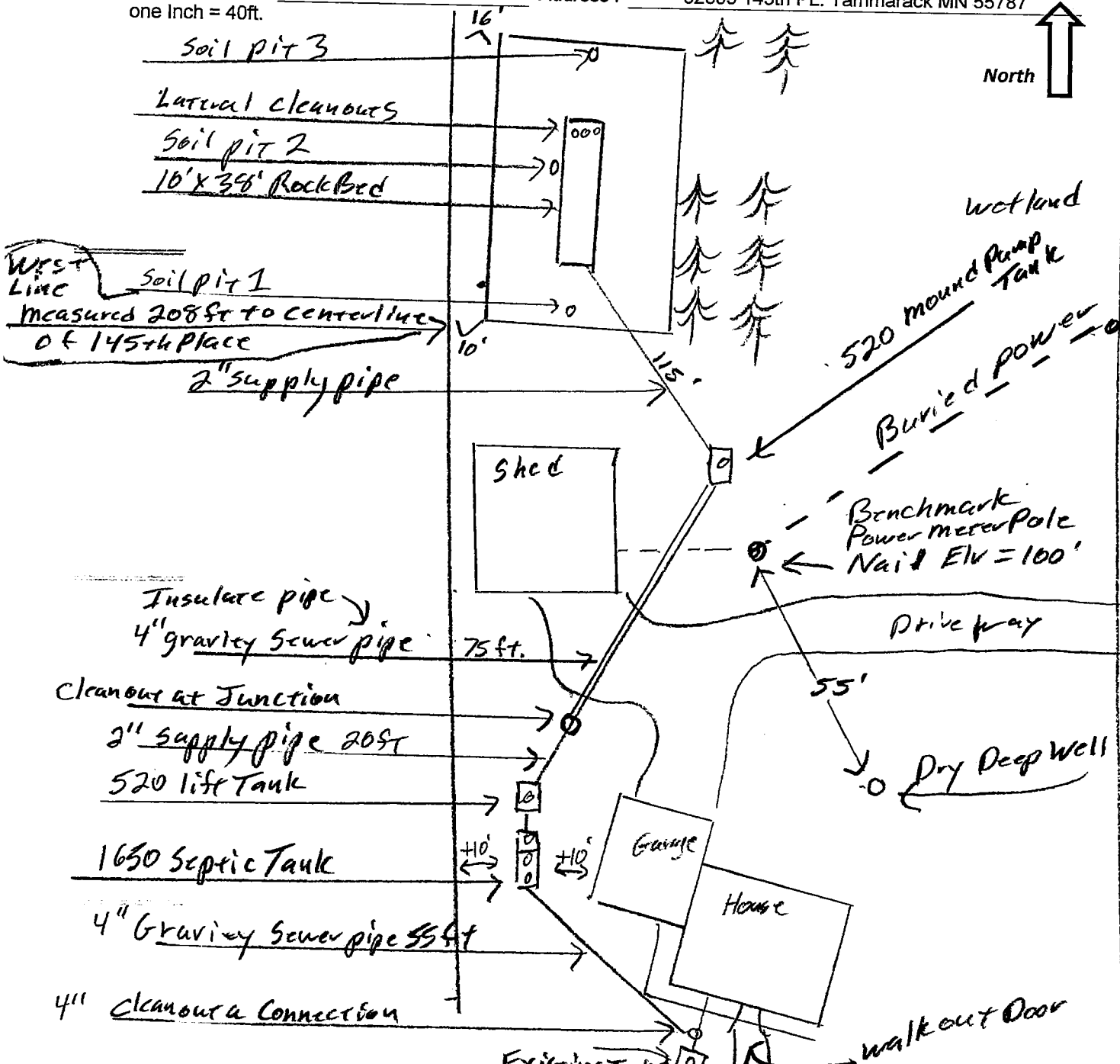
97.4' Grade
94.3' inlet
90' Tank bottom

97.2' Grade
93.5' inlet
90' Tank bottom

96.6' Grade
94' inlet
90.5' Tank bottom

{ Design Drawing }

Property Owner: Ellen Mortenson Date: 11/2/22 Designer's Initials: JB
 Parcel ID. Number: 03-0-051901 Address: 52855 145th PL. Tammarack MN 55787
 one inch = 40ft.



New Septic Tank Grade Elv. = 97.4' Estimated Inlet Elv. = 94.3' Grade at Lift Tank Elv. = 97.2' Estimated In-let + 93.5'
 Drive Way 30 South of Shed Elv. = 97.3' Grade at Pump tank for Mound Elv. = 96.6' Estimated Inlet Elv. = 94'
 Existing Septic Tank Grade Elv. = 97.9' Existing Septic Tank Inlet Elv. = 95.3'

| | Surface/ SHWT | Nail on Power pole = Bench Mark 100' | | Existing Grade | |
|------------|---------------|--------------------------------------|-------|----------------|--|
| Soil Pit 1 | 96.9' / 7" | Bench Mark | 100' | | Upslope Edge of Rockbed Elv. = 97' |
| Soil Pit 2 | 97' / 16" | Ground Elv. BM | 96.5' | | Bottom of Rockbed Elv. = 100' |
| Soil Pit 3 | 96.9' / 7" | Ground Elv. Tank | 97.4' | New Septic | Top of Washed Sand Elv. = 100' |
| | Ground at | house | 98' | SW Corner | Existing Septic Tank In-Let Elv. = 95.3' |

Deep Well
 200' to House
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Mound Design Notes - Aitkin county

Property Owner: Ellen Mortenson Date: 11/2/22

Site Address: 52855 145th PL. Tammarack MN 55787 PID: 03-0-051901

Comments: **Mound design may not follow Aitkin co. Auto fill form for mound design.**

- 1 This is a type III mound , (Soil Separation 7") sized for a 3 bedroom system. Lift in basement
- 2 Two Existing wells 1st well is Dry Deep well NE of House, 2nd is New Deep well approx. 200 ft SE of house.
- 3 Existing tank to be pumped collapsed, filled, or removed. Existing drainfield to be abandon. (Non-Compliant)
There may be buried power lines to cross to shed from house
- 4 Connect to existing 4" sewer pipe near house, install clean-out at connection. Install 22.5 degree turns in pipe.
- 5 Install 1650 Jacobson 2/compartment Septic tank for gravity flow from main floor of house.
Install 520 gallon Lift Tank near Septic tank. Install pump with 15 ft head at 15 GPM. Set to dose 50 gallons per dose.
Lift to a 4" sewer pipe that will gravity flow to the 520 Gallon Mound pump tank. Insulate 4" pipe under driveway.
Install 4" clean-out near connection of 2" supply pipe and 4" gravity pipe. Use sch 40 pipe.
Insulate 4" pipe where it crosses driveway. Center of driveway Grade 30 ft South of shed is Elv. = 97.3'
Recommend installing 4" sewer pipe at least 24 inches deep under driveway.
Install 520 Mound Pump tank low enough for drainback from mound to pump tank.
- 6 **Designer is not a surveyor Found Approx. West Prop line by.**
Designer measured 208 feet from center line of 145th place to approx. West property line
The berm slopes are at 4:1. The East berm toe will be close to the pine trees.
- 7 Elevation contour of rock bed upslope edge is 97' . SE berm corner will be approx. 10 ft. from property line.
The area size of the rock bed is 10' x 38' . Absorption area is 38' x 42.5'.
Sand absorption area is 15.4 ft. up slope + 10 ft. rockbed + 17.1 downslope = approx. 42.5 ft. wide sand base.
Berms are 19ft. Upslope, 21ft. Down slope, 10ft. Rock bed = approx. 50ft. Wide.
Overall mound size is approx. 50' wide x 78' long and approx. 5' high. End berms are 20ft. Wide.
- 8 The bench mark is the nail on the Power Meter pole East of the shed BM = Elv. 100'.
Installer to double check bench mark. Installer should confirm bench mark and sand height Elv. with inspector.
Installer should record bench mark Elv. and sand height on installation inspection form.
The top of the sand and bottom of rock bed is Elv. 100'.
- 9 It is important that the soils do not get compacted, and that clean Washed sand is used.
- 10 The Jacobson 520 Mound Pump tank will be supplied from 520 Lift tank. Install the pump for 7 demand doses per day. approx. 84 gallons per dose, 5.1 inches of tank level. Install alarm at 3 inches from pump on level.
Install all manholes, inspection pipes and clean-outs to grade or above. (Recommend min. 4" above grade)
Install a 2" supply pipe from tank to end manifold in rock bed, install so pipe drains back to tank.
Install 1.5" laterals with 9" of rock under them. (Install Lateral clean-outs at far end of laterals. Recommended)
- 11 **Drill 1/4" perf holes spaced 3 ft. on center.**
Install 4" inspection pipe to bottom of rock bed, secure in rock bed and raise to above final grade.
- 12 Install Event counter on Effluent pump, calibrate pump and give gallons per event to Owner.
- 13 Designer does not guarantee or warranty any Type III systems.
Designed to Aitkin Co. and MPCA recommendations and requirements.


Designer Signature

Brummer Septic LLC.
Design Company

L-1347
License#

This System will require an Aitkin Co. Operator permit, annual inspection
There will be 2 alarms on this system one on the Lift Tank, one on the Mound Pump Tank.
Owner and installer are responsible for owner knowing how system is maintained.

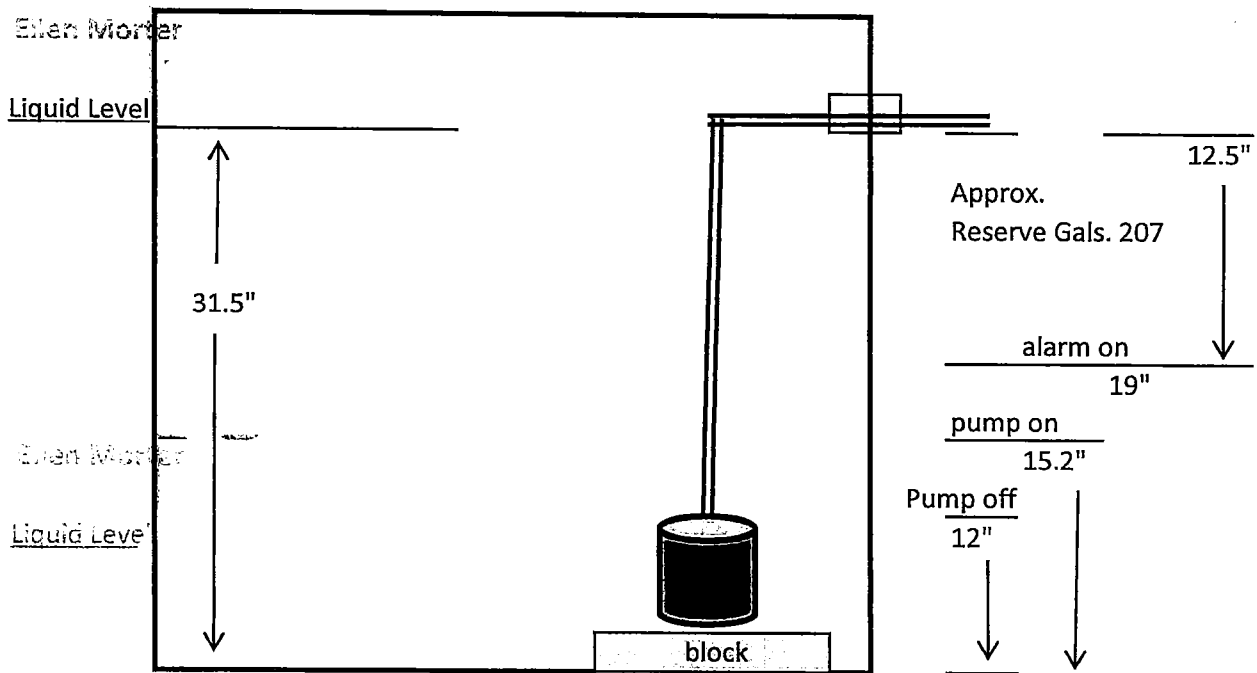
Pump settings for 520 gal Jacobson Lift tank.

Ellen Mortenson

Parcel ID. 03-0-051901

Lift Tank near Septic Tank

Tank Mfg. Jacobson 520 Lift Tank.
Tank Size: MFG. 16.57 gals. Per inch



Assumes 10" pump

Pump out dose at 3.2" = (50 gals. dose + 3 drain back) = 53 pump out gals.

Set to Dose 50 gals. Per Dose

Install an electric alarm on this Tank.

Drive Way 30 South
Existing Septic Tank
Surf?

Soil Pit 1
Soil Pit 2
Soil Pit 3

Pump settings for 520 gal Jacobson Mound Pump tank.

Ellen Mortenson

Parcel ID. 03-0-051901

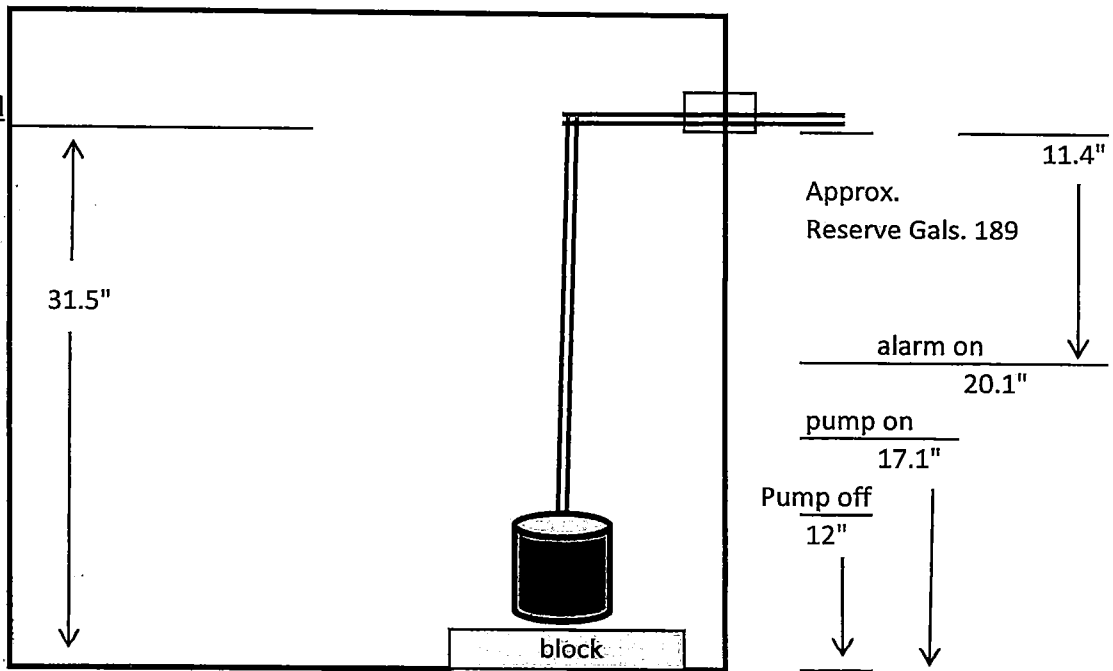
Mound Pump Tank

Drive Way 30 South
Existing Septic Tank
Surf?

Soil Pit 1

Tank Mfg. Jacobson 520 Mound Pump Tank.

Tank Size: MFG. 16.57 gals. Per inch



Tank Mfg.
Tank Size

Assumes 10" pump

Pump out dose at 5.1" = (64 gals. dose + 20 drain back) = 84 pump out gals.

450 gpd ÷ 7 = 64 gals. Per Dose

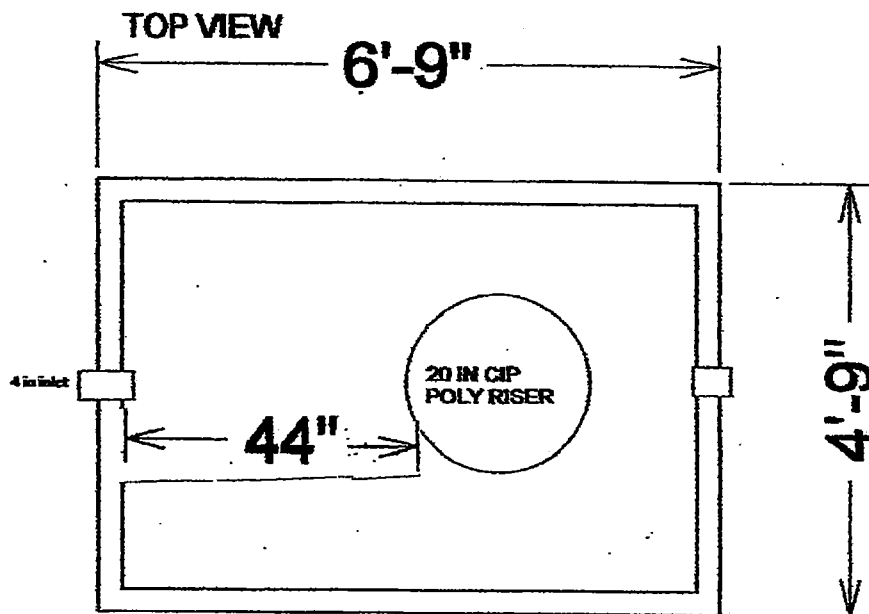
Install an Even counter on this pump

Install an electric alarm on this Tank.

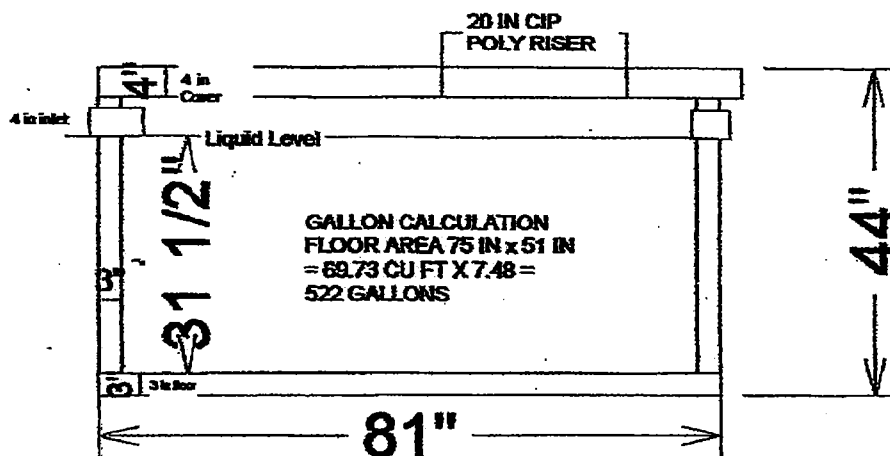
520 Gallon Pump Tank

520 Gal

520 Gal



SIDE VIEW



522 gals. / 31.5" = 16.57 GPI

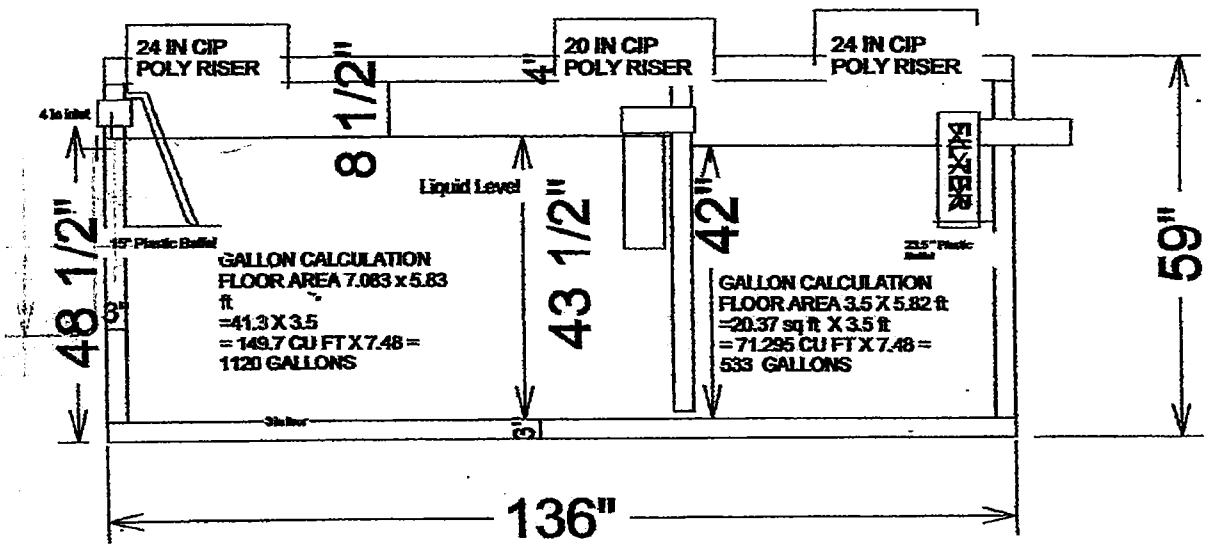
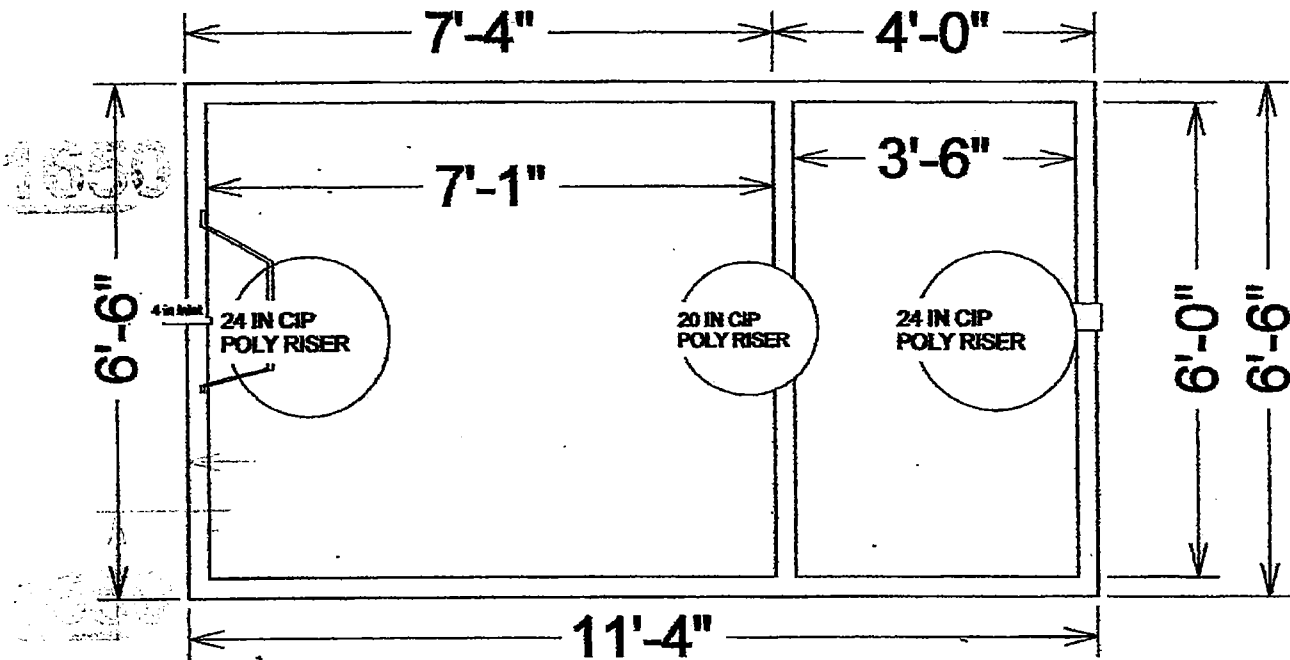
Drawings Owned BY Jacobson Precast, Inc.

36641 HWY 169, Aitkin, Mn 56431

DDo not copy drawings without permission of the Owner

1650 Gallon 2 Compartment Septic Tank

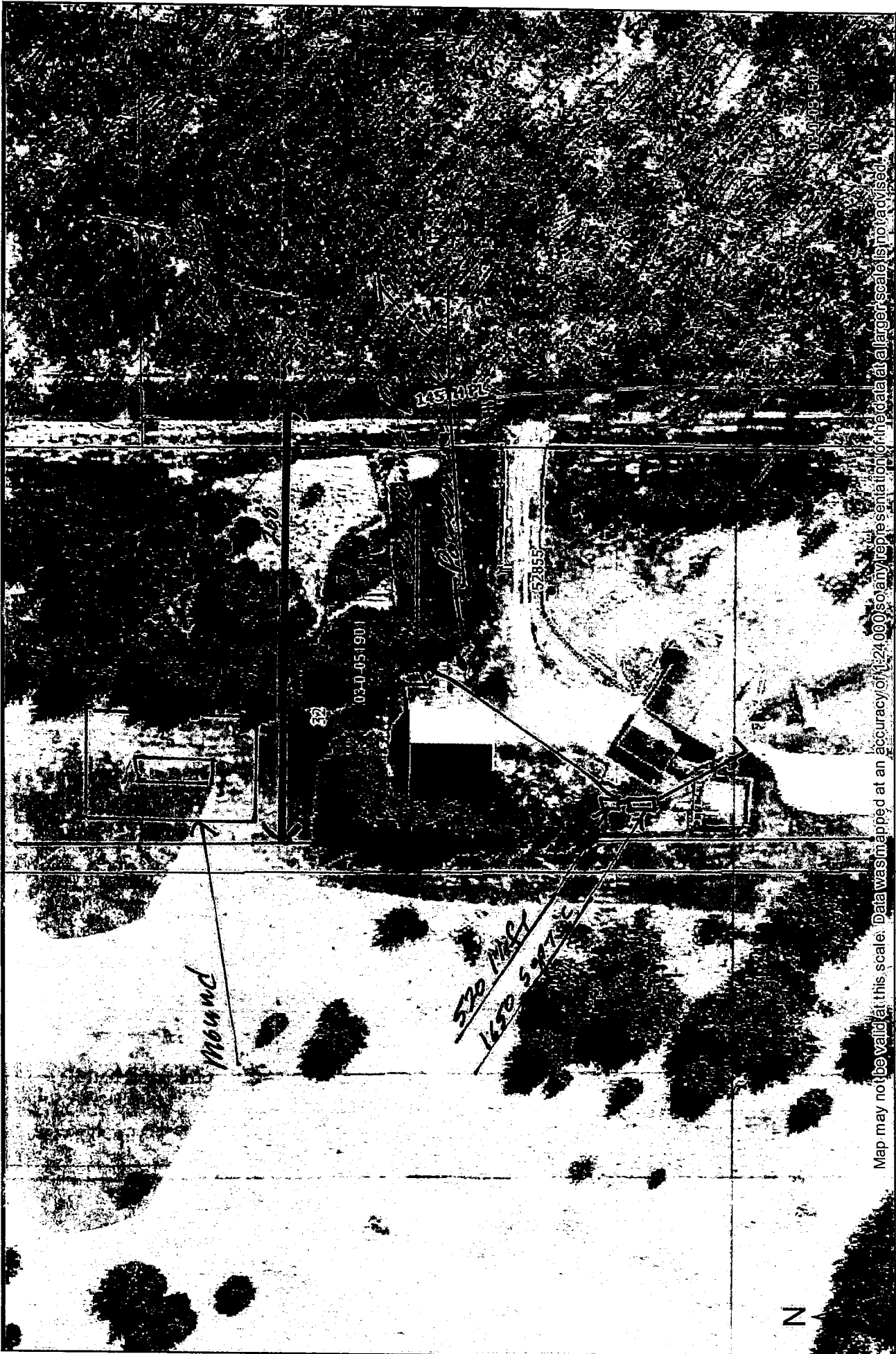
TOP VIEW



SIDE VIEW

$533 / 42" = 12.69 \text{ GPI}$

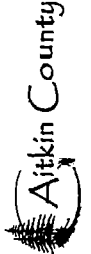
Drawings Owned BY Jacobson Precast, Inc.
36641 HWY 169, Aitkin, Mn 56431



Map may not be valid at this scale. Data was mapped at an accuracy of 1:24,000 so any representation of the data at a larger scale is not advised.

These data are provided on an "AS-IS" basis, without warranty of any type, expressed or implied, including but not limited to any warranty as to their performance, merchantability, or fitness for any particular purpose.

Mortenson



1:1,128 0 0.005 0.01 mi 1 inch = 94 feet

Web AppBuilder for ArcGIS

Date: 11/2/2022



Detailed Parcel Report

Parcel Number: 03-0-051901

General Information

Township/City: BALSAM TWP
 Taxpayer Name: MORTENSON, ARTHUR R & ELLEN
 Taxpayer Address: 52855 145TH PLACE
 TAMARACK MN 55787
 Property Address: 52855 145th Pl
 Township: 50 Lake Number: 1099000
 Range: 22 Lake Name: PRAIRIE RIVER (SHAMROCK TWP)
 Section: 32 Acres: 5.32
 Green Acres: No School District: 4.00
 Plat:
 Brief Legal Description: E 208 FT OF S 1112 FT OF NE NW

Tax Information

Class Code 1: Residential 1 unit
 Class Code 2: Unclassified
 Class Code 3: Unclassified
 Homestead: Owner Homestead
 Assessment Year: 2022

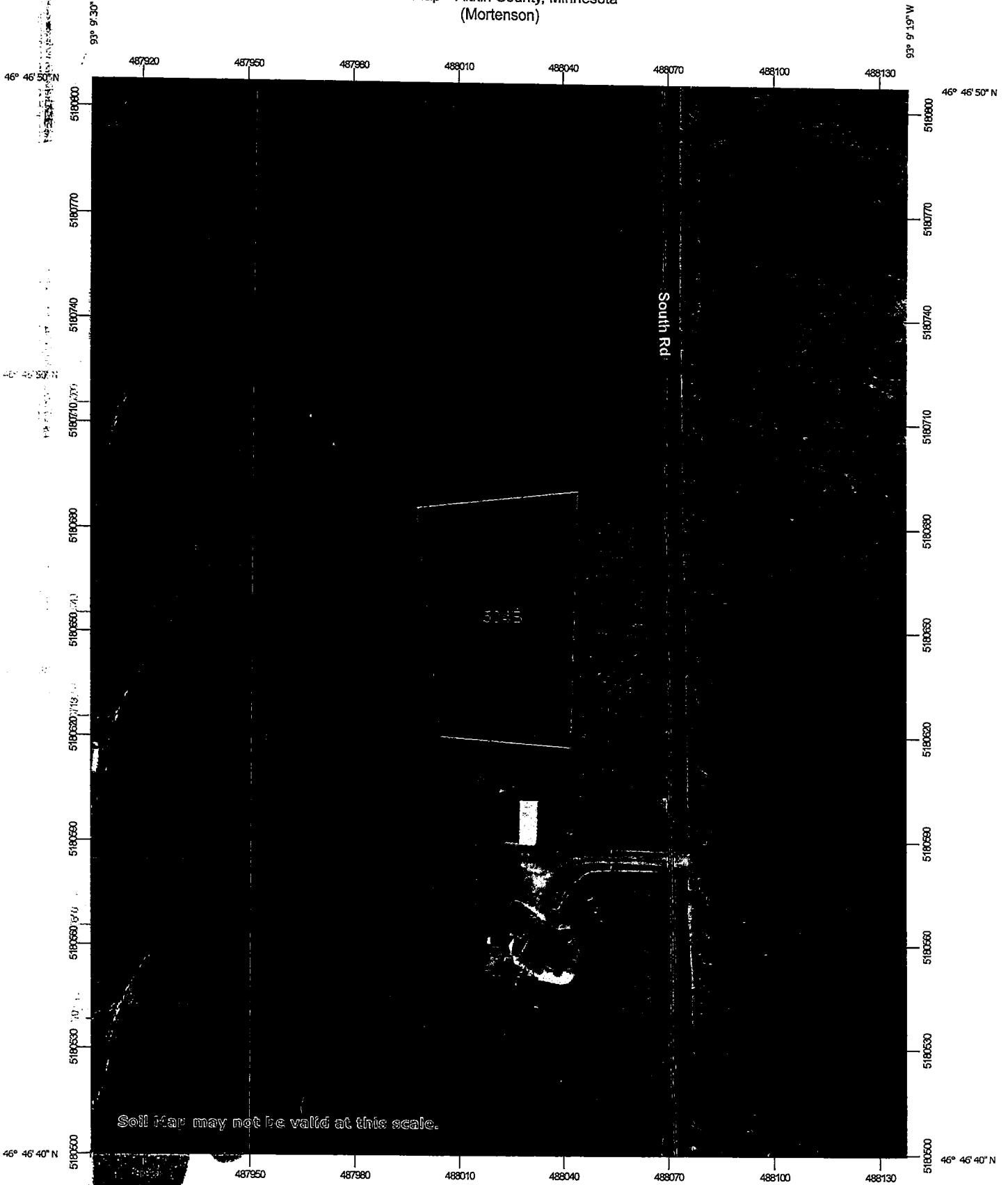
Estimated Land Value: \$33,000.00
 Estimated Building Value: \$174,600.00
 Estimated Total Value: \$207,600.00
 Prior Year Total Taxable Value: \$157,325.00
 Current Year Net Tax (Specials Not Included): \$1,194.00
 Total Special Assessments: \$0.00
 *Current Year Balance Not Including Penalty: \$0.00
 Delinquent Taxes: No

* For more information on delinquent taxes, please call the Aitkin County Treasurer's Office at 218-927-7325.

** Balance Due on a parcel does not include late payment penalties.

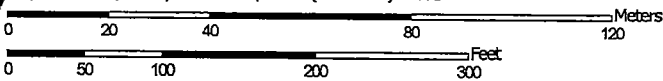
Prior Year Total Taxable
 Class Code 1
 Current Year Net Tax
 Total Special Asse
 ** Current Year
 Inquire

Soil Map—Aitkin County, Minnesota
(Mortenson)



Soil Map may not be valid at this scale.

Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge ticks: UTM Zone 15N WGS84

Aitkin County, Minnesota

504B—Duluth fine sandy loam, 1 to 6 percent slopes

Map Unit Setting

National map unit symbol: gjh7

Elevation: 980 to 1,640 feet

Mean annual precipitation: 25 to 30 inches

Mean annual air temperature: 39 to 45 degrees F

Frost-free period: 120 to 140 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Duluth and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Duluth

Setting

Landform: Moraines

Landform position (two-dimensional): Backslope, summit

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Loamy till

Typical profile

A - 0 to 3 inches: fine sandy loam

E,Bw,2BE,2Bt - 3 to 41 inches: clay loam

2C - 41 to 60 inches: loam

Properties and qualities

Slope: 1 to 6 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)

Depth to water table: About 13 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 5 percent

Available water supply, 0 to 60 inches: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C/D

Ecological site: F090AY015WI - Loamy Upland with Carbonates

Forage suitability group: Sloping Upland, Acid (G090AN006MN)

Other vegetative classification: Sloping Upland, Acid
(G090AN006MN)

Hydric soil rating: No

Minor Components

Mahtowa and similar soils

Percent of map unit: 3 percent

Landform: Depressions

Hydric soil rating: Yes

Blackhoof and similar soils

Percent of map unit: 3 percent

Landform: Depressions

Hydric soil rating: Yes

Rifle and similar soils

Percent of map unit: 3 percent

Landform: Bogs

Hydric soil rating: Yes

Cromwell and similar soils

Percent of map unit: 2 percent

Hydric soil rating: No

Cutaway and similar soils

Percent of map unit: 2 percent

Hydric soil rating: No

Dusler and similar soils

Percent of map unit: 2 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: Aitkin County, Minnesota
Survey Area Data: Version 23, Sep 6, 2022