

December 2, 2015

Ms. Jeannine McCrumb
Septic Officer
Town of Charlotte
P.O. 119
Charlotte, VT 05445

RE: Hausmann Property, 985 Bingham Brook Rd, Charlotte, VT – Change in Use Water and Wastewater Permit Submittal

Dear Jeannine:

Adam Hausmann is proposing to reconstruct his current two bedroom residence (280 gpd) into a three bedroom residence (420 gpd). The current disposal system is old, very undersized and must be replaced with a complying disposal system. Additionally, Adam has an agricultural structure behind the house that is used for agricultural fruit processing. Wash water is generated from rinsing/washing fruit processing equipment. Although agricultural in nature, Adam would rather discharge the wash water (100 gpd) into the proposed wastewater disposal system rather than discharging it to the ground (as many agricultural operations do). The total water and wastewater flow from the combined use is 520 gpd. The Site Development Plan with water and wastewater systems is shown on Figure 1. The overall 57.66 acre property is shown which includes both the residential (Homestead) component and the agricultural component. The agricultural component is trusted with the Vermont Land Trust which allows only agricultural use and structures. In this regard, the proposed wastewater system must be sited on the residential component of the property. The existing drilled well was installed in 2013 to replace a marginal (i.e. yield and quality) shallow well for both the residential and agricultural use.

A complying disposal area was identified west of the existing residence that is suitable for a 520 gpd performance based mound. The soil evaluation was conducted (with 3 test pits) on 8/10/15 by myself with Brian Tremback, the Town's septic consultant in attendance. Well drained sandy loams soils were identified with redoximorphic (shallow groundwater) features at a worst case depth of 20". During the site topographic survey on 8/21/15, two hand auger borings were installed downslope of the proposed mound disposal area and a percolation test was conducted. The soil profile descriptions and the percolation test data are attached which indicate well drained soil to a depth of 20", as well as permeable soils with a percolation rate of 23.5 minutes/inch.

To define the design dimensions of the mound, a site specific effluent mounding analysis was conducted. The analysis is attached which indicates that a 70' long mound on a 20" well drained soil profile will require 2.0' of mound sand to achieve the required 3' separation between the bottom of the application area and the induced effluent mound. Utilizing this data, the attached pressure distribution and mound dimension details were compiled. The dimensions of the mound are shown on Figure 1 and on Figure 2, the Wastewater System Details. The pressure distribution details are also shown which indicate the need of an effluent pump capable of supplying 20.10 gpm versus 9.86' of total dynamic head. A pump capable of meeting this

specification is also attached. Figure 1 also shows the location of disposal system components and the gravity sewer from the agricultural structure. Additionally, Figure 2 shows the details of the disposal system components, as well as construction instructions.

The existing well shown on Figure 1 will continue to serve the residence and the agricultural structure. The existing Water System Details are shown on Figure 3 and the well completion report for the drilled well is attached. The well is fully capable of supplying a 5 gpm yield for the 3 bedroom residence and the agricultural structure. In this regard, the same people who occupy the residence are the ones that do the processing, and they are either using water in one structure or the other but not in both at the same time.

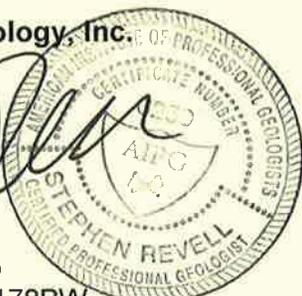
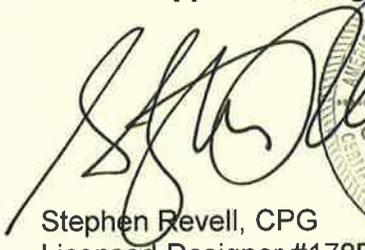
The well and mound isolation zones are shown on Figure 1. The mound isolation zone is completely contained on the Hausmann property and requires no Act 145 notification. Although the well isolation zone extends onto an adjacent property, the well is a replacement well and there are no changes to the demand placed on it. Because of this, no Act 145 notification is required.

I believe Adam Hausmann's water and wastewater permit submittal package is complete with a signed application and ANR Form 5, an application fee of \$500.00 payable to the Town of Charlotte, 2 signed copies of Figure 1, 2 and 3, 1 signed 11" x 17" copy of Figure 1, 2 and 3, 1 copy of the attachments and 1 CD of the overall application. Adam and I look forward to your satisfactory review and issuance of the requested permit.

If you have any questions, please let us know.

Very truly yours,

Lincoln Applied Geology, Inc.



Stephen Revell, CPG
Licensed Designer #178BW
Senior Hydrogeologist

SR/ih

Enclosure

CC: Adam Hausmann

F:\CLIENTS\2015\15080\Sumbittal of Change of Use.docx



Drinking Water & Groundwater Protection Division - Permit Application Wastewater System & Potable Water Supply



For Office Use Only:

Application#	PIN#	Date Complete Application Received
<input type="text"/>	<input type="text"/>	<input type="text"/>

Authority:

10 V.S.A. Chapter 64, the Environmental Protection Rules, Chapter 1, Wastewater System & Potable Water Supply Rules, and Chapter 21, Water Supply Rules, Appendix A. Part 11 - Small Scale Water Systems.

General Information:

The organization and/or content of this form may not be altered, however, the form is designed to expand to allow additional information to be entered. Changes in the organization and/or content of the form may result in an invalid application or permit.

In most cases a licensed designer will be required for your project and to help complete this application form. There are also line-by-line instructions available to assist with completing this form.

NOTE: We strongly suggest referring to the application instructions while completing this application form.

Part I Applicant (Landowner) & Project Contact Information

Section A - Applicant Details (if Landowner is an Individual or Individuals)

1 Last Name Hausmann		2 First Name (and Middle Initial if appropriate) Adam	
3 Mailing Address Line 1 985 Bingham Brook Road		4 Mailing Address Line 2	
5 Town/City Charlotte	6 State/Province VT	7 Country United States	8 Zip/Postal Code 05445
9 Email Address			10 Telephone

Remove This Applicant

Add Another Applicant

Section B - Applicant Details (if Landowner is other than an Individual or Individuals, e.g. Corporations, Homeowner's Associations, etc.)

1 Registered Legal Entity or Organization Name			2 Telephone
3 Mailing Address Line 1			4 Mailing Address Line 2
5 Town/City	6 State/Province	7 Country United States	8 Zip/Postal Code

Certifying Official

The Certifying Official must be a person who has signatory authority for the legal entity or organization that is the Applicant.

9 Certifying Official Last Name		10 Certifying Official First Name (and MI if appropriate)	
11 Certifying Official Title			
12 Certifying Official Email Address			13 Telephone

Remove This Applicant

Add Another Applicant

Section C - Primary Contact Information (if other than Applicant)			
1 Last Name		2 First Name (and Middle Initial if appropriate)	
3 Mailing Address Line 1		4 Mailing Address Line 2	
5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code
		United States	
9 Email Address			10 Telephone

Section D - Building/Business Owner Information			
1 Last Name		2 First Name (and Middle Initial if appropriate)	
3 Mailing Address Line 1		4 Mailing Address Line 2	
5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code
		United States	
9 Email Address			10 Telephone

Part II Certifying Designer(s) Information			
1 Designer Last Name		2 Designer First Name (and Middle Initial if appropriate)	
Revell		Stephen	
3 Designer License#	4 Company Name		
178	Lincoln Applied Geology, Inc.		
5 Mailing Address Line 1		6 Mailing Address Line 2	
163 Revell Drive			
7 Town/City	8 State/Province	9 Country	10 Zip/Postal Code
Lincoln	VT	United States	05443
11 Email Address			12 Telephone
srevell@lagvt.com			453-4384
13 Designer Role(s) (check all that apply)			
<input checked="" type="checkbox"/> Water Supply Designer <input checked="" type="checkbox"/> Wastewater Disposal System Designer			
Remove This Designer			

Add Another Designer

Part III Property Location Information	
Section A - Property Location	
1 Please provide the property Town and the property address or a brief description of the location.	
(a) Town or City	(b) Street or Road Location
Charlotte	985 Bingham Brook Road

Section B - Center of Property GPS Coordinates

1 Enter the approximate center of property coordinates using GPS set for NAD83 or as derived from a map (map must be based on NAD83).

(a) Latitude (in decimal degrees to five decimal places, ex. 44.38181°) (b) Longitude (in decimal degrees to five decimal places, ex. -72.31392°)

N ° W (-) °

Part IV Project Information

Section A - General Project Information & Questions

1 Project Name (if applicable) <input type="text" value="Hausmann Residence"/>	2 Total Acreage of Property <input type="text" value="57.66"/>
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3 Business Name (if applicable)

4 Detailed Project Description

Adam Hausmann requires a new disposal system because he is going from a 2 bedroom (280 gpd) to a 3 bedroom residence (420 gpd) along with picking up 100 gpd of washwater from the agricultural processing building. A performance based mound disposal system is proposed and there existing drilled well will be used.

5 (a) Were all existing buildings or structures, campgrounds, and their associated potable water supplies and wastewater systems substantially completed before January 1, 2007? Yes No

(b) Were all existing improved and unimproved lots in existence before January 1, 2007? Yes No

6 Does this application include subdividing the property? Yes No

7 Has anyone from the Drinking Water & Groundwater Protection Division's Regional Office been to the property?..... Yes No

If Yes, enter the staff person's name and the date of the visit.

(a) Name of Staff Person

(b) Date of Visit (m/d/yyyy)

8 Will any construction occur within 50 feet of a wetland boundary, mapped or designated? Yes No
If Yes, contact the Wetlands Program of the Watershed Management Division at (802) 338-4835.

9 Will more than one acre be disturbed during the entire course of construction, including all lots and phases? Yes No
If Yes, contact the Stormwater Program of the Watershed Management Division at (802) 241-4320.

10 Will there be any stream crossings by roads, utilities, or other construction? Yes No
If Yes, contact the River Corridor Mgmt. Program of the Watershed Management Division at:
Central & Northwest Vermont (802) 879-5631
Southern Vermont (802) 786-5906
Northeastern Vermont (802) 751-0129

11 Is the project located in a special flood hazard area as designated on the flood insurance maps prepared for a municipality by the Federal Emergency Management Agency? Yes No
If Yes, show the special flood hazard area limits on the site plan.

12 Act 250: Has the Applicant (Landowner) subdivided any other lots of any size within a five mile radius of this subdivision, or within the environmental district within the last five years ? Yes No
If Yes, enter the town(s) and the associated number of lots in the table below:

	(a) Town	(b) Number of Lots
X	<input type="text"/>	<input type="text"/>

Add Another Town/Lot

13 Is there any prior Act 250 jurisdiction on the tract of land?..... Yes No

If Yes, enter the Act 250 permit number:

(a) Act 250 Permit Number

Section B - Project Deed Reference

1 Please provide the Town, Parcel ID, Book, and Page reference for the current landowner's deed(s) to this property:

	(a) Town	(b) Parcel ID	(c) Book	(d) Page(s)
X	Charlotte	00021-0985	210	634

[Add Another Deed Reference](#)

Section C - Project Plan Reference

1 Please provide the following information for all water supply and wastewater disposal system plans being submitted.

	(a) Sheet#	(b) Title	(c) Plan Date	(d) Plan Revision Date
X	Figure 1	Site Development Plan	11/26/2015	
X	Figure 2	Wastewater System Details	11/26/2015	
X	Figure 3	Existing Water System Details	11/26/2015	

[Add Another Plan Reference](#)

Section D - Existing Project Lot/Building Details

Please provide the existing project details. This section is used to describe what is existing for the project. For example, if you are subdividing an undeveloped 21-acre parcel, you would list the existing parcel. If you are revising the boundary lines of two commercial lots in an industrial park, and constructing an addition to an existing building you would list the existing lot numbers, existing acres, existing buildings, existing uses, construction date(s), prior permits, and answer the compliance questions.

1 Lot#	2 Lot Size (acres)	3 Existing Use of the Lot
1	57.66	Residential

4 Provide the following information for each building on the lot:

(a) Building ID	(b) Existing Use	(c) Date Construction of Building Substantially Complete	(d) Prior Permits	(e) In compliance with existing permits?
X 1	Residential	Pre-1969	Local	<input checked="" type="radio"/> Yes <input type="radio"/> No
X 2	Agricultural	1/1/2013	Local	<input checked="" type="radio"/> Yes <input type="radio"/> No

[Add Another Building](#)

[Remove This Lot](#)

[Add Another Lot](#)

Section E - Proposed Project Lot/Building Details

This section is used to describe what you are proposing to do in this project. For example, if you were going to create 4 lots for construction of single family residences, you would list each lot, proposed acreage, proposed buildings, and proposed use.

1 Lot#	2 Lot Size (acres)	3 Proposed Use of the Lot
1	57.66	Residential - Agricultural

4 Is the lot being created as part of a subdivision? Yes No

5 Are you requesting that the Blood, Marriage, or Civil Union special fee be applied to this lot? Yes No

6 If the lot is exempt, please indicate the specific exemption from the Wastewater System and Potable Water Supply Rules?

7 Provide the following information for each building on the lot:

	(a) Building ID	(b) If building is exempt, indicate exemption	(c) Construction or increased flow?	(d) Proposed Use
X	1		<input checked="" type="checkbox"/>	3 Bedroom Residence
X	2		<input checked="" type="checkbox"/>	Agricultural

Part V Water Supply Information

Section A - Water Supply Screening Questions

- 1 Are you proposing a new water supply or water service line or changes to a permitted but not constructed water supply or water service line for this project? Yes No
- 2 Are you proposing changes to an existing water supply or water service for this project (including changes to location, design flows, or operational change)? Yes No
- 3 Is there an existing connection to a water supply or water service line for this project? Yes No

Complete Part V if you answered Yes to any of the above questions. A project with no existing or proposed water supply may skip to Part VI.

Section B - General Water Supply Questions

- 1 Does this project involve a failed water supply? Yes No
- 2 Will any of the proposed water sources serve 25 or more people or have 15 or more service connections? Yes No
If Yes, the applicant must contact the Drinking Water & Groundwater Protection Division at (802) 241-3400 for source, construction and an operating permit.
- 3 Are any of the existing or proposed water sources located within a special flood hazard area? Yes No
- 4 Are any of the existing or proposed water sources located within a floodway? Yes No
- 5 Are any of the proposed water sources located within 1 mile of a hazardous waste site as designated by the Waste Management Division and identified on the Agency mapping website? Yes No
If Yes, please submit additional information on the site. The Waste Management Division can be reached at (802) 241-3888.
- 6 Does this project require an approval letter from the Drinking Water & Groundwater Protection Division for the construction of a public water system, municipal water line extension over 500 feet, or hydrants or sprinkler systems? Yes No
If Yes, please submit a copy of the approval letter from the Drinking Water & Groundwater Protection Division.
- 7 Does the proposed or existing water supply(ies) use a water treatment device to obtain compliance with the quality requirements in the Water Supply Rule? Yes No
If Yes, please submit additional information regarding the constituent(s) that exceeds the standards and plans, details, and specifications of the treatment device.
- 8 Is any portion of the proposed water supply located in or near a Water Source Protection Area as designated by the Drinking Water & Groundwater Protection Division? Yes No
If in areas of known interference issues, contact the Drinking Water & Groundwater Protection Division at (802) 241-3400.

Section C - Individual Water Supply Details

Please provide the following information for each of the existing and proposed water supply(ies) serving a building or structure, or campground on the property.

1 Water Supply Name/Identifier Hausmann Well	2 Water Supply Owner (if not Applicant)
3 Water Source Type Non-Public Drilled Bedrock Well	4 Type of Change to Supply New Connection or Increased Flow

5 Lots/Buildings Served by this Water Supply System

Add Another Lot/Building Served by this Supply

6	7	8
380	140	520

9 Is this water supply located off-lot? Yes No

10 Is this water supply shared? Yes No

If the water supply is located off-lot or shared, submit a copy of the agreement to provide an easement prior to construction.

11 Is a variance being requested for this water supply? Yes No

If Yes, please submit additional details related to the variance request.

Remove This Water Supply

Add Another Water Supply

Section D - Water Supply Design Flows Summary Table

1 If the project includes more than one water supply, please list each water supply system and provide the total water supply design flows for the project. **IMPORTANT:** Please don't include systems that were identified in this Part on Section C, Line 4 as a "Replacement Area Designation" in this summary table.

(a) Water Supply Name/Identifier	Design Flows (Gallons Per Day)		
	(b) Existing	(c) Change	(d) Total
X Hausmann Well	380	140	520
	2	3	4
	380	140	520

Add Another Water Supply

Part VI Wastewater Disposal System Information

Section A - Wastewater Disposal System Screening Questions

1 Are you proposing a new or replacement wastewater disposal system, a new wastewater service line, or changes to a permitted but not constructed wastewater disposal system or wastewater service line for this project? Yes No

2 Are you proposing changes to an existing wastewater disposal system, replacement wastewater disposal system, replacement area, or wastewater service line for this project (including changes to location, design flows, or operational change)? Yes No

3 Is there an existing connection to a wastewater disposal system or wastewater service line for this project? Yes No

*Complete Part VI if you answered Yes to any of the above questions.
A project with no existing or proposed wastewater disposal systems may skip to Part VII.*

Section B - General Wastewater Disposal System Questions

1 Does this project involve a failed wastewater disposal system? Yes No

2 Do any of the systems require a curtain or dewatering drain as part of the design? Yes No

3 Is a hydrogeologic study required for this project? Yes No

4 For projects using soil-based wastewater systems having a total design flow that exceeds 1,000 gpd, is this project located in a Class A Watershed? Yes No NA

If Yes, indicate the Class A Watershed in which the system(s) is located:

(a) Class A Watershed Name

5 Are there any existing or proposed floor drains as part of this project? Yes No

If Yes, indicate where the floor drains will discharge:

(a) Floor Drain Discharge Point

6 If the project utilizes an Innovative/Alternative System or Product, has the applicant received a copy of the Drinking Water & Groundwater Protection Division's approval letter? Yes No NA

7 Is any portion of the proposed wastewater disposal system located in or near a Water Source Protection Area as designated by the Drinking Water & Groundwater Protection Division? Yes No

If Yes, contact the Drinking Water & Groundwater Protection Division at (802) 241-3400.

Section C - Individual Wastewater Disposal System Details

Please provide the following information for each of the existing and proposed wastewater disposal systems serving a building or structure, or campground on the property.

1 Wastewater Disposal System Name/Identifier Hausmann Old System	2 Wastewater Disposal System Owner (if not Applicant) <input type="text"/>
3 Wastewater Disposal System Type In-ground	4 Type of Change to System No Change

5 Lots/Buildings Served by this Wastewater Disposal System

(a) Lot#	(b) Building ID	(c) Type of Change to the Building's System	Design Flows (Gallons Per Day)				(h) Rule or Meter Based Flows
			(d) Existing	(e) Change	(f) Infiltration	(g) Total	
X 1	1	No Change	280	0	0	280	Rule-based
Add Another Lot/Building Served by this System			6 280	7 0	8 0	9 280	

10 Is this wastewater disposal system located off-lot? Yes No

11 Is this wastewater disposal system shared? Yes No

If the wastewater disposal system is located off-lot or shared, submit a copy of the agreement to provide an easement prior to initiation of construction.

12 Is a variance being requested for this wastewater disposal system? Yes No

If Yes, please submit additional details related to the variance request.

13 If this wastewater disposal system type is a connection to an Indirect Discharge System, please provide the Indirect Discharge System ID number.

Indirect Discharge System ID Number

14 If this wastewater disposal system type is a connection to a municipal system, please select the town.

Town

15 If this wastewater disposal system is a soil-based system, please select the design approach used.

Design Approach Used

16 For soil-based systems, please check all that apply (Note: Store and dose does not apply to standard pump/pump chamber systems).

- Storage and Dose Filtrate Constructed Wetlands

17 If this is an Innovative/Alternative soil-based system, please select the system use type.

Innovative/Alternative System Use Type

18 If this is an Innovative/Alternative soil-based system, please select the Innovative/Alternative system or product.

Innovative/Alternative System or Product

Remove This Wastewater System

1 Wastewater Disposal System Name/Identifier

Hausmann New System

2 Wastewater Disposal System Owner (if not Applicant)

3 Wastewater Disposal System Type

Mound

4 Type of Change to System

New System

5 Lots/Buildings Served by this Wastewater Disposal System

	(a) Lot#	(b) Building ID	(c) Type of Change to the Building's System	Design Flows (Gallons Per Day)				(h) Rule or Meter Based Flows
				(d) Existing	(e) Change	(f) Infiltration	(g) Total	
X	1	1	Connection to New System	280	140	0	420	Rule-based
X	1	2	Connection to New System	0	100	0	100	Rule-based
<p>Add Another Lot/Building Served by this System</p>				6	7	8	9	
				280	240	0	520	

10 Is this wastewater disposal system located off-lot? Yes No

11 Is this wastewater disposal system shared? Yes No

If the wastewater disposal system is located off-lot or shared, submit a copy of the agreement to provide an easement prior to initiation of construction.

12 Is a variance being requested for this wastewater disposal system? Yes No

If Yes, please submit additional details related to the variance request.

13 If this wastewater disposal system type is a connection to an Indirect Discharge System, please provide the Indirect Discharge System ID number.

Indirect Discharge System ID Number

14 If this wastewater disposal system type is a connection to a municipal system, please select the town.

Town

15 If this wastewater disposal system is a soil-based system, please select the design approach used.

Design Approach Used

Performance Based

16 For soil-based systems, please check all that apply (Note: Store and dose does not apply to standard pump/pump chamber systems).

Storage and Dose Filtrate Constructed Wetlands

17 If this is an Innovative/Alternative soil-based system, please select the system use type.

Innovative/Alternative System Use Type

18 If this is an Innovative/Alternative soil-based system, please select the Innovative/Alternative system or product.

Innovative/Alternative System or Product

Remove This Wastewater System

Add Another Wastewater System

Section D - Wastewater Disposal Systems Design Flows Summary Table

1 If the project includes more than one wastewater disposal system, please list each system on this page and provide the total wastewater disposal design flows for the project. **IMPORTANT:** Please don't include systems that were identified in this Part on Section C, Line 4 as a "Replacement Area Designation" in this summary table.

		Design Flows (Gallons Per Day)			
(a) Wastewater Disposal System Name/Identifier		(b) Existing	(c) Change	(d) Infiltration	(e) Total
X	Hausmann New System	280	140	0	420
X		0	100	0	100
Add Another Wastewater System		2	3	4	5
		280	240	0	520

Part VII Application Fees

1 Fee Amount \$500.00

2 Fee Calculation Details

Water/Wastewater Permitting = \$500.00

Part VIII Designer Certification & Copyright License

Section A - Certifying Designer 1 Certification & Copyright License

I hereby certify that in the exercise of my reasonable professional judgment, the design-related information submitted with this application is true and correct, and that the design included in this application for a permit complies with the Vermont Wastewater System and Potable Water Supply Rules and the Vermont Water Supply Rules.

As the individual who prepared the application, including all documents that are marked as copyrighted, I hereby grant a non-exclusive, limited license to the State to allow the documents to be made available for public review and copying in order to properly implement and operate the permitting programs for Wastewater Systems and Potable Water Supplies, and for no other purposes. As a condition to this license, the State agrees that it will not make any changes to such documents, nor will the State delete any copyright notices on such documents.

1. Check the design(s) you are certifying. This should be the same as the Designer Role(s) you selected in Part II, Section A, Line 13.

- Water Supply Designer
- Wastewater Disposal System Designer

2. Designer 1 Name

Stephen Revell

3. Designer 1 Signature

4. Signature Date

12/3/15

Section B - Certifying Designer 2 Certification & Copyright License

I hereby certify that in the exercise of my reasonable professional judgment, the design-related information submitted with this application is true and correct, and that the design included in this application for a permit complies with the Vermont Wastewater System and Potable Water Supply Rules and the Vermont Water Supply Rules.

As the individual who prepared this application, including all documents that are marked as copyrighted, I hereby grant a non-exclusive, limited license to the State to allow the documents to be made available for public review and copying in order to properly implement and operate the permitting programs for Wastewater Systems and Potable Water Supplies, and for no other purposes. As a condition to this license, the State agrees that it will not make any changes to such documents, nor will the State delete any copyright notices on such documents.

1. Check the design(s) you are certifying. This should be the same as the Designer Role(s) you selected in Part II, Section B, Line 13.

- Water Supply Designer
- Wastewater Disposal System Designer

2. Designer 2 Name

3. Designer 2 Signature

4. Signature Date

Part IX Applicant(s) Signature & Acknowledgements

In order to insure compliance with the requirements of the regulations administered by the Department of Environmental Conservation, Drinking Water & Groundwater Protection Division, it may be necessary to visit the property. As this would involve a Department employee entering private property, we request your approval to do so.

1. If we do visit your property, do you have any special instructions?

[Empty box for special instructions]

"As landowner of the property for which I am requesting a permit from the Department of Environmental Conservation, I understand that by signing this application I am granting permission for the Department employees to enter the property, during normal working hours, to insure compliance of the property with the applicable rules of the Department.

I also understand that I am not allowed to commence any site work or construction on this project without written approval from the Department of Environmental Conservation.

If my project utilizes an innovative/Alternative System or Product, I have received a copy of the Drinking Water & Groundwater Protection Division's approval letter and agree to abide by the conditions of the approval.

I also certify that to the best of my knowledge and belief the information submitted above is true, accurate and complete."

2. Print Applicant Name

Adam Hausmann

3. Applicant Signature

4. Signature Date

12/2/15

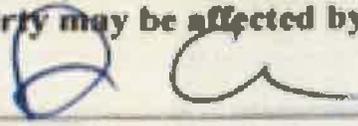
ART Applicant Signature Block

ANR Form 5: Certification Statement for Wastewater System and Potable Water Supply Permits when there is no Required Notification of Overshadowed Property Owner(s)

A person submitting an application to the Secretary for a Wastewater System and Potable Water Supply Permit shall use this statement whenever overshadowing notification of affected landowners is not required (see guidance and instructions for examples).

Note: When the property subject to the permit application is owned by more than one person, only one of the landowners must sign this certification statement even though all landowners must sign the permit application itself.

I hereby certify that "overshadowing" notification is not required either because there is an exemption to the notification requirement or there are no landowners whose property may be affected by the proposed water and wastewater systems.

Signature 

Name (Printed) Adam Hausmann

Property Address or Property Tax ID # 985 Bingham Brook Road

Date of this certification 12 / 2 / 15

**Hausmann Property
Soil Profile Descriptions
August 10, 2015
By Stephen Revell CPG
Licensed Designer #178BW and Senior Hydrogeologist**

Test Pit #1 (TP-1)

- | | |
|--------|--|
| 0-10" | Brown fine sandy loam, loose, strong blocky structure, well drained |
| 10-24" | Red-brown to tan stony fine sandy loam, loose to friable, strong blocky structure, well drained |
| 24-48" | Grey-brown stony fine sandy loam, friable to firm, moderate blocky structure, redoximorphic features |

Test Pit #2 (TP-2)

- | | |
|--------|--|
| 0-10" | Brown fine sandy loam, loose, strong blocky structure, well drained |
| 10-24" | Red-brown to tan stony fine sandy loam, loose to friable, strong blocky structure, well drained |
| 24-50" | Grey-brown stony fine sandy loam, friable to firm, moderate blocky structure, redoximorphic features |

Test Pit #3 (TP-3)

- | | |
|--------|--|
| 0-12" | Brown fine sandy loam, loose, strong blocky structure, well drained |
| 12-30" | Red-brown to tan stony fine sandy loam, loose to friable, strong blocky structure, well drained, redoximorphic features at 20" |
| 30-60" | Grey-brown stony fine sandy loam, friable to firm, moderate blocky structure, redoximorphic features |

Hand Auger #1 (HA-1)

- | | |
|------|---|
| 0-8" | Brown fine sandy loam, loose, strong blocky structure, well drained |
|------|---|



- 8-22" Red-brown to tan stony fine sandy loam, loose to friable, strong blocky structure, well drained
- 22-38" Grey-brown stony fine sandy loam, friable to firm, moderate blocky structure, redoximorphic features

Hand Auger #1 (HA-1)

- 0-9" Brown fine sandy loam, loose, strong blocky structure, well drained
- 9-24" Red-brown to tan stony fine sandy loam, loose to friable, strong blocky structure, well drained, redoximorphic features at 22"
- 24-40" Grey-brown stony fine sandy loam, friable to firm, moderate blocky structure, redoximorphic features

F:\CLIENTS\2015\15080\Soil Profile Descriptions.docx



**Hausmann Property
985 Bingham Brook Road
Charlotte, Vermont
Percolation Test Results**

All tests were performed on August 21, 2015 at a depth of 18"

PT-1	Drop Time (min)	Total Drop Time (min)	Total Drop (inches)	Drop Rate (min/inch)
	10.1	10.1	1	10.1
	13.4	23.5	2	11.7
	15.2	38.7	3	12.9
	16.4	55.0	4	13.8
	17.2	72.3	5	14.5
	17.9	90.2	6	15.0
	18.5	108.7	7	15.5
	---	1440.0	---	23.5

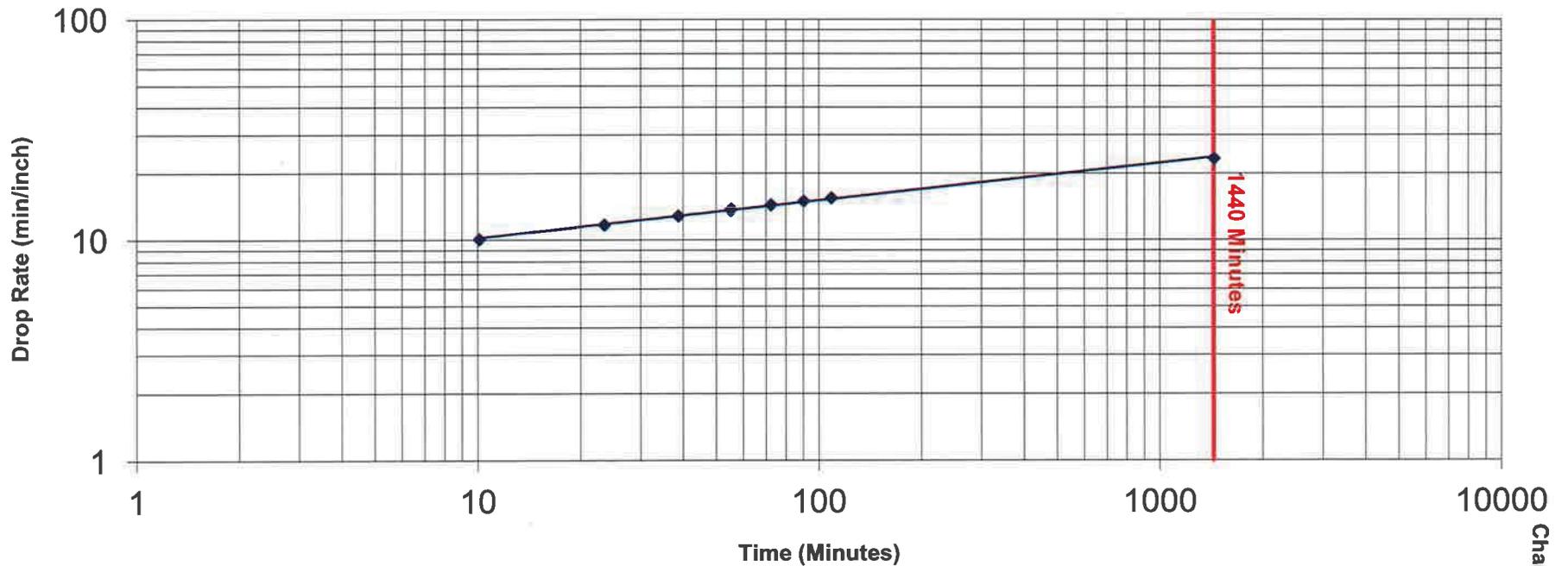
***NOTE:**

Drop time includes fill time for each of the seven runs.

Table 1

Hausmann Property
985 Bingham Brook Road
Charlotte, Vermont
Percolation Test Results

All tests were performed on August 21, 2015 at a depth of 18"



◆ PT-1

— Best Fit PT-1

Chart 1

Site Specific Effluent Mounding Analysis
Hausmann Property
Bingham Brook Road, Charlotte, VT.

In order to support the proposed performance based mound-type disposal system design and show that the soils can accommodate the design flow rate associated with a year-round three-bedroom residence (420 gpd) and 100 gpd of agricultural wash water, a site specific hydrogeologic analysis using Darcy's Law was conducted. The following formula was used to determine the ability of the soil to accept the proposed amount of wastewater and determine its impact on the shallow seasonal ground water system.

Using the equation:

$$Q = k \cdot i \cdot h \cdot l$$

Where: Q= Volume= 520 gallons/ day = 69.5 ft³/ day;
k= Hydraulic Conductivity = 30 ft./ day (approved k value for fine sandy loam with strong blocky structure);
i= Gradient = 5% = 0.05 ft./ ft.;
h= effluent mound height in feet;
l= 70' mound length.

When solving this equation for h, an effluent mound of 0.66' was calculated. Since evidence of a seasonal high ground water system was identified at 20" or 1.67' with an induced mound of 0.66', 1.01' feet of unsaturated soil will remain. To maintain the required 3' separation to the induced mound, 3' - 1.01' or 1.99' of state approved mound sand is required beneath the application area. 2.0' of mound sand is proposed.

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PRESSURE DISTRIBUTION & MOUND DIMENSION DETAILS

CLIENT'S NAME: Hausmann Mound
 DATE: 11/24/2015 PERFORMED BY: S. Revell LAG Project #: 15080

Design Flow Rate	520	GPD
Width of Distribution Stone Bed/Trench	7.43	FEET
Length of Distribution Stone Bed/Trench	70	FEET
Thickness of Sand Beneath Distribution Stone Bed/Trench	2	FEET
Thickness of Stone Beneath Laterals	6	INCHES
Soil Cover Thickness at Edge of Level Area	12	INCHES
Front Slope of Finished Mound	33	PERCENT
Side and Rear Slope of Finished Mound	33	PERCENT
Percolation Rate	20	MPI
Natural Ground Slope	5	PERCENT
Thickness of Sand on Upper Side of Level Area	2.70	FEET
Thickness of Sand on Lower Side of Level Area	3.17	FEET
Width of Level Area	9.43	FEET
Length of Level Area	72	FEET
Area of Distribution Stone Bed/Trench	520	SQUARE FT
Volume of Stone Required	12	CUBIC YARDS
Proposed Basal Area	1523	SQUARE FEET
Volume of Mound Sand Required	251.7	CUBIC YARDS
Number of Laterals	4	
Length of Each Lateral	32.5	FEET
Number of Orifices in the Manifold	0	
Number of Orifices in Each Lateral	7	
Distance Between Manifold and First Orifice	2.5	FEET
Distance Between Orifices (on center)	5	FEET
Distribution Area per Orifice	18.58	SQ. FT.
Design Pressure Head	3	FEET
Diameter of Orifices (enter as fraction)	0.188	INCHES
Elevation From Pump Intake to Laterals (0 if siphon)	5	FEET
Diameter of Force Main	1.5	INCHES
Length of Force Main	50	FEET
Length of Manifold to Lateral	2.2	FEET
Diameter of Manifold Pipe	1.5	INCH
Diameter of Lateral Pipe	1.5	INCH
Friction Loss in Force Main	1.74	FEET
Friction Loss in Manifold	0.02	FEET
Friction Loss in Section 1	0.01	FEET
Friction Loss in Entire Lateral	0.03	FEET
Discharge Rate at First Orifice	0.72	GPM
Discharge Rate at Last Orifice	0.72	GPM
Percent Difference in Flow Rate First to Last Orifice	0.34	PERCENT
Total Dynamic Head Loss	9.858	FEET
Total Distribution System Flow	20.10	GPM
Volume of Distribution System	11.93	GALLONS
Pump Capacity	20.10 GPM vs	9.858 FEET OF HEAD
Volume per Dose		130 GALLONS
On/Off Float Swing (1,000 gal. Tank)		4.3 INCHES

PRESSURE DISTRIBUTION & MOUND DIMENSION DETAILS

CLIENT'S NAME: Hausmann Mound
 DATE: 11/24/2015 PERFORMED BY: S. Revell LAG Project #: 15080

DIMENSIONS OF MOUND SYSTEM

Dimensions of Mound Sand

7.1 feet from level area to uphill sand toe	10.0 ft corner of level area to upper toe corner
9.43 ft wide level area	8.2 ft to side toe from upper edge of level area
7.43 ft wide stone bed/trench	
70 ft long stone bed/trench	9.6 ft to side toe from lower edge of level area
72 ft long level area	
11.3 feet from level area to downhill sand toe	16.0 ft corner of level area to lower toe corner

Dimensions of Final Cover

9.7 feet from level area to uphill toe	13.8 ft corner of level area to upper fill toe
	11.2 ft to side toe from upper edge of level area
9.43 ft wide level area	
72 ft long level area	12.6 ft to side toe from lower edge of level area
	21.1 ft corner of level area to lower fill toe
14.9 feet from level area to downhill toe	

PLOW AREA LAYOUT MEASUREMENTS

Center of Bed/Trench to Downslope Toe	54.5 feet
End of Level Area @ Midpoint to Downslope Toe	24.6 feet
Center of Bed/Trench to Upslope Toe	48.0 feet
End of Level Area @ Midpoint to Upslope Toe	17.4 feet

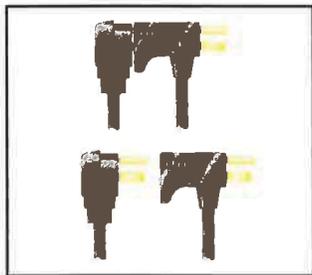
HYDROMATIC®

SHEF30

Submersible Effluent Pump

- Effluent Septic Tank

Automatic operation features easily adjustable, wide-angle float switch with a piggyback plug-in arrangement that allows for simple conversion to manual operation. Special inlet design allows pump to handle 3/4" solids. Cast iron body and an oil-filled motor provide superior cooling characteristics for longer pump life. Motor windings contain automatic thermal overload protection. Energy efficient .3 HP motor pumps up to 35 GPM at 10' total dynamic head. Discharge is 1-1/2" N.P.T.



May be operated manually or automatically with a piggyback switch.



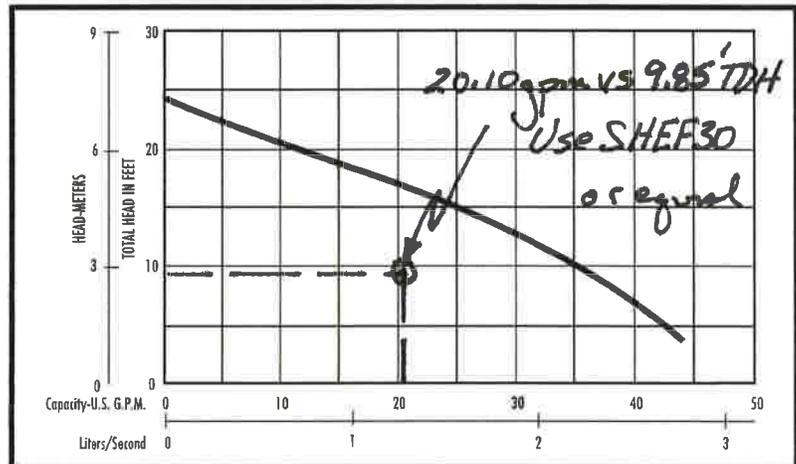
SHEF30 - Submersible Effluent Pump

Details

Pump Characteristics

Pump/Motor Unit	Submersible
Automatic Model	SHEF30A1
Horsepower	.30
Full Load Amps	8.0
Motor Type	Shaded Pole (4 pole)
R.P.M.	1550
Phase Ø	1
Voltage	115
Hertz	60
Temperature	120°F Ambient
NEMA Design	A
Insulation	Class A
Discharge Size	1-1/2" NPT (38mm)
Solids Handling	3/4" (19mm)
Unit Weight	30 lbs.
Power Cord	18/3, SJTW, 20' std.

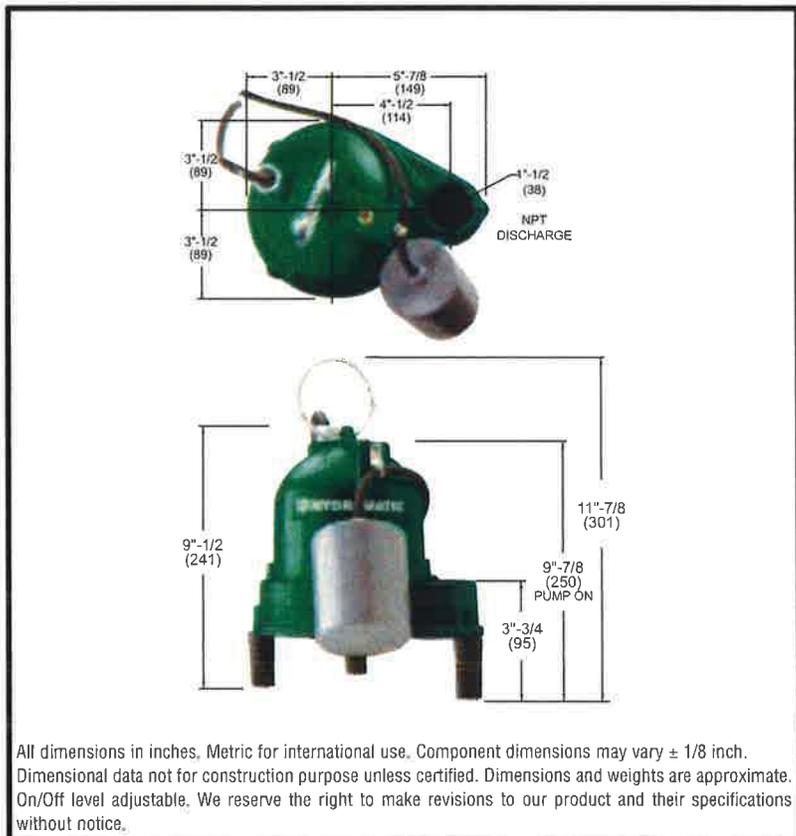
Performance Data



Materials of Construction

Handle	Stainless Steel
Lubricating Oil	Dielectric Oil
Motor Housing	Cast Iron
Pump Valve	Cast Iron
Shaft	Steel
Mechanical Shaft Seal	Seal Faces: Carbon/Ceramic Seal Body: Anodized Steel Spring: Stainless Steel Bellows: Buna-N
Impeller	Engineered Thermoplastic
Upper Bearing	Cast Iron Sleeve
Lower Bearing	Single Row Ball Bearing
Legs	Engineered Thermoplastic
Fastener	Stainless Steel

Dimensional Data



All dimensions in inches, Metric for international use. Component dimensions may vary ± 1/8 inch. Dimensional data not for construction purpose unless certified. Dimensions and weights are approximate. On/Off level adjustable. We reserve the right to make revisions to our product and their specifications without notice.



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User Name:

Password:

 Remember me

Date Well Was Completed: 05-07-2013

Date Report Received: 02-25-2015

Well Driller License Number: 222 = Robert Frost , Vermont Well and Pump

Well Report Number: 39868

Well Number/Tag Number: 39868

Comments:

Town: Charlotte

Map Cell:

Tax Map:

E-911 Address: 985 Bingham Brook Rd.

Sub Division:

Lot Number:

Owner's First Name: Adam

Owner's Last Name: Hauseman

Purchaser's First Name:

Purchaser's Last Name:

Well Use Code: 01 = Domestic

Reason for Well Code: 4 = Test or exploration

Drilling Equipment Code:

Total Depth of Well (in feet): 500.00

Yield (in GPM): 6.00

Yield Test Tested For (in hours): 1.00

Static Water Level (in feet): 20.00

Well Is Overflowing: N

Depth To Bedrock: 90

Total Casing Length (in feet): 100.00

Casing Diameter (in inches): 6.00

Casing Length Below Land Surface (in feet): 80.00

Casing Length Exposed (in feet): 20.00

Casing Material: 1 = Steel

Casing Weight (in lbs/foot): 19.00

Casing Finish Code:

Length of Liner used (in feet):

Liner Diameter (in inches):

Liner Material:

Liner Weight (in lbs/foot):

Grout Type: 4

Seal Type:

Diameter Drilled In Bedrock (in inches):

Depth Drilled In Bedrock (in feet):

Screen Make and Type:

Screen Material:

Screen Length (in feet):

Screen Diameter (in inches):

Screen Slot Size (in inches):

Depth to top of Screen below land surface (in feet):
 Gravel Size or Type:
 Method of Sealing Casing Code: 1 = Drive shoe only
 Yield Test Method Code:
 Well Development Code:
 Not Steel Casing: N
 Has Water Been Analyzed N
 Well Has Screen: N
 AW Partial: N
 Unique GIS Name: CI39868
 Lat Degree: 44
 Lat Minutes: 18
 Lat Seconds: 5.9400
 Long Degree: 73
 Long Minutes: 11
 Long Seconds: 6.2400
 Location Determination Method: 14 = GPS location
 Well Type: Bedrock
 Depth To Liner Top (in feet):
 HydroFractured: N
 Hydro Fractured Resulting Flow (GPM):
 Well Location Submitted As A Dot On A Map: N
 RecordStatus: A
 UOE: Heather Campbell
 DOE: 3/18/2015 10:44:00 AM
 UOC: Heather Campbell
 DOC: 3/18/2015 10:50:00 AM
 WellReportID: 113567

	Starting Depth	Ending Depth	Water Bearing	Lithology Code	Code Description	Lithology Description
View	0.00	20.00		G	Gravel	
View	20.00	70.00		H	Hardpan	
View	70.00	90.00		C	Clay	
View	90.00	500.00		R	Rock, bedrock, ledge, etc.	limestone-med/gray

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 VT DEC :: Drinking Water and Groundwater Protection Division :: 1 National Life Drive, Main Building, 2nd Floor :: Montpelier, VT 05620-3521
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