

Preliminary & Field Evaluation Form

www.SepticResource.com vers 12.4

Owner Information			
Date	<u>10/23/2019</u>	Sec / Twp / Rng	<u>S-23, T-46, R-27</u>
Parcel ID	<u>07-0-046102</u>	LUG (county, city, township)	<u>Aitkin Co.</u>
Property Owner:	<u>Robert Isabel</u>	Owners address (if different)	
Property Address:	<u>30040 414th Pl. Aitkin MN 56431</u>	<u>1333 Bucher Ave.</u>	
City / State / Zip:		<u>Shoreview MN 55126</u>	

Flow Information and Waste Type / Strength			
Estimated Design flow	<u>600</u>	Anticipated Waste strength	<input type="checkbox"/> Hi Strength <input checked="" type="checkbox"/> Domestic
Comments: Build oversized for future expansion Existing cabin is 2 bedroom, Existing septic sysyem is with cluster system May have to wait untill 2 properties to the west unhook from cluster to install this system.		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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Well casing depth	Exsiting Deep Well -777860	
Easements on lot located (see site map)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Drainfield w/in 100' of residential well	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Property lines determined (see site map) By Others	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Site w/in 200' of transient noncommunity water supply (TNCWS)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Req'd setbacks determined (see site map)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Site w/in an inner wellhead mgmt zone (CWS/NTNCWS)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Utilities located & identified (gopher state one call)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Buried water supply pipe w/in 50' of system	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Access for system maintenance (shown on site map)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Site located in Shoreland (w/in 1000' of lake, 300' of river)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Soil treatment area protected	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Site map prepared with previous items included	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Construction related issues	<u>Owner will install lift station inside house with grinder pump in basin</u>				

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	66" or Elev. 98.8'		Flooding or run-on potential <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Depth to system bottom maximum (or elev minimum)	Elev. = 100' Bottom of Rockbed		(comments)
Depth/elev to standing water (if applicable)	_____		Flood elevation (if applicable) _____
Depth/elev to bedrock (if applicable)	_____		Elevation of ordinary high water level (if applicable) _____
Soil Survey information determined (see attachment)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Floodplain designation and elev - 100 yr/10 yr (if applicable) _____
Differences between soil survey and field evaluation (if applicable)	_____ _____		

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: Robert Isabel Date 10/23/2019

Property Address / PID: 30040 414th Pl. Aitkin MN 56431

Soil Survey Information refer to attached soil survey

Parent matl's: Till Outwash Lacustrine Alluvium Organic Bedrock

landscape position: Summit Shoulder Side slope Toe slope

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

Soil Log #1

Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 7	Topsoil Sandy Loam	<35	10YR3/2		Loose	Loose	Granular
7 - 66	Med Sand	<35	10YR5/4		Loose	Loose	Granular
66 - 72	Med Sand	<35	10YR5/4	7.5YR5/6	Loose	Loose	Granular
		<35					
		<35					

Comments:

30040 414th Pl. Aitkin MN 56431 **Soil Log #2**

<input checked="" type="checkbox"/> Boring <input type="checkbox"/> Pit		Elevation <u>103.5'</u>		Depth to SHWT <u>84"</u>			
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 6	Topsoil Sandy Loam	<35	10YR3/2		Loose	Loose	Granular
6 - 84	Med Sand	<35	10YR5/4		Loose	Loose	Granular
		<35					
		<35					

30040 414th Pl. Aitkin MN 56431 **Soil Log #3**

<input checked="" type="checkbox"/> Boring <input type="checkbox"/> Pit		Elevation <u>102.3'</u>		Depth to SHWT <u>78"</u>			
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 6	Topsoil Sandy Loam	<35	10YR3/2		Loose	Loose	Granular
6 - 78	Med Sand	<35	10YR5/4		Loose	Loose	Granular
78 - 84	Med Sand	<35	10YR5/4	7.5YR5/6	Loose	Loose	Granular
		<35 35 - 50 >50			loose friable firm rigid	loose weak moderate strong	single grain granular blocky prismatic platy massive
		<35 35 - 50 >50			loose friable firm rigid	loose weak moderate strong	single grain granular blocky prismatic platy massive

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 #

Pressure Bed Design

Property Owner: Robert Isable Date: 10/23/2019

Site Address: 30040 414th PL. Aitkin MN 56431 PID: 07-0-046102

Comments: Owner will install Lift tank inside cabin with grinder pump.

instructions: = req'd input = input or default = calculated field *** = installer info

- 1) bedroom Type Residential System
- 2) GPD design flow
- 3) Garbage disposal or pumped to septic 50% larger tank w/mult comp/tanks, effluent filter & alarm req'd
Install Jacobson 1650 Compartment tank septic and 520 pump
- 4) *** Gallon septic tank (minimum) Tank options: multiple tanks or compartments req'd
- 5) GPD/ft² Soil Loading Rate ft² bed req'd, or ft² LUG minimum
(must match soil boring log)
- 6) *** ft desired bed width, leads to a ft bed length
(25' maximum)
- 7) *** ft lateral spacing ft perforation spacing (maximum 3 for both)
 manifold connection
- 8) *** laterals feet long perfs / lateral perfs total
(1/2 perf means the first perf starts at the middle feed manifold)
- 9) *** inch perfs at feet residual head gives gpm flow rate per perforation
(If bed has > 1' of cover, increase residual head for cleanout req's)
for this perf size & spacing, & pipe size on line 12, max perfs/lateral = , line #8 must be less --> ERROR
- 10) doses per day (4 minimum)
- 11) gallons per dose (treatment volume)
- 12) 1.25 inch diameter laterals (or smaller) will meet "5x pipe volume"
*** inch diameter laterals (or smaller) must be used to meet "4x pipe volume" requirement
1.50 inch diameter laterals (or smaller) will meet "3x pipe volume"
- 13) *** feet of inch supply line leads to gallons of drainback volume
("top feed" to control the drainback)
- 14) gallons TOTAL pump out volume (treatment + drainback)
- 15) feet vertical lift from pump to dispersal area, leads to a
- 16) *** GPM @ feet of head, Pump requirement
(>50 gpm may require additional 3-6' head allowance for discharge assy)

- 17) *** 520 gal Dose tank (minimum) at 16.57 gpi
- 18) *** 6.2 inch swing on Demand float, or Timed dosing of 2.3 min ON (confirm pump rate with drawdown test and adjust as necessary)
(<100% of design flow requires a larger OFF time) 4 hrs OFF
- 19) 12 inches of from bottom of tank to "pump OFF" float, and/or to cover pump
- 20) *** 18 inches from bottom of tank to "pump ON" float, or 12 inches to "timer ON" float
- 21) *** 21 inches from bottom of tank to "Hi Level" float (add 5-15 inches if Time Dosed)
- 22) 172 gallons reserve capacity (after High Level Alarm is activated)
- 23) 66 inches, or 5.50 ft. to Redox or other limiting condition (This must match the soil boring log)
- 24) 36 inches, or 3.00 ft. of vertical separation required **Keep Bottom of Rockbed at Elv. = 100'**
leads to bottom of rock no more than:
- 25) *** 30 inches, or 2.5 ft. Below existing grade **CRITICAL FOR FUTURE CERTIFICATIONS!!!**
- 26) *** 9 inches of rock below the pipe
3 inches of rock to cover the pipe
- 27) Overall Dimensions: 16.0 ft. wide by 48.1 ft. long Pressure Bed
- 28) *** Rock Bed materials:
16 ft. by 48.1 ft. by 12 inches total, plus 20% gives 35 yd³ or *1.4= 49 ton

I hereby certify that I have completed this work in accordance with all applicable ordinances, rules and laws.


 Designer/Signature

Brummer Septic LLC.
 Company

L-1347
 License#

 Date

There will be 3 alarms on system when complete, one on cabin Lift tank, one on Effluent filter, one on the 520 pump tank.
 Installer should list pumps and alarms ; Make & model # on install inspection report.
 Installer should show Owner how system works, and where alarms are located.

Installer Summary

gallon Septic tank (minimum) multiple tanks Install Jacobson 1650
 gallon Dose tank (minimum) 50% larger tank w/mult comp/tanks, effluent filter & alarm req'd
at gpi

GPM @ ft. of head, Pump required

inch swing on Demand float or minutes ON time & hours OFF time

inches from bottom of tank to "pump ON" float, or inches to "timer ON" float
 inches from bottom of tank to "Hi Level Alarm" float

ft. of inch supply line with manifold connection

laterals inch diameter feet long ft lateral spacing

inch perms ft perforation spacing

Effluent filter & alarm
 clean out & valve box assembly

Pressure Bed:

ft. wide by ft. Long

Bottom of rock no more than:

inches, or ft. Below existing grade

inches of rock below the pipe

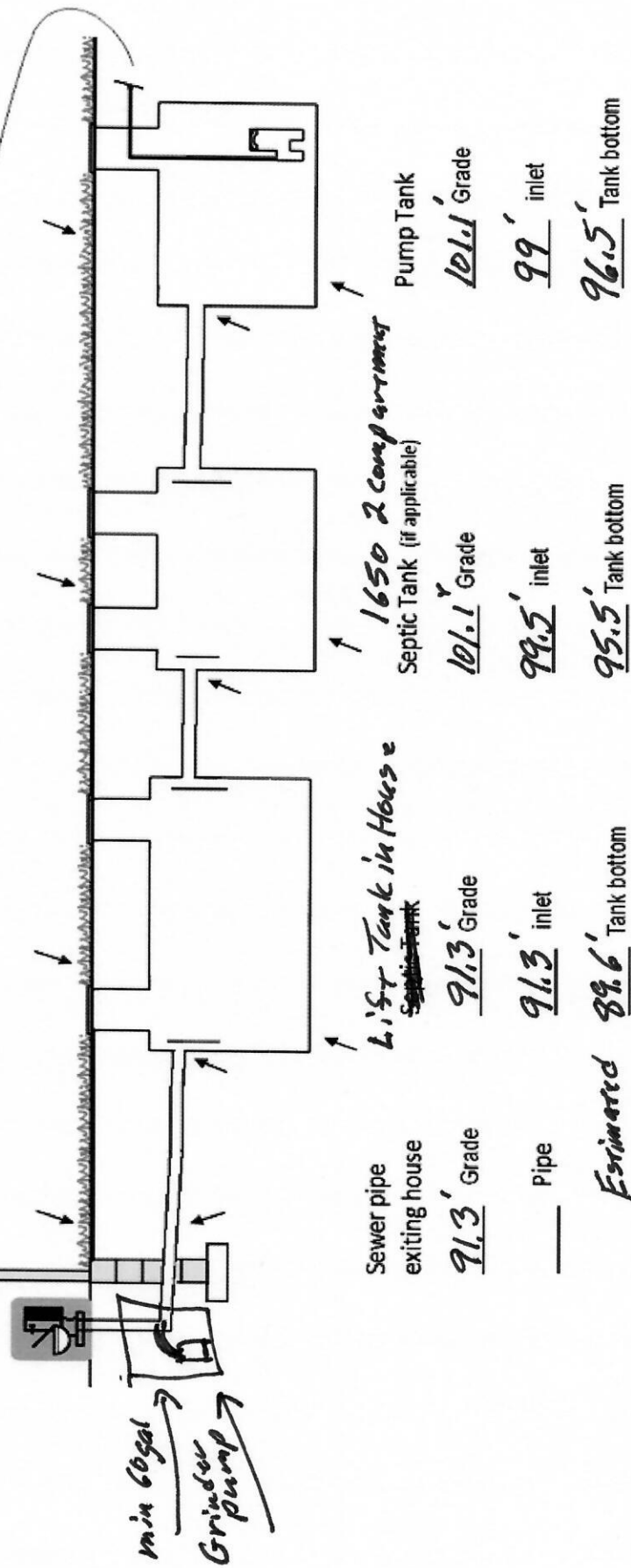
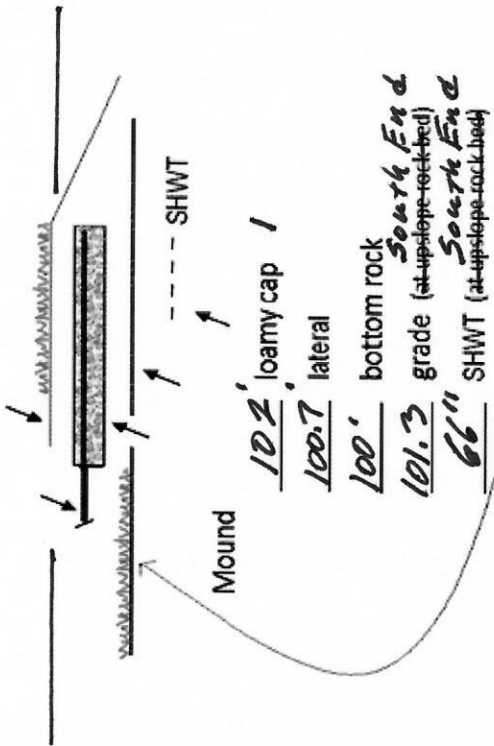
Overall Dimensions: ft. wide by ft. long Pressure Bed

Rock Bed materials: yd³ or *1.4= ton

System Elevations

Elv = 100' benchmark Nail on light Pole
 Top of Deep Well Cap EIV = 102.6'

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

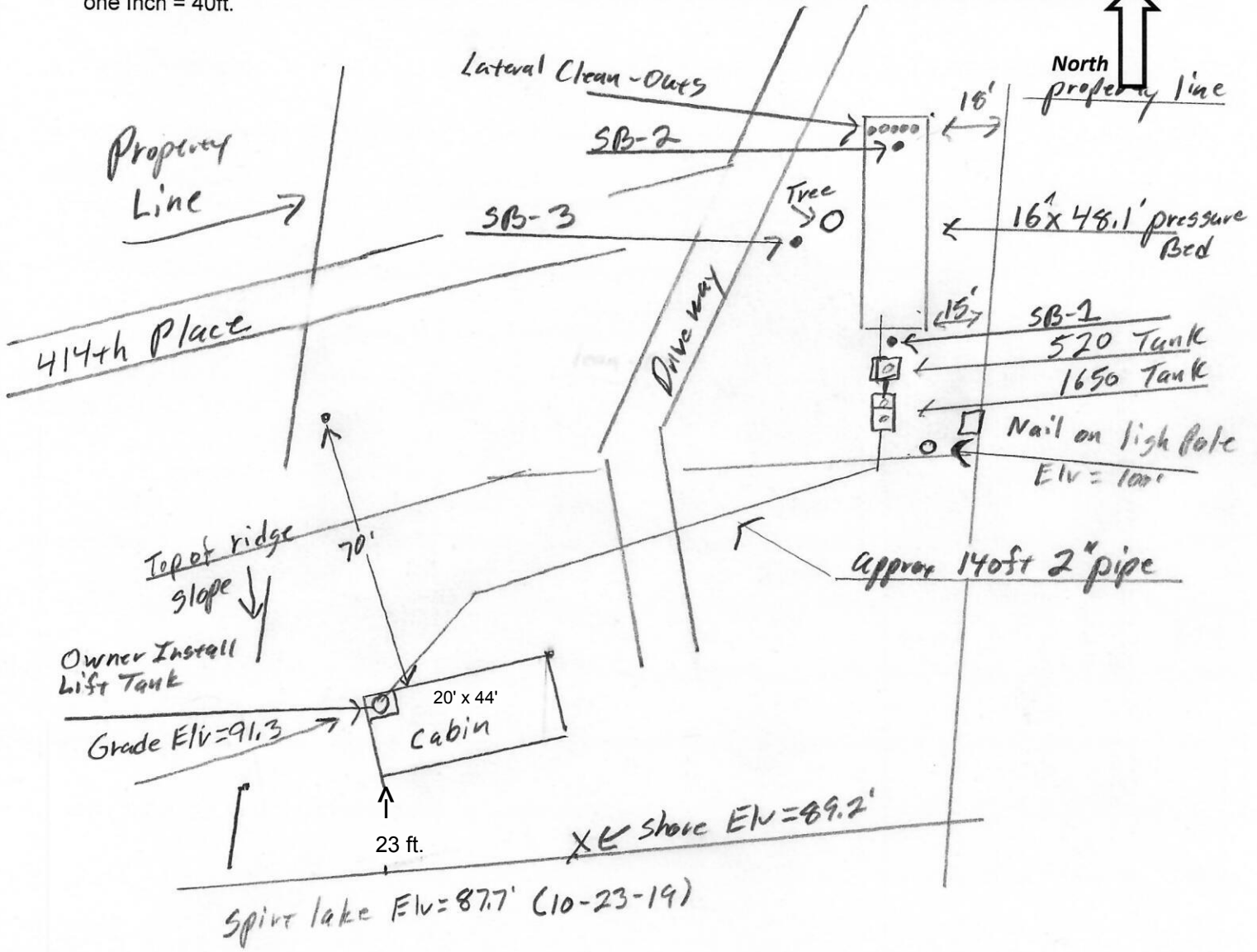


Estimated 89.6' Tank bottom

Spirt Lake Elv. on 10-23-19 Elv = 87.7'

{ Design Drawing }

Property Owner: Robert Isabel Date: 10/23/19 Designer's Initials: JB
 Parcel ID. Number: 07-0-046102 Address: 30040 414th Pl. Aitkin MN 56431
 one Inch = 40ft.



Top of Deep Well Cap Elv. = 102.6'

	Surface/ SHWT	Nail on light pole = Bench Mark 100'		Existing Grade at pressure bed	
Soil Bore 1	101.3' / 66"	Bench Mark	100'	NW = 103.8'	NE = 103.2'
Soil Bore 2	103.5' / 84"	Ground Elv. BM	99.2'	SW = 101.3'	SE = 101.4'
Soil Bore 3	102.3' / 78"	Ground Elv. Tank	101.1'	Lake Elv. = 87.7' (10/24/2019)	
	Ground at	Existing house	91.3'	NW corner	Shore Elv. = 89.2'

Please show all that apply (Existing)

Please Draw to Scale with North to Top or Left Side of Page:

- Wells within 100ft. Of Drain field.
- Water lines within 10 ft. of Drain field.
- Drain field Areas:

- Disturbed/Compacted Areas
- Component Location
- OHW ordinary high water
- Lot Easements
- Access Route for Tank Maintenance
- Property Lines
- Structures
- Setbacks

Mound Design Notes - Aitkin county

Property Owner: Robert Isable

Date: _____

Site Address: 30040 414th PL. Aitkin MN 56431

PID: 07-0-046102

Comments: Type I Pressure Bed / 3 bedroom

- 1 This is a type I Pressure Bed for a future 4 bedroom House, existing cabin is 2 bedrooms.
- 2 Existing septic system is a cluster with 7 cabins, 2 are up stream from this one.
This system may have to wait until the 2 upstream have unhooked from cluster system.
- 3 Owner will install a lift station inside cabin near NW cabin corner.
This lift should be at least 60 gallons to allow for drainback (approx. 25 gallons). Approx. 140 ft. of 2" pipe.
Install Lift pump under cabin, to dose approx. 50 gallons including drainback. Install alarm on this lift tank.
This lift station should have a grinder pump, whole house is pumped to 1650 gal. septic tank.
Install 2" supply pipe to septic tank to drainback to lift tank, insulate under driveway. (Pressure test)
- 4 Last few sheet of design include suggested tank and pump (for owner's reference).
- 5 Soil separation is at 66" at South end of Pressure bed.
There is a South slope of 2.5' across pressure bed area. Keep bottom of Rockbed at Elv.= 100'
- 6 There is an existing Deep well to the West, top of cap Elv.= 102.6', Deep well meets setbacks.
Existing septic system to be unhooked, existing drainfield to be abandon.
- 7 Bench Mark (Elv. = 100') is nail on Light pole, South of proposed pressure bed.
- 8 The Pressure bed area will be 16 ft. wide and 48.1 ft. long. Bottom of rock Elv= 100'.
Cover rock bed with fabric and 12" to 18" of soil.
- 9 Installer to double check bench mark. Installer should confirm bench mark height Elv. with inspector.
Installer should record bench mark Elv. and bottom of rockbed height on installation inspection form.
It is important that the soils do not get compacted, and area stays protected.
- 10 The Jacobson 1650 2/Compartment septic tank will have sewage pumped to it from cabin.
Install effluent filter and alarm on outlet of 2nd compartment. Insulate tank tops.
Install 520 pump tank (pump for pressure bed) with gravity flow from 1650 septic tank.
Install pump to dose 6 doses per day, to the pressure bed,
approx. 103 gallons per dose, 6.2 inches of tank level. Install alarm at 3 inches from pump on level.
Install effluent pump with 45 GPM and 17 Ft. head. Install alarm on pump tank.
Install all manholes, inspection pipes and clean-outs to grade or above , (recommend manholes 4" above grade).
- 11 Install a 2" supply pipe from pump tank to end manifold in rock bed, install so 2" pipe drains back to 520 pump tank.
- 12 Install 1.5" laterals with 9" of rock under them. Install clean-outs at far end of laterals.(12" total inches of rock)
Drill 7/32" perf holes spaced 3 ft. apart.
Install inspection pipe to bottom of rock bed, secure in rock bed and raise to above final grade.
- 13 Installer will pressure test and squirt height laterals when finished. Give info to owner.
There will be 3 alarms on the system, Installer & Owner are responsible to learn were and what each one is for.
- 14 Owner is responsible to maintain protection of bed area before and after installation. .

Designed to Aitkin Co. and MPCA recommendations and requirements.

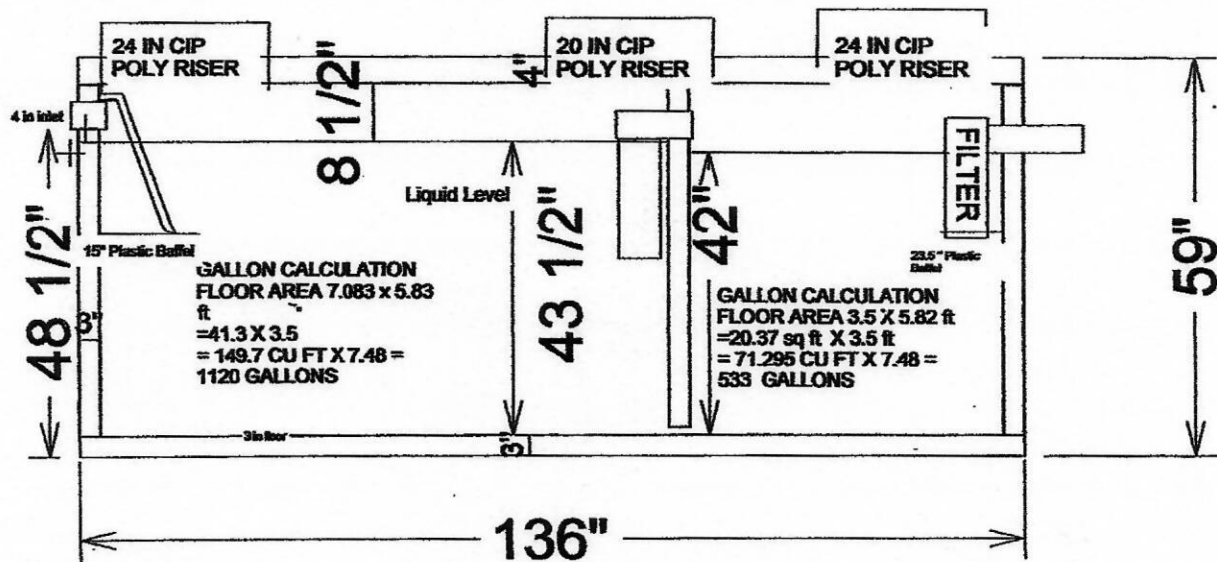
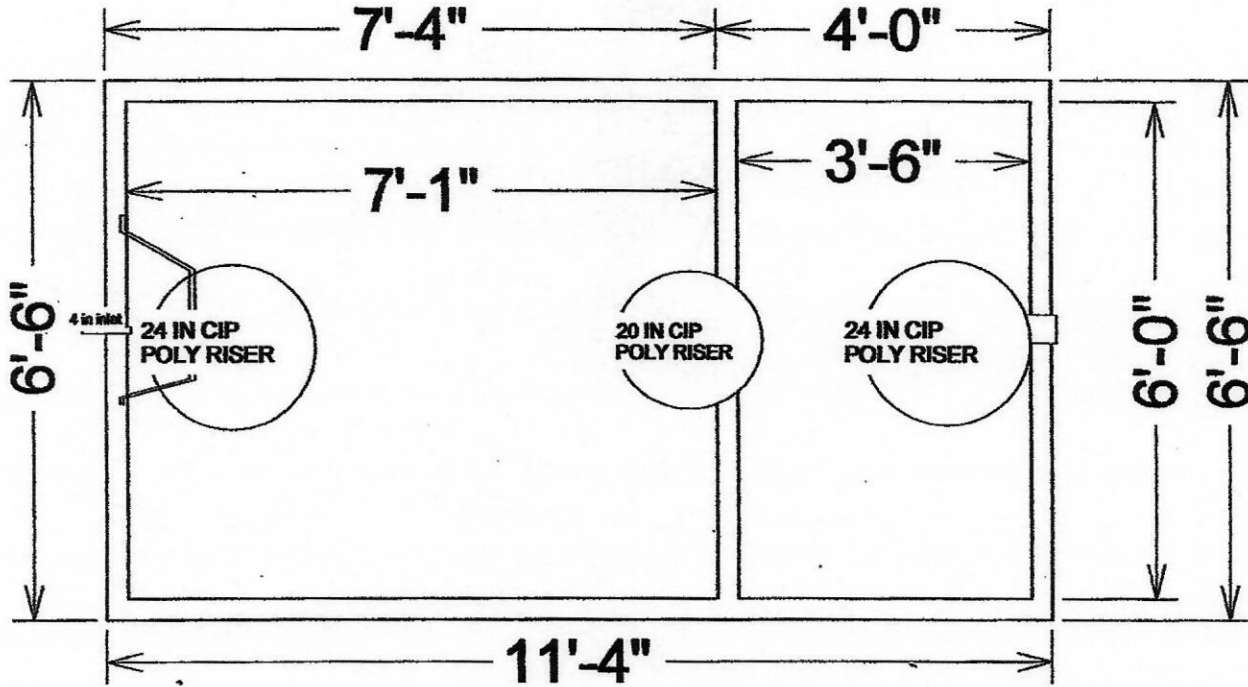

Designer Signature

Brummer Septic LLC.
Design Company

L-1347
License#

1650 Gallon 2 Compartment Septic Tank

TOP VIEW

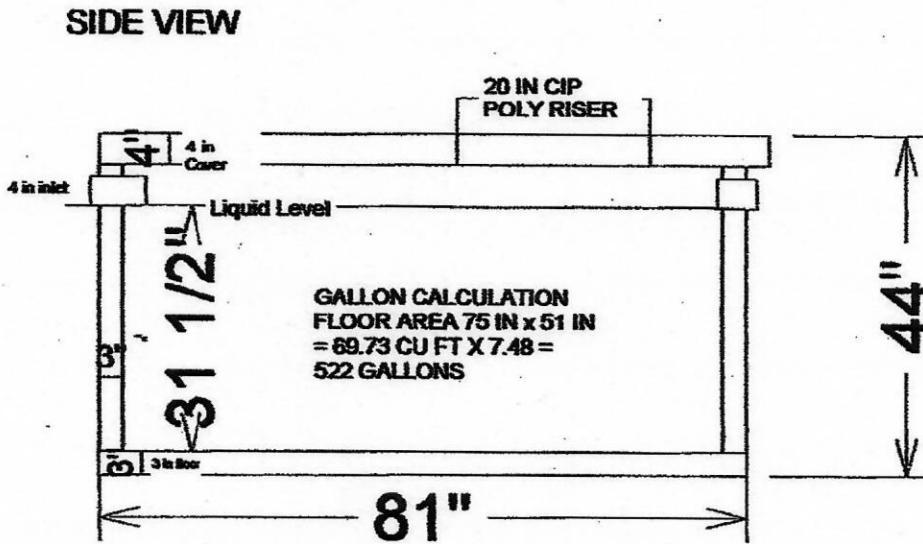
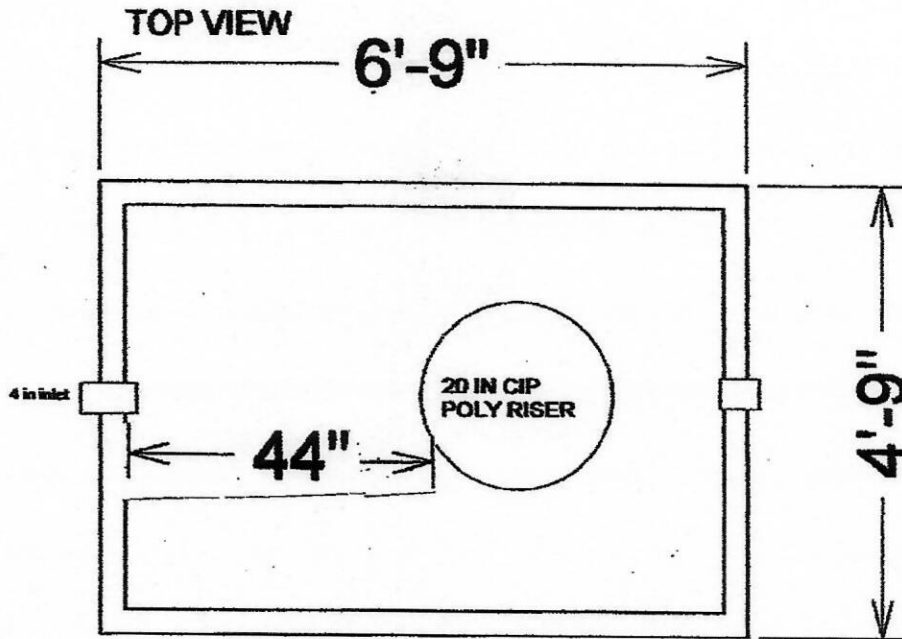


$533 / 42" = 12.69 \text{ GPI}$

SIDE VIEW

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

520 Gallon Pump Tank



522 gals. / 31.5" = 16.57 GPI

Drawings Owned BY Jacobson Precast, Inc.

36641 HWY 169, Aitkin, Mn 56431

Do not copy drawings without permission of the Owner



Minnesota Well Index

General Information							
Unique Well ID:	777860	Well Name:	TAFLIN, ROSS	County:	Aitkin	Aquifer:	Quat. buried artes. aquifer
Well Elevation (msl in feet):	1261	Drilled Depth (ft):	132	Well Completed (ft):	132	Date Drilled:	05/04/2010
Township:	46	Range:	27	Dir:	W	Section:	23
Subsection:	DDCCCB	Use:	domestic	Well Status:	Active	Depth To Bedrock:	
Driller:	Hasskamp Bros. Well Drilling	Entry Date:	12/13/2011	Update Date:	09/12/2017		

Related Resources:

[Go to MN Well Index Map](#)
 [Well Log Report](#)
 [Scanned Record\(s\)](#)
 [Stratigraphy Report](#)

[More Details](#)
 [Stratigraphy](#)
 [Address](#)
 [Chemical Data](#)
 [Construction](#)
 [Pump Test](#)
 [Static Water](#)
 [Comments](#)

[Location Changes](#)
 [Overview Map](#)

Description	From(ft)	To(ft)	Color	Hardness	Lith Primary	Lith Secondary	Interpretation
SANDY CLAY	0	22	BROWN	SOFT	CLAY		clay+sand-brown
SANDY CLAY	22	56	GRAY	SOFT	CLAY		clay+sand-gray
GRAVEL	56	68	GRAY	MEDIUM	GRVL		gravel (+larger)-gray
CLAY	68	114	BROWN	SOFT	CLAY		clay-brown
SAND	114	132	BROWN	SOFT	SAND		sand-brown

General Information

Township/City:	FARM ISLAND TWP		
Taxpayer Name:	ISABEL, ROBERT S & SARAH E GOHL		
Taxpayer Address:	1333 BUCHER AVE SHOREVIEW MN 55126		
Property Address:	30040 414th Pl		
Township:	46	Lake Number:	1017800
Range:	27	Lake Name:	SPIRIT LAKE <i>RD</i>
Section:	23	Acres:	1.52
Green Acres:	No	School District:	1.00
Plat:			
Brief Legal Description:	.36 AC IN SW SE & 1.16 AC IN LOT 1 AS IN DOC #209680 & 252284		

Tax Information

Class Code 1:	Non-Comm Seasonal Residential Recreational
Class Code 2:	Unclassified
Class Code 3:	Unclassified
Homestead:	Non Homestead
Assessment Year:	2019

Estimated Land Value:	\$171,700.00
Estimated Building Value:	\$51,100.00
Estimated Total Value:	<u>\$222,800.00</u>
Prior Year Total Taxable Value:	\$222,900.00
Current Year Net Tax (Specials Not Included):	\$1,792.00
Total Special Assessments:	\$0.00
**Current Year Balance Not Including Penalty:	\$896.00
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.**



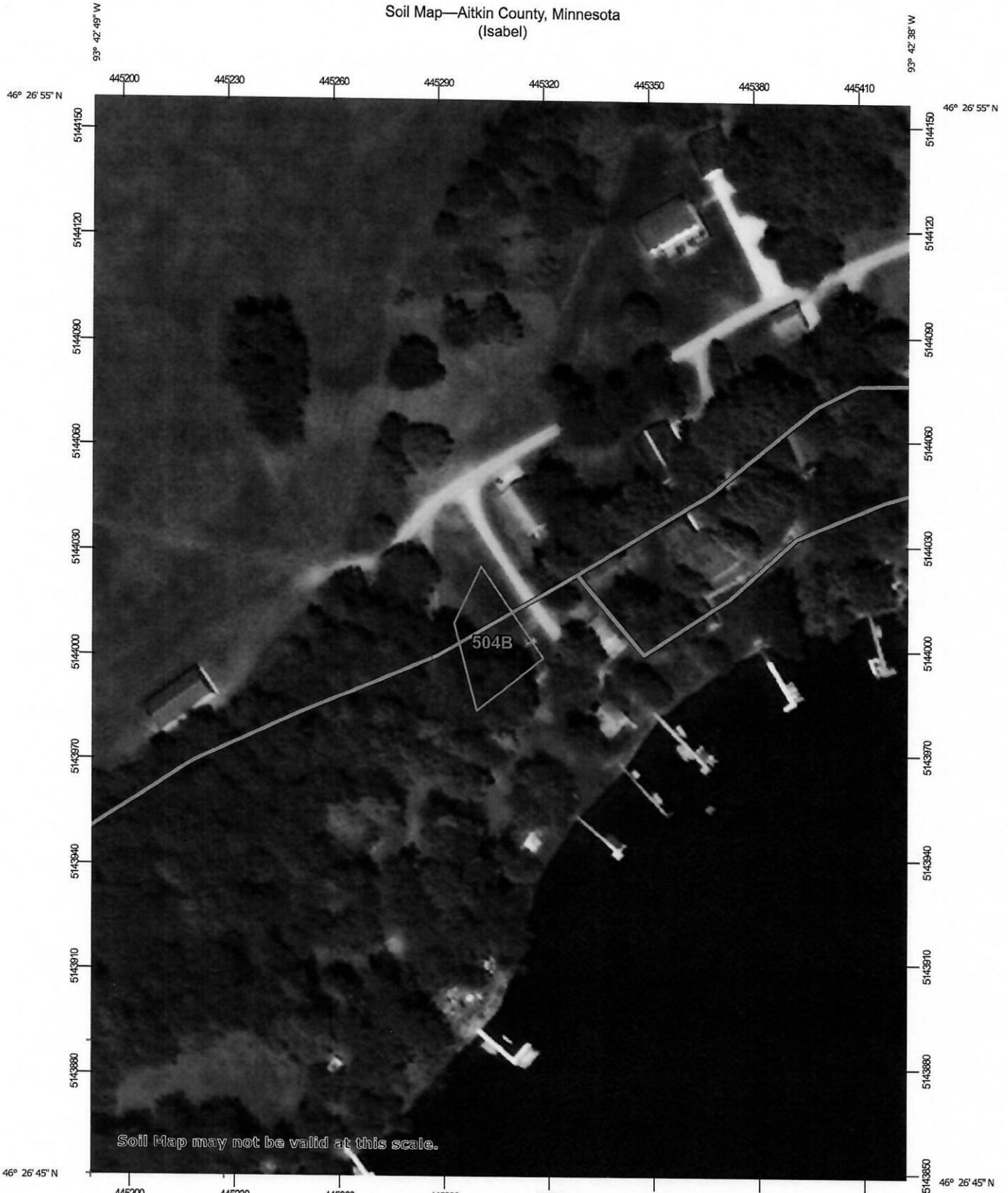
These data are provided on an "AS-IS" basis, without warranty of any type, expressed or implied, including but not limited to any warranty as to their performance, merchantability, or fitness for any particular purpose.

Isabel

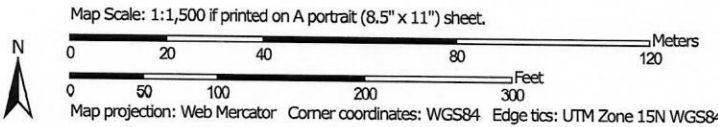


Date: 9/9/2019

Soil Map—Aitkin County, Minnesota
(Isabel)



Soil Map may not be valid at this scale.



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
504B	Duluth fine sandy loam, 1 to 6 percent slopes	0.1	100.0%
Totals for Area of Interest		0.1	100.0%

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
Natural 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 in profile: 5 percent
Available water storage in profile: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Forage suitability group: 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

Dusler 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

Data Source Information

Soil Survey Area: Aitkin County, Minnesota

Survey Area Data: Version 20, Sep 16, 2019

/new-

home (/new-home-1-section)

products (/#products-section)

gallery/10ahgii

gallery/about/contact (/#about-section)

Septic Filters
(/new-gallery/10ahgi

Rubber
Couplings
(/new-gallery/y07s36

-Residential

-PVC
-Clay
-Ductile Iron

*This is info for Owner & plumber/installer
Next 7 pages use as examples*

For over 35 years, Brainerd Pipe Supply has connected contractors and municipalities with the right equipment to get the job done.

From pumps and culverts to poly-septic tanks, Brainerd Pipe Supply has what you need with delivery service throughout the Lakes Area. We also carry a variety of landscape and road fabrics, silt fence and erosion products for excavation.

Brainerd Pipe Supply stocks and supplies over 50 sizes of metal and plastic culverts, as well as a wide variety of pipes, fittings and irrigation supplies. Whether you're a contractor, excavator, landscaper, farmer, or municipality, no job is too big or too small.

Phone

(218) 829-6816

Fax

(218) 828-8011

Email to:

patrick@brainerdpipesupply.com

<mailto:patrick@brainerdpipesupply.com>

tony@brainerdpipesupply.com

<mailto:tony@brainerdpipesupply.com>

Location

1 of 7

Trusted. Tested. Tough.™

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.



SECTION: 2.25.021
FM2882
0817
Supersedes
0716

U.S. Patent No.
8,562,287

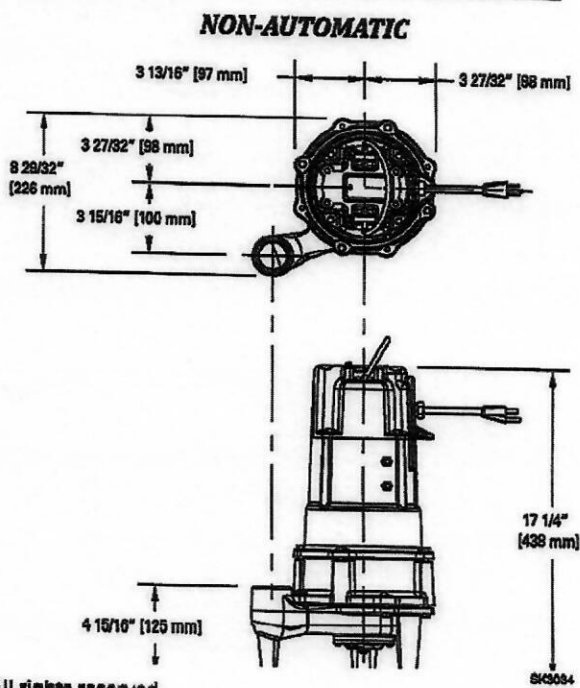
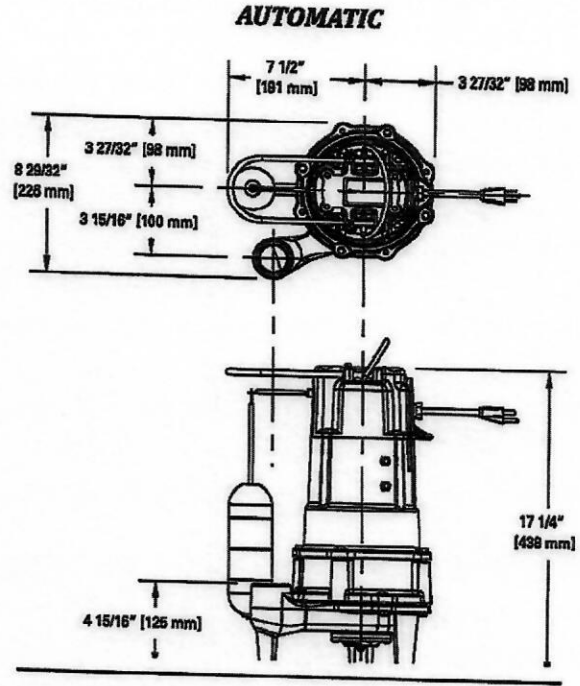
TECHNICAL DATA SHEET

SHARK GRINDER

Model 803/805/807 Residential Grinder Pumps

PRODUCT SPECIFICATIONS

MOTOR	Horse Power	0.5 - 1.0	
	Voltage	115/230	
	Phase	1 Ph	
	Hertz	60 Hz	
	RPM	3400	
	Type	Capacitor start / Capacitor run	
	Insulation	Class B	
	Amps	115 V (7-11) / 230 V (3-5)	
	Operation	Automatic & nonautomatic	
	Auto On/Off Points	13" (33 cm) / 5-3/4" (14.6 cm)	
PUMP	Discharge Size	1.25" NPT	
	Cord Length	15' (5 m) standard	
	Cord Type	UL listed 3-wire plug	
	Max. Head	55' (16.8 m)	
	Max. Operating Temp.	130° F (54 °C)	
	Cooling	Oil	
	Motor Protection	Auto reset thermal overload (1 Ph)	
	MATERIALS	Cover	Cast iron
		Motor housing	Cast iron
		Adapter	Cast iron
Pump housing		Cast iron	
Upper Bearing		Ball bearing	
Lower Bearing		Ball bearing	
Mechanical Seals		Carbon and ceramic	
Impeller Type		Non-clogging vortex	
Impeller		Engineered plastic	
Hardware		Stainless steel	
Motor Shaft	1215 cold rolled steel		
Gasket	Neoprene		
Cutter & Plate	440C Stainless Steel		



NOTE: The sizing of effluent systems normally requires variable level float(s) controls and properly sized basins to achieve required pumping cycles or dosing timers with nonautomatic pumps.

NOTE: See model comparison chart for specific details.

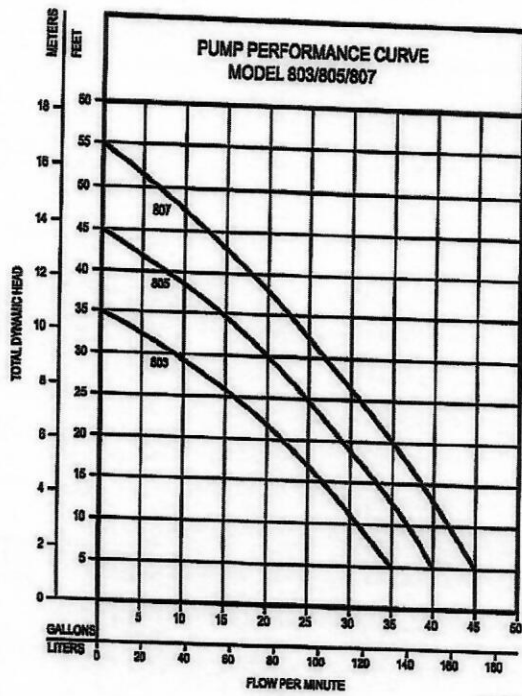


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**TOTAL DYNAMIC HEAD
FLOW PER MINUTE**

MODEL		803		805		807	
Feet	Meters	Gal.	Liters	Gal.	Liters	Gal.	Liters
5	1.5	35	132	40	151	45	170
10	3.0	31	117	37	140	42	159
20	6.1	22	83	29	110	35	132
30	9.1	9	34	20	78	27	102
40	12.2	--	--	8	30	19	68
50	15.2	--	--	--	--	7	26
Shut-off Head:		35 ft. (10.7 m)		45 ft. (13.7 m)		55 ft. (16.8 m)	



Model	MODEL COMPARISON										
	Seal	Mode	Volts	Ph	Amps	HP	Hz	Lbs.	Kg	Simplex	Duplex
M803	Single	Auto	115	1	7.0	0.5	60	65	29	1	3
N803	Single	Non	115	1	7.0	0.5	60	65	29	2	2 & 3
BN803	Single	Auto	115	1	7.0	0.5	60	65	29	4	3
D803	Single	Auto	230	1	3.0	0.5	60	65	29	1	3
E803	Single	Non	230	1	3.0	0.5	60	65	29	2	2 & 3
BE803	Single	Auto	230	1	3.0	0.5	60	65	29	4	3
M805	Single	Auto	115	1	9.0	0.75	60	65	29	1	3
N805	Single	Non	115	1	9.0	0.75	60	65	29	2	2 & 3
BN805	Single	Auto	115	1	9.0	0.75	60	65	29	4	3
D805	Single	Auto	230	1	4.0	0.75	60	65	29	1	3
E805	Single	Non	230	1	4.0	0.75	60	65	29	2	2 & 3
BE805	Single	Auto	230	1	4.0	0.75	60	65	29	4	3
M807	Single	Auto	115	1	11.0	1.0	60	65	29	1	3
N807	Single	Non	115	1	11.0	1.0	60	65	29	2	2 & 3
BN807	Single	Auto	115	1	11.0	1.0	60	65	29	4	3
D807	Single	Auto	230	1	5.0	1.0	60	65	29	1	3
E807	Single	Non	230	1	5.0	1.0	60	65	29	2	2 & 3
BE807	Single	Auto	230	1	5.0	1.0	60	65	29	4	3

SELECTION GUIDE

1. Integral float-operated mechanical switch, no external control required.
2. For automatic use single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
3. See FM0486 for correct model of duplex control panel.
4. Single piggyback switch included.

CAUTION All installation of controls, protection devices and wiring should be done by a qualified licensed electrician. All electrical and safety codes should be followed including the most recent National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).

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Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.



SECTION: 2.70.010

FM0487

0516

Supersedes

0514

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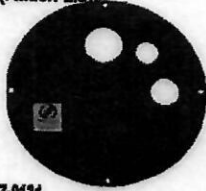
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SUMP/SEWAGE BASINS

COMPARE THESE FEATURES

- Available in high density polyethylene structural foam (PSF), polyethylene or fiberglass
- Ideal for residential, commercial and industrial applications
- Complete with necessary sealing hardware and flanges
- Available with 2" or 3" vent and 2" or 3" discharge
- Lid with gasket and 4" cast iron inlet hub with anticorrosion coating are included with the sewage basins
- Centerline of hub is located 10-1/2" from top of basin (std.). Custom locations available
- Polyethylene sewage pump basins are IAPMO approved. For 10' stack test models, refer to charts on pages 2 and 3
- Sealed (Radon) basins for sump pumps in 18" x 22" and 18" x 30" sizes
- Polyethylene sump basin available with plastic unsealed covers in 18" x 22"
- Sewage basins are watertight and gastight when properly installed
- Durable steel cover with gasket standard on simplex and duplex sewage basins
- One piece, seamless construction on all basins
- Duplex covers include two pump plates and inspection plate
- Ready to install for economical and simple installation
- Dimensional Engineering data available
- Temperature rated 130°F
- Fiberglass models available that will pass the 10' water stack test (Refer to charts on pages 2 and 3) (L. A. - RR-5311)
- Various custom diameters & lengths available in fiberglass, consult factory. Also with 10' water stack test.

CONSULT FACTORY FOR LARGER SIZE BASINS OR SPECIAL APPLICATIONS.







18" SUMP BASIN COVERS AND EXTENSIONS			
<p>One Piece, Polyethylene Molded with 3" x 13" Opening.</p>  <p>P/N 17-0135</p>	<p>One Piece, Steel with 3" Vent, 1-1/2" Discharge, and Cord Grommet (Radon Lid).</p>  <p>P/N 17-0131</p>	<p>One Piece, Polyethylene with 1-1/2" Discharge and Cord Grommet.</p>  <p>P/N 17-0294</p>	<p>Basin Extensions, for use with PSF 18" diameter basins:</p> <p>31-1476 - 6" riser extension w/ hardware. 31-1473 - 12" riser extension w/ hardware.</p>  <p>P/N 31-1476</p>
SUMP AND RADON BASINS		SEWAGE BASINS	
<p>18" x 22" Heavy Duty Polyethylene, no inlet hole and hub (P/N 31-0444). 18" x 22" Radon basin with inlet and hub (P/N 31-0251). 18" x 30" Poly, 4" inlet-grommet (loose), no inlet hole. Includes one-piece blank poly cover w/cord seal (P/N 31-1855).</p> 		<p>18" x 30" Premium Basin with Split Cover, AFD, Torque Stops, Black.</p>  <p>P/N 31-1608</p>	


Products may not be exactly as pictured.

NOTE: Polyethylene basins should be used for indoor installations only.

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SIMPLEX SEWAGE BASINS	DUPLEX SEWAGE BASINS
<p>18" x 30" 24" x 30"</p> <p>Polyethylene Structural Foam (PSF), Polyethylene or Fiberglass Polyethylene or Fiberglass</p>  <div style="display: flex; flex-direction: column; align-items: center; gap: 10px;">  <p>COMBO HUB (Poly Structural Foam Only)</p>  <p>THREE BOLT HUB FOR DWV PIPE</p>  <p>PIPE SEAL HUB</p>  <p>SNAP-IN HUB (Poly Structural Foam Only)</p> </div> <p>SIMPLEX BASIN and COVER INCLUDES: Discharge and Vent Flange Cord Seal 4" Inlet Hub Gaskets and hardware</p>	<p>30" x 36" 36" x 36" 48" x 48"</p> <p>Polyethylene or Fiberglass Polyethylene or Fiberglass Fiberglass</p>  <p>DUPLEX BASIN AND COVER INCLUDES: Discharge and Vent Flange Cord Seals 4" Inlet Hub - Cast Iron Shown Inspection Plate Gaskets and hardware</p>



**18" & 24" DIAMETER BASIN AND COVERS
 POLYETHYLENE/POLYETHYLENE STRUCTURAL FOAM/FIBERGLASS**

SIMPLEX BASINS & COVERS								
Size	Vent			Basin		Covers		4" Inlet
	2" Discharge	2" Discharge	3" Discharge	Style	IAPMO Listed	Style	IAPMO Capable	
18" X 30"	31-0081	N/A	N/A	Poly	N	Steel - Split	N	Fiberglass Hub
18" X 30"	31-0081	31-0084	31-0082	Poly	Y	Steel - Solid	N	Fiberglass Hub
18" X 30"	31-0154	31-0157	31-0155	Fiberglass	N	Steel - Split	N	Cast Iron Hub
18" X 30"	31-0159	31-0162	31-0161	Poly	Y	Steel - Solid - 10' Stack	Y	Pipe Seal
18" X 30"	31-0214	31-0217	31-0215	Fiberglass	N	Steel - Solid - 10' Stack	Y	Cast Iron Hub
18" X 30"	31-0808	N/A	N/A	Poly (Integral Side Vent)	N	Poly - Solid	N	Pipe Seal
18" X 30"	31-0815	N/A	N/A	Poly	Y	Steel - Solid	N	Pipe Seal
18" X 30"	31-1098	N/A	N/A	PSF	N	Poly - Solid	N	Combo Hub
18" X 30"	31-1099	31-1101	31-1100	PSF	N	Poly - Split	N	Combo Hub
18" X 30"	31-1338	31-1338	N/A	PSF	N	Poly - Solid	N	Snap-In Hub
24" X 24"	31-1997	N/A	N/A	PSF	N	Steel - Solid	N	Pipe Seal
24" X 30"	31-0004	31-0027	31-0006	Fiberglass	N	Steel - Solid	N	Cast Iron Hub
24" X 30"	31-0039	31-0042	31-0040	Poly	N	Steel - Solid	N	Cast Iron Hub
24" X 30"	31-0218	31-0221	31-0219	Fiberglass	N	Steel - Solid - 10' Stack	Y	Cast Iron Hub
24" X 36"	31-1102	31-1104	31-1103	PSF	N	FG - Solid	N	Combo Hub

SUMP BASINS	
Item No.	Description
31-0444	Polyethylene Basin without Hub & Hole - 18" x 22"
31-0251	Polyethylene Basin with Inlet Hole, without Hub - 18" x 22"

ADDITIONAL INFO FOR PSF BASINS	
Item No.	Description
31-2228	PSF Basin predrilled 4" Inlet, no hub, w/ torque stops - 18" x 30"
31-2229	PSF Basin predrilled 4" Inlet, no hub, no torque stops - 18" x 30"
31-2325	PSF Basin no hole, no hub, no torque stops - 18" x 30"
31-2378	PSF Basin predrilled 4" Inlet, w/ 4" pipe seal, w/ torque stops
31-2380	PSF Basin predrilled 4" Inlet, w/ 4" pipe seal, no torque stops

SUMP BASIN COVERS	
Item No.	Description
17-0135	18" Cover - 1 Piece, Polyethylene Molded with 3" x 13" Opening
17-0131	18" Cover - 1 Piece, Steel w/ 3" Vent, 1 1/2" Discharge, & Cord Grommet (Radon Lid)
17-0294	18" Cover - 1 Piece, Polyethylene w/ 1 1/2" Discharge & Cord Grommet



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30", 36" & 48" DIAMETER BASINS AND COVERS - POLYETHYLENE/FIBERGLASS

DUPLIX BASINS & COVERS								
Size	2" Vent	3" Vent		Basin		Covers		4" Inlet
	Discharge	2" Discharge	3" Discharge	Style	IAPMO Listed	Style	IAPMO Capable	
30" X 36"	31-1106	31-1107	31-1106	PSF	N	Solid - FG ² - Duplex	N	Combo Hub
30" X 36"	31-0043	31-0046	31-0044	Poly	N	Steel - Solid - Duplex	N	Cast Iron Hub
30" X 36"	31-0071	31-0074	31-0072	Fiberglass	N	Steel - Solid - Duplex	N	Cast Iron Hub
30" X 36"	31-0222	31-0225	31-0223	Fiberglass	N	Steel - Solid - Duplex - 10' Stack	Y	Cast Iron Hub
36" X 36"	31-0047	31-0050	31-0048	Poly	N	Steel - Solid - Duplex	N	Cast Iron Hub
36" X 36"	31-0010	31-0057	31-0011	Fiberglass	N	Steel - Solid - Duplex - 10' Stack	Y	Cast Iron Hub
48" X 48"	31-0124	31-0127	31-0125	Fiberglass	N	Steel - Solid - Duplex - 10' Stack	Y	Cast Iron Hub

Hub Size (Flat Mount - Cast Iron)	Basin Size					
	18"	24"	30"	36"	42"	48"
4"	005198 (Fits all basins with a flat on side)					

Hub Size (Curved Mount - Cast Iron)	Basin Size					
	18"	24"	30"	36"	42"	48"
2"	010749	010749	010749	010749	010749	010749
3"	010124	010124	010124	010124	010124	010124
4"	NA	004997	004997	004997	004997	004997
6"	NA	007818	007818	007818	007818	007818
8"	NA	010057	010057	010057	010057	010057

Hub Size (Pipe Seal Grommets)	All Basin Sizes	Hole Size Required in Basin
1 1/2"	008613	2"
1 1/4"	009838	3"
1 1/2"	005882	2-1/2"
1 1/2"	009170	3"
2"	005588	3"
3"	005587	4"
4"	005196	5"
6"	009850	7"

CONSULT FACTORY FOR LARGER SIZE BASINS OR SPECIAL APPLICATIONS.

Curved mount requires mounting on curved side of basin.

Hub Size (Combo Hub)	Basin Size (Poly structural foam only)		
	18"	24"	30"
3"	013505	013505	013505
4"	012094	012094	012094

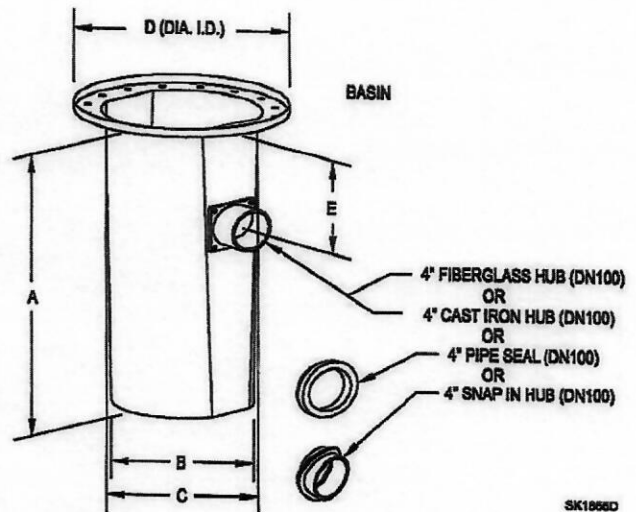
NOTE: Basins are not designed to be installed where saturated soil hydrostatic pressure extends above the top of the pit unless the pressure is relieved by an independent drainage system. Basin cover vent and discharge seals may be rubber insert or bolted on flange design.

BASIN DIMENSIONS								
Available in:		Size	Gallon Capacity	A	B	C	D	E
Str. Foam	Poly							
x	x	18" x 30"	30	30"	16 1/2"	18"	22"	10 1/2"
NA	x	24" x 30"	60	30"	24"	26"	30"	10 1/2"
x	NA	24" x 36"	72	36"	22 1/2"	25 1/2"	30"	10 1/2"
NA	x	30" x 36"	108	36"	30"	32"	36"	10 1/2"
NA	x	36" x 36"	169	36"	36"	38"	42"	10 1/2"
NA	NA	48" x 48"	376	48"	48"	48 1/2"	55 1/2"	10 1/2"

BASIN DIMENSIONS							
Fiber Glass	Size	Gallon Capacity	A	B	C	D	E
x	18" x 30"	30	30"	18"	18"	22"	10 1/2"
x	24" x 30"	60	30"	24"	24"	30"	10 1/2"
x	30" x 36"	108	36"	30"	30"	36"	10 1/2"
x	36" x 36"	169	36"	36"	36"	42"	10 1/2"
x	48" x 48"	376	48"	48"	48"	55 1/2"	10 1/2"

THICKNESS OF BASINS			
Size	PSF	Poly	Fiberglass
18" x 30"	0.200	0.200	0.188
24" x 30"	N/A	0.200	0.188
24" x 36"	0.250	N/A	N/A
30" x 36"	0.312	0.230	0.188
36" x 36"	N/A	0.230	0.188
48" x 48"	N/A	N/A	0.250

THICKNESS OF COVERS					
Size	Steel Split	Steel Solid	Poly Solid	Poly Split	Fiberglass
18"	0.075	0.115	0.345	0.312	N/A
24"	N/A	0.115	N/A	0.343	N/A
30"	N/A	0.125	N/A	N/A	0.250
36"	N/A	0.125	N/A	N/A	0.375
48"	N/A	0.250	N/A	N/A	0.500



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OUTDOOR BASINS AND ACCESSORIES

SIMPLEX OUTDOOR BASINS - FIBERGLASS ONLY - NO HOLES DRILLED

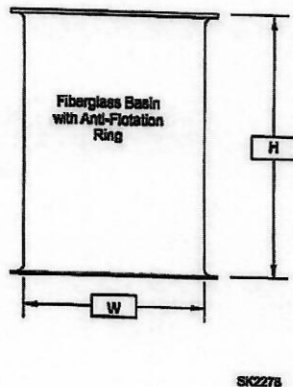
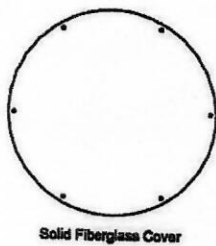
Size	Item No.	Description
24" X 48"	31-0866	Solid Fiberglass Basin with Solid Fiberglass Cover and Anti-Flotation Ring
24" X 60"	31-0846	Solid Fiberglass Basin with Solid Fiberglass Cover and Anti-Flotation Ring
24" X 72"	31-0594	Solid Fiberglass Basin with Solid Fiberglass Cover and Anti-Flotation Ring
30" X 48"	31-1830	Solid Fiberglass Basin with Solid Fiberglass Cover and Anti-Flotation Ring
30" X 60"	31-1831	Solid Fiberglass Basin with Solid Fiberglass Cover and Anti-Flotation Ring
30" X 72"	31-1586	Solid Fiberglass Basin with Solid Fiberglass Cover and Anti-Flotation Ring

All basins include 5 field installed adapta-flex seals - (1) 1 1/4", (1) 1 1/2", (2) 2" and (1) 4" grommets.

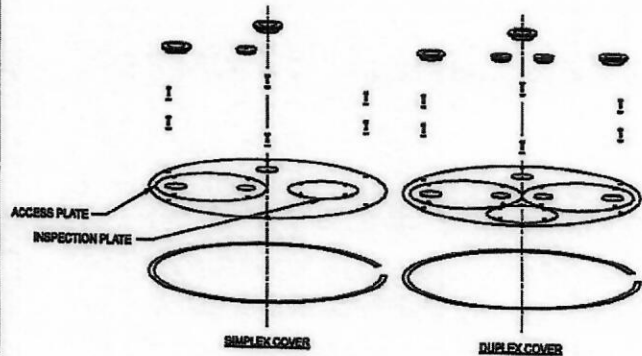
DUPLEX OUTDOOR BASINS - FIBERGLASS ONLY - NO HOLES DRILLED

Size W X H	Item No.	Description
36" X 48"	31-1450	Solid Fiberglass Basin with Solid Fiberglass Cover and Anti-Flotation Ring
36" X 60"	31-1451	Solid Fiberglass Basin with Solid Fiberglass Cover and Anti-Flotation Ring
36" X 72"	31-1452	Solid Fiberglass Basin with Solid Fiberglass Cover and Anti-Flotation Ring

All basins include 5 field installed adapta-flex seals - (1) 1 1/4", (1) 1 1/2", (2) 2" and (1) 4" grommets.
ADDITIONAL BASIN SIZES WITH OPTIONS (i.e. Rail Studs) ARE AVAILABLE. CONSULT FACTORY.



OUTDOOR



INDOOR

OUTDOOR TANK VENTS

Item No.	Color	Material	Size	Dimension (W x H)	Pipe Area	Screen Area
10-1753	Black	Plastic	2" Female NPT	4.625" X 3.125"	3.1 sq. in.	6.9 sq. in.
10-1461	Green	Metal	2" Female NPT	4.625" X 3.125"	3.1 sq. in.	6.9 sq. in.
10-1462	Green	Metal	3" Female NPT	6.875" X 4.500"	7.1 sq. in.	19.6 sq. in.
10-1463	Green	Metal	4" Female NPT	9.250" X 5.000"	12.6 sq. in.	35.8 sq. in.
10-1464	Green	Metal	6" Female NPT	11.125" X 6.625"	28.3 sq. in.	42.5 sq. in.



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