

June 20, 2013

Mr. Spencer Harris, Septic Consultant  
Mr. Thomas Mansfield, Septic Officer  
Town Of Charlotte  
P.O. Box 119  
Charlotte, VT 05445

RE: Testamentary Trust (the Trust) of Clark W. Hinsdale Jr, 640 Bingham Brook Rd,  
Charlotte, VT-Submittal of Water and Wastewater Application

Dear Spencer and Tom:

The Trust is selling the subject property at 640 Bingham Brook Rd to Johns Congdon in order to construct a 3 bedroom residence with associated accessory structures. In this regard please find a water and wastewater application from the Trust which will hopefully access a building permit so that Mr. Congdon can begin developing the property, given the fact that he has already sold his current property. The Figure 1 Site Development Plan shows the proposed location of the 3 bedroom residence, a shop and a garage, as well as the mound disposal system and the proposed well location. The wastewater system details and the water system details are presented on Figure 2 and 3.

The soils were evaluated on May 13, 2013 with Spencer in attendance. Four test pits were evaluated and found to have acceptable conditions for a 3 bedroom performance based mound disposal area. As the attached soil profile description indicates, there is 12" of unsaturated fine sandy loam available over mottled fine sandy loam to a depth of at least 36". A single percolation test result is attached that indicates the soil is permeable with a rate of 35 minutes/inch. The attached effluent mounding analysis indicates that a minimum mound application area length of 46.17' is required. The proposed mound is 48' long. The pressure distribution and mound dimension details are attached which indicate a 8.75' x 48' bed type application area is required with 2.5' of sand below the bed. A 4 lateral pressure distribution network is proposed which requires a pump capable of pumping 22.24 gpm versus 32.82' of total dynamic head. A specification for a pump meeting these requirements is also attached.

Act 145/117 requires notification of two property owners bordering the southeast corner of the property relative to minor overshadowing by the mound isolation zone. The required notification information is attached along with the certified mail receipts.

I believe the Trust's application is complete with a signed copy of the application and Act 145/117 notification form, a check for \$500.00 payable to the Town of Charlotte, 2 signed copies of Figure 1, 2 and 3 and one copy of this letter and the attachments. The

Trust looks forward to your concurrence and issuance of the requested permit which will enable Johns Congdon to apply for a building permit.

If you have any questions, please feel free to give me a call.

Very truly yours,  
**Lincoln Applied Geology, Inc.**

Stephen Revell, CPG  
Licensed Class B Designer #178  
Senior Hydrogeologist

SR/ih

Enclosure

CC: Clark W. Hinsdale III, Trustee  
Johns Congdon

F:\CLIENTS\2013\13044\Submittal Letter



Lincoln Applied Geology, Inc.  
Environmental Consultants

163 Revell Drive • Lincoln, VT 05443 • (802) 453-4384 • FAX (802) 453-5399 • [www.lagvt.com](http://www.lagvt.com)

# 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		2 First Name (and Middle Initial if appropriate)	
<input type="text"/>		<input type="text"/>	
3 Mailing Address Line 1		4 Mailing Address Line 2	
<input type="text"/>		<input type="text"/>	
5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code
<input type="text"/>	<input type="text"/>	United States	<input type="text"/>
9 Email Address			10 Telephone
<input type="text"/>			<input type="text"/>

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
Testamentary Trust of Clark W. Hinsdale Jr.(the Trust)			<input type="text"/>
3 Mailing Address Line 1		4 Mailing Address Line 2	
1211 Ethan Allen Highway		<input type="text"/>	
5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code
Charlotte	VT	United States	05445

**Certifying Official**

The Certifying Official must be a person who has signatory authority for the legal entity or organization that is the Applicant. A copy of the document authorizing this person to act as a signatory authority must be attached to this application.

9 Certifying Official Last Name		10 Certifying Official First Name (and MI if appropriate)	
Hinsdale III		Clark W.	
11 Certifying Official Title			
Trustee			
12 Certifying Official Email Address			13 Telephone
<input type="text"/>			<input type="text"/>

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)	
<input type="text"/>		<input type="text"/>	
3 Mailing Address Line 1		4 Mailing Address Line 2	
<input type="text"/>		<input type="text"/>	
5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code
<input type="text"/>	<input type="text"/>	United States	<input type="text"/>
9 Email Address			10 Telephone
<input type="text"/>			<input type="text"/>

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

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		<input type="text"/>	
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			
<input type="button" value="Remove This 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	640 Bingham Brook Rd

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 <i>(in decimal degrees to five decimal places, ex. 44.38181°)</i>	(b) Longitude <i>(in decimal degrees to five decimal places, ex. -72.31392°)</i>
N <input style="width:80px;" type="text" value="44.29578"/> °	W (-) <input style="width:80px;" type="text" value="73.19488"/> °

Part IV Project Information
Section A - General Project Information & Questions

1 Project Name (if applicable) <input style="width:95%;" type="text" value="Congdon Project"/>	2 Total Acreage of Property <input style="width:95%;" type="text" value="57.08"/>
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3 Business Name (if applicable)

4 Detailed Project Description  
The Clark W. Hinsdale Trust is proposing to sell the subject parcel to the Congdons who will propose to develop it with a 3 bedroom residence served by on-site water and sewage systems.

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 <input style="width:95%;" type="text" value="Spencer Harris"/>	(b) Date of Visit (m/d/yyyy) <input style="width:95%;" type="text" value="5/13/2013"/>
--	---

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 style="width:95%;" type="text"/>	<input style="width:95%;" type="text"/>
<input style="width:80%; background-color: #cccccc;" type="button" value="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	00021-0640	183	657-675
X			84	239-240
X			35	88
X			map slide	37

**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	1	Site Development Plan	6/20/2013	
X	2	Wastewater System Details	6/20/2013	
X	3	Water System Details	6/20/2013	

**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	57.08	Unimproved

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					<input 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	57.08	Single Family Residence

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:

<b>X</b>	(a) Building ID 1	(b) If building is exempt, indicate exemption	<input checked="" type="checkbox"/>	(c) Construction or increased flow? <input checked="" type="checkbox"/>	(d) Proposed Use 3 bedroom residence
<b>Add Another Building</b>					
<b>Remove This Lot</b>					
<b>Add Another Lot</b>					

**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 Congdon Well	2 Water Supply Owner (if not Applicant)
3 Water Source Type Non-Public Drilled Bedrock Well	4 Type of Change to Supply New System
5 Lots/Buildings Served by this Water Supply System	

	(a) Lot#	(b) Building ID	(c) Type of Change to the Building's Supply	Design Flows (Gallons Per Day)			(g) Rule or Meter Based Flows
				(d) Existing	(e) Change	(f) Total	
X	1	1	Connection to New System	0	420	420	Rule-based
Add Another Lot/Building Served by this Supply				6	7	8	
				0	420	420	

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	Congdon Well	0	420	420
Add Another Water Supply		2	3	4
		0	420	420

**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 Congdon Mound	2 Wastewater Disposal System Owner (if not Applicant)
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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	0	420	0	420	Rule-based
Add Another Lot/Building Served by this System			6	7	8	9	
			0	420	0	420	

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

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 Congdon Mound	0	420	0	420	
Add Another Wastewater System	2	3	4	5	
	0	420	0	420	

**Part VII Application Fees**

1 Fee Amount

\$500.00

2 Fee Calculation Details

New Septic & Water Systems = \$500.00

**Part VIII Designer Certification & Copyright License**

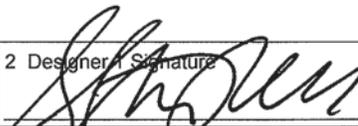
**Section A - Certifying Designer 1 Certification & Copyright License**

"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 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 A, Line 13.

- Water Supply Designer
- Wastewater Disposal System Designer

1 Designer 1 Name Stephen Revell	2 Designer 1 Signature 	3 Signature Date 6/20/13
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**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

1 Designer 2 Name	2 Designer 2 Signature	3 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?

"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."

<input checked="" type="checkbox"/> 2 Print Applicant Name Clark W. Hinsdale III	3 Applicant Signature	4 Signature Date
---	-----------------------	------------------

Add Applicant Signature Block

**ANR Form 4: Certification Statement for Notification of Overshadowed Property Owner(s) pursuant to the Wastewater System and Potable Water Supply Program**

A person submitting an application to the Secretary for a Wastewater System and Potable Water Supply Permit where the proposed project has isolation distances (overshadowing) that extend onto property owned by persons other than the permit applicant shall submit the following certification with the application.

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 the individual(s) that own property that is overshadowed by my proposed project have been sent by certified mail a copy of the required notification form and the site plan(s) that accurately depicts all isolation distances. I also certify that I attached to this certification form a copy of all certified mail receipts for notifications that were sent to the affected property owners.

Signature \_\_\_\_\_

Name (Printed) CLARK W. HINSDALE III, TRUSTEE

Property Address or Property Tax ID # 640 BINGHAM BROOK RD

Date of this certification \_\_\_\_\_

Please list all of the property owners who were sent a notification by certified mail.

**Affected Property Owner(s) – (Please provide a second sheet using this format when there are more than three affected property owners)**

Name LAURIE BROOKS & MATTHEW GUYETTE

Address 656 BINGHAM BROOK RD

CHARLOTTE, VT. 05445

Name ADAM HAUSMANN

Address 985 BINGHAM BROOK RD

CHARLOTTE, VT 05445

Name \_\_\_\_\_

Address \_\_\_\_\_

**Soil Profile Descriptions**  
**Testamentary Trust of Clark W. Hinsdale Jr. Property**  
**Brigham Brook Rd**  
**By Stephen Revell, CPG**  
**Licensed Class B Designer #178 & Senior Hydrogeologist**

**Test Pit #1 (TP-1)**

- |        |  |
|--------|--|
| 0-12"  | Brown fine sandy loam, loose, strong fine blocky structure, well drained                                 |
| 12-36" | Brown to yellow-brown stony fine sandy loam, loose to friable, moderate blocky structure, mottled at 12" |

**Test Pit #2 (TP-2)**

- |        |  |
|--------|--|
| 0-12"  | Brown fine sandy loam, loose, strong fine blocky structure, well drained                                 |
| 12-42" | Brown to yellow-brown stony fine sandy loam, loose to friable, moderate blocky structure, mottled at 12" |

**Test Pit #3 (TP-3)**

- |        |  |
|--------|--|
| 0-14"  | Brown fine sandy loam, loose, strong fine blocky structure, well drained                                 |
| 14-42" | Brown to yellow-brown stony fine sandy loam, loose to friable, moderate blocky structure, mottled at 14" |

**Test Pit #4 (TP-4)**

- |        |  |
|--------|--|
| 0-12"  | Brown fine sandy loam, loose, strong fine blocky structure, well drained                                 |
| 12-38" | Brown to yellow-brown stony fine sandy loam, loose to friable, moderate blocky structure, mottled at 12" |

**Hinsdale Trust  
Bingham Brook Road  
Charlotte, Vermont  
Percolation Test Results**

**All tests were performed on May 28, 2013 at a depth of 6" - 12"**

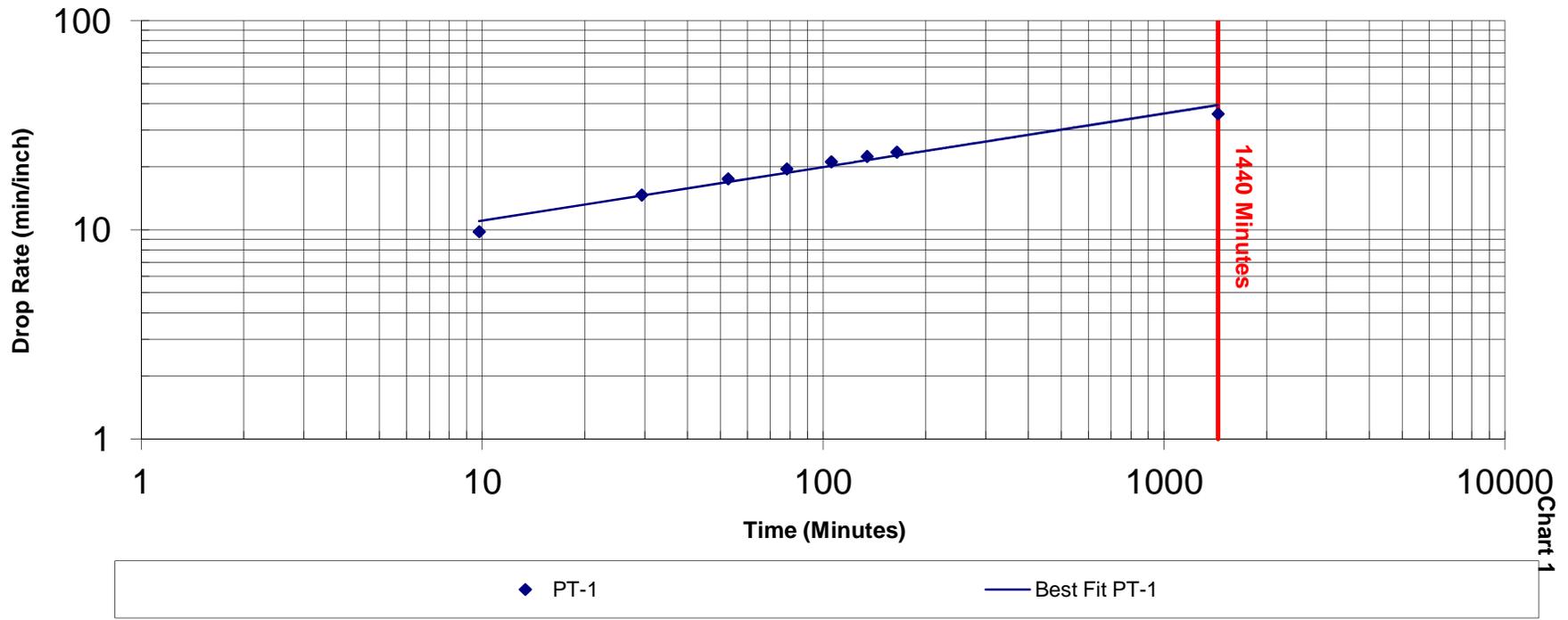
PT-1	Drop Time (min)	Total Drop Time (min)	Total Drop (inches)	Drop Rate (min/inch)
	9.8	9.8	1	9.8
	19.6	29.4	2	14.7
	23.3	52.6	3	17.5
	25.7	78.3	4	19.6
	27.4	105.7	5	21.1
	28.9	134.6	6	22.4
	30.0	164.6	7	23.5
	---	<b>1440.0</b>	---	<b>35.8</b>

**\*NOTE:**

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

**Table 1**

Hinsdale Trust  
Bingham Brook Road  
Charlotte, Vermont  
Percolation Test Results  
All tests were performed on May 28, 2013 at a depth of 6" - 12"



**Site Specific Effluent Mounding Analysis**  
**Testamentary Trust of Clark W. Hinsdale Jr. Property**  
**Bingham Brook Rd, 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 four-bedroom residence, 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 groundwater system.

Using the equation:

**Q= k·i·h·l**      Where: Q= Volume= 420 gallons/day = 56.1 ft<sup>3</sup>/day;  
k= Hydraulic Conductivity = 30 ft/day (approved k value for sandy loam with strong blocky structure);  
i= Gradient = 8.1% = 0.081 ft/ft;  
h= effluent mound = 0.50';  
l= 46.17 mound length.

When solving this equation for l, an mound length of 46.17' was calculated. Since evidence of a seasonal high groundwater system was identified at 12" or 1.00' with an induced mound of 0.50', 0.50 feet of unsaturated soil will remain. To maintain the required 3' separation to the induced mound, 3' - 0.50' or 2.50' of state approved mound sand is required beneath the application area.

PRESSURE DISTRIBUTION & MOUND DIMENSION DETAILS

CLIENT'S NAME: Congdon Mound  
 DATE: 6/20/2013 PERFORMED BY: S. Revell LAG Project #: 13044

Design Flow Rate	420	GPD
Width of Distribution Stone Bed/Trench	8.75	FEET
Length of Distribution Stone Bed/Trench	48	FEET
Thickness of Sand Beneath Distribution Stone Bed/Trench	2.5	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	30	MPI
Natural Ground Slope	8.1	PERCENT
Thickness of Sand on Upper Side of Level Area	3.17	FEET
Thickness of Sand on Lower Side of Level Area	4.04	FEET
Width of Level Area	10.75	FEET
Length of Level Area	50	FEET
Area of Distribution Stone Bed/Trench	420	SQUARE FT
Volume of Stone Required	10	CUBIC YARDS
Proposed Basal Area	1343	SQUARE FEET
Volume of Mound Sand Required	320.1	CUBIC YARDS
Number of Laterals	4	
Length of Each Lateral	22	FEET
Number of Orifices in the Manifold	0	
Number of Orifices in Each Lateral	6	
Distance Between Manifold and First Orifice	2	FEET
Distance Between Orifices (on center)	4	FEET
Distribution Area per Orifice	17.50	SQ. FT.
Design Pressure Head	5	FEET
Diameter of Orifices (enter as fraction)	0.188	INCHES
Elevation From Pump Intake to Laterals (0 if siphon)	23	FEET
Diameter of Force Main	2	INCHES
Length of Force Main	475	FEET
Length of Manifold to Lateral	2.375	FEET
Diameter of Manifold Pipe	2	INCH
Diameter of Lateral Pipe	2	INCH
Friction Loss in Force Main	4.79	FEET
Friction Loss in Manifold	0.01	FEET
Friction Loss in Section 1	0.00	FEET
Friction Loss in Entire Lateral	0.01	FEET
Discharge Rate at First Orifice	0.93	GPM
Discharge Rate at Last Orifice	0.93	GPM
Percent Difference in Flow Rate First to Last Orifice	0.04	PERCENT
Total Dynamic Head Loss	32.820	FEET
Total Distribution System Flow	22.24	GPM
Volume of Distribution System	14.36	GALLONS
Pump Capacity	22.24 GPM vs	32.820 FEET OF HEAD
Volume per Dose		105 GALLONS
On/Off Float Swing (1,000 gal. Tank)		3.5 INCHES

PRESSURE DISTRIBUTION & MOUND DIMENSION DETAILS

CLIENT'S NAME: Congdon Mound  
 DATE: 6/20/2013 PERFORMED BY: S. Revell LAG Project #: 13044

DIMENSIONS OF MOUND SYSTEM

Dimensions of Mound Sand

7.7 feet from level area to uphill sand toe	10.9 ft corner of level area to upper toe corner
10.75 ft wide level area	9.6 ft to side toe from upper edge of level area
8.75 ft wide stone bed/trench 48 ft long stone bed/trench	12.2 ft to side toe from lower edge of level area
50 ft long level area	22.9 ft corner of level area to lower toe corner
16.2 feet from level area to downhill sand toe	

Dimensions of Final Cover

10.1 feet from level area to uphill toe	14.3 ft corner of level area to upper fill toe
	12.6 ft to side toe from upper edge of level area
10.75 ft wide level area	
50 ft long level area	15.3 ft to side toe from lower edge of level area
	28.6 ft corner of level area to lower fill toe
20.2 feet from level area to downhill toe	

PLOW AREA LAYOUT MEASUREMENTS

Center of Bed/Trench to Downslope Toe	52.0 feet
End of Level Area @ Midpoint to Downslope Toe	32.6 feet
Center of Bed/Trench to Upslope Toe	38.4 feet
End of Level Area @ Midpoint to Upslope Toe	18.5 feet

# HYDROMATIC®

## SHEF50/100

### Submersible High Head Effluent Pumps

Applications:

- Septic Tank Effluent
- High Head Sump
- Dewatering

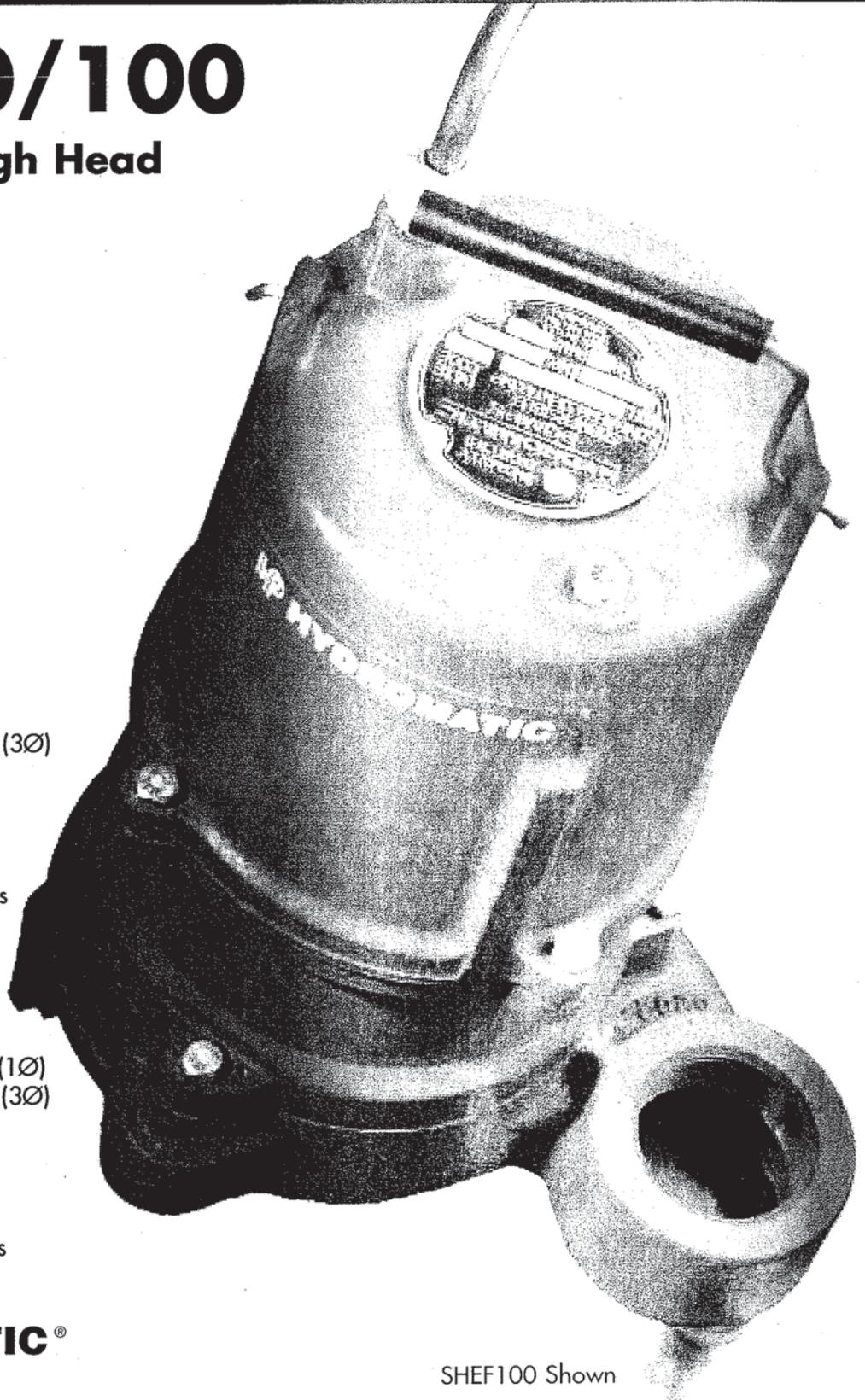


#### SHEF100 Features:

- 1 HP
- 208-230 voltage (1Ø)  
208-230/460, 575 voltage (3Ø)
- 2" Discharge
- 3/4" solids handling
- Capacities to 87 GPM
- Heads to 90 Feet
- Automatic or Manual Models

#### SHEF50 Features:

- 1/2 HP
- 115/208-230 dual voltage (1Ø)  
208-230/460, 575 voltage (3Ø)
- 2" Discharge
- 3/4" solids handling
- Capacities to 63 GPM
- Heads to 63 Feet
- Automatic or Manual Models



 **HYDROMATIC®**  
Pentair Pump Group

SHEF100 Shown

# SHEF50/100 Submersible Effluent Pumps

## Details

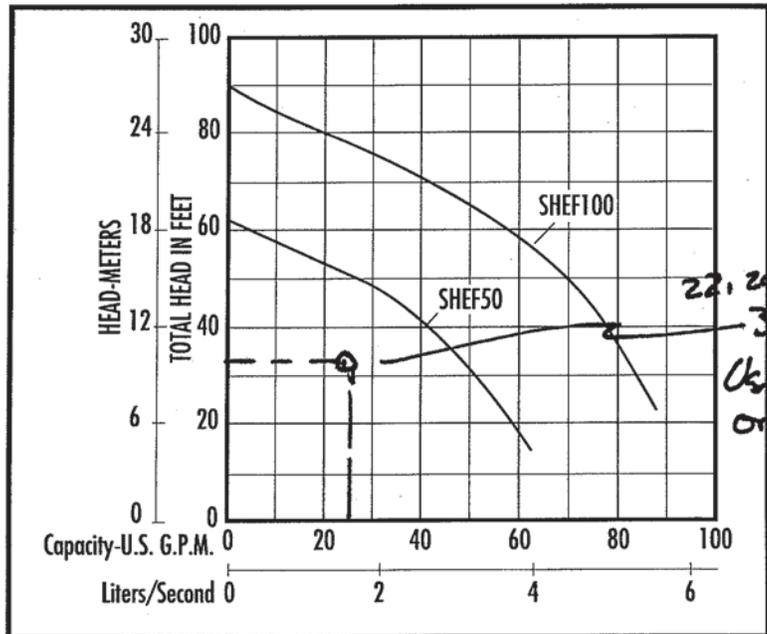
### Pump Characteristics

Pump/Motor Unit	Submersible				
Manual Models (50)	M1	M2	M3	M4	M5
Automatic Models	A1	A2	-	-	-
Horsepower	1/2				
Full Load Amps	15.0	7.6/7.1	3.2/3.1	1.6	1.2
Motor Type	Capacitor Start				
R.P.M.	3450				
Phase Ø	1 Ø		3 Ø		
Voltage	115	208-230	208-230	460	575
Manual Models (100)		M2	M3	M4	M5
Automatic Models		A2	-	-	-
Horsepower	1				
Full Load Amps	13.6/12.1	6.0/5.8	2.8	1.9	
Motor Type	Capacitor Start		3 Ø		
R.P.M.	3450				
Phase Ø	1 Ø		3 Ø		
Voltage	208-230	208-230	460	575	
Hertz	60				
Temperature	140°F Max Fluid Temp.				
NEMA Design	L		B		
Insulation	Class B				
Discharge Size	2" NPT std.				
Solids Handling	3/4"				
Unit Weight	58 lbs. (50)		65 lbs. (100)		
Power Cord	115V, 14/3, SJTW-A; 230V, 1ø, 16/3 SWT-A; 3ø, 16/4, STW-A, All cords 20' std. with 30' opt.				

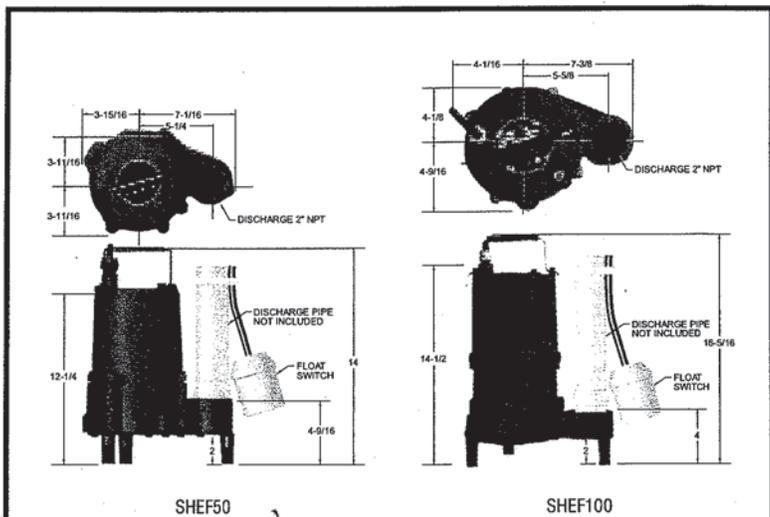
### Materials of Construction

Handle	Stainless Steel
Lubricating Oil	Dielectric Oil
Motor Housing	Cast Iron
Pump Casing	Cast Iron
Shaft	Stainless Steel
Mechanical Shaft Seal	Seal Faces: Carbon/Ceramic Seal Body: Brass Spring: Stainless Steel Bellows: Buna-N
Impeller	Engineered Thermoplastic
Upper Bearing	Single Row Ball Bearing
Lower Bearing	Single Row Ball Bearing
Bottom Plate	Single Row Ball Bearing
Fasteners	Stainless Steel
Legs	Engineered Thermoplastic

### Performance Data



### Dimensional Data



All dimensions in inches. Metric for international use. Component dimensions may vary  $\pm 1/8$  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.

**HYDROMATIC®**  
Pentair Pump Group

USA

1840 Boney Road Ashland, Ohio 44805  
Tel: 419-289-3042 Fax: 419-281-4087

www.hydomatic.com

—Your Authorized Local Distributor—

CANADA

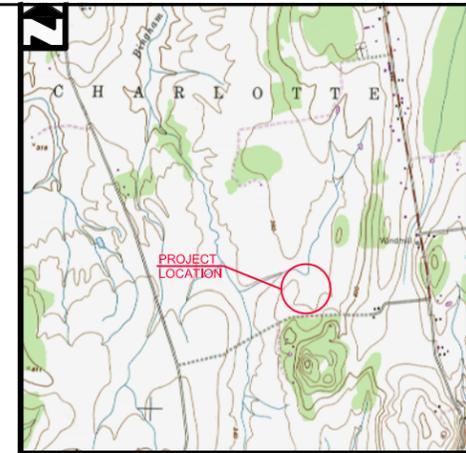
269 Trillium Drive Kitchener, Ontario, Canada N2G 4W5  
Tel: 519-896-2163 Fax: 519-896-6337

Item #: W-02-6370 12/99 10M



LEGEND	
--- 100 ---	EXISTING GROUND CONTOUR
— M — M —	PROPOSED WATER LINE
— S — S —	PROPOSED SANITARY SEWER
— — — —	EDGE OF PAVEMENT
— — — —	EDGE OF GRAVEL DRIVE
- - - - -	WELL ISOLATION ZONE
- - - - -	SEPTIC ISOLATION ZONE
— — — —	EXISTING PROPERTY LINE
○	IRON PIPE FOUND
○	TEST PIT/PERCOLATION TEST
○	PROPOSED WELL

TESTAMENTARY TRUST OF CLARK W. HINSDALE, JR.  
± 57.08 ACRES  
Vol. 183 Pgs. 657-675  
Vol. 84 Pgs. 239-240  
Vol. 35 Pg. 88  
Map Slide 37



GENERAL LOCATION MAP

SCALE: 1"=2,000'

LANDS OF LAURIE BROOKS & MATTHEW GUYETTE

DISPOSAL AREA ISOLATION (OVERSHADOWING) ZONE  
THERE ARE NO WATER SUPPLY WELLS, ON-SITE OR OFF-SITE, WITHIN THIS ISOLATION ZONE

50 FOOT WIDE WETLAND BUFFER

DRAINAGE SWALE

WELL ISOLATION ZONE  
THERE ARE NO WASTEWATER DISPOSAL SYSTEMS, ON-SITE OR OFF-SITE, WITHIN THIS ISOLATION ZONE

PROPOSED 1"Ø CLASS 160 POLYETHYLENE WATER SERVICE LINE

200' WELL ISOLATION ZONE

4"Ø SOLID PVC BUILDING SEWER 10' MIN. FROM BUILDING (SLOPE = 1/4" / FT)

HOUSE SITE

CAR PORT

PROPOSED 1,000 GAL. CONCRETE SEPTIC TANK WITH EFFLUENT FILTER & WATER TIGHT ACCESS RISERS (PLACED LEVEL)

PROPOSED 4" SDR35 PVC PIPE, 5' MINIMUM (PLACED LEVEL)

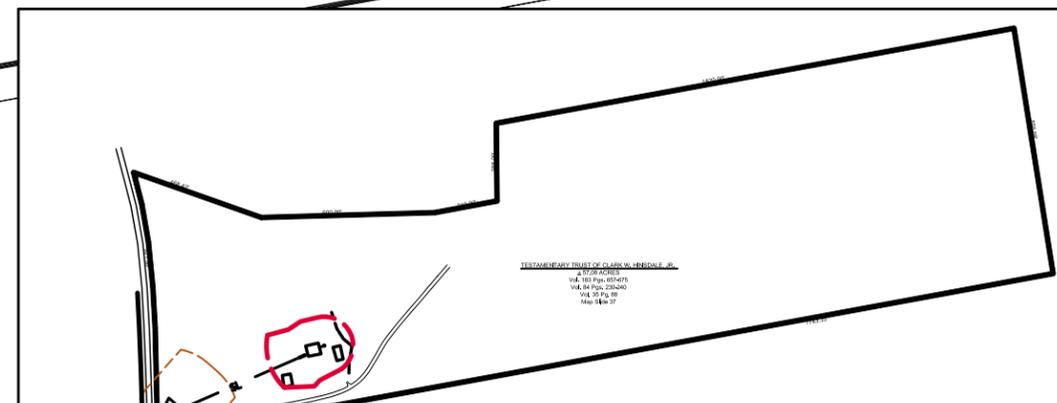
PROPOSED 1,000 GALLON PRECAST PUMP STATION WITH EFFLUENT PUMP CAPABLE OF 22.24 GPM vs. 32.82' TDH (PLACED LEVEL)

SHOP SITE

PROPOSED 2" SDR26 PVC FORCE MAIN

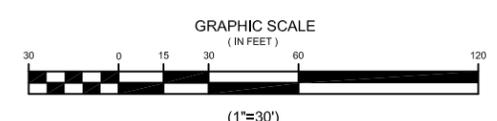
PROPOSED 8.75' x 48.0' MOUND TYPE DISPOSAL SYSTEM

LANDS OF ADAM HAUSMANN



OVERALL PROPERTY DIMENSIONS

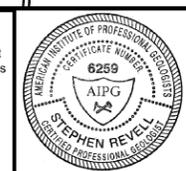
SCALE: 1"=200'



THE CONTRACTOR SHALL NOTIFY "DIGSAFE" AT 1-888-DIG-SAFE PRIOR TO ANY EXCAVATION.

"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."

Stephen Revell, CPG  
Licensed Class B Designer #178

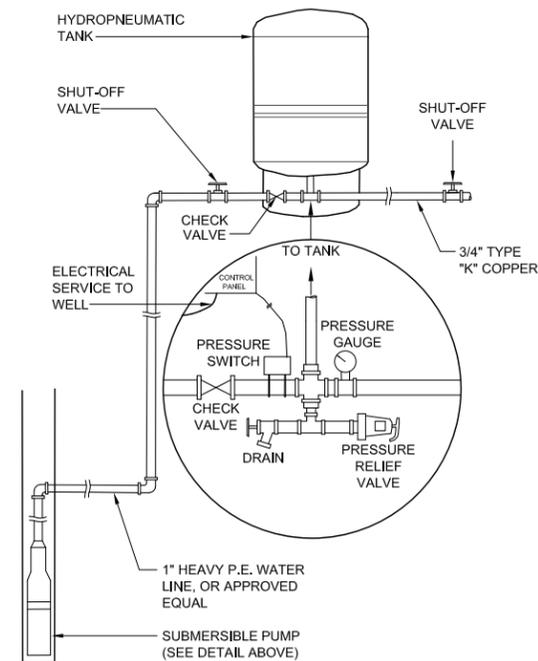


Testamentary Trust of Clark W. Hinsdale, Jr.  
Bingham Brook Road  
Charlotte, Vermont

Site Development Plan  
with Proposed Water &  
Wastewater Disposal System

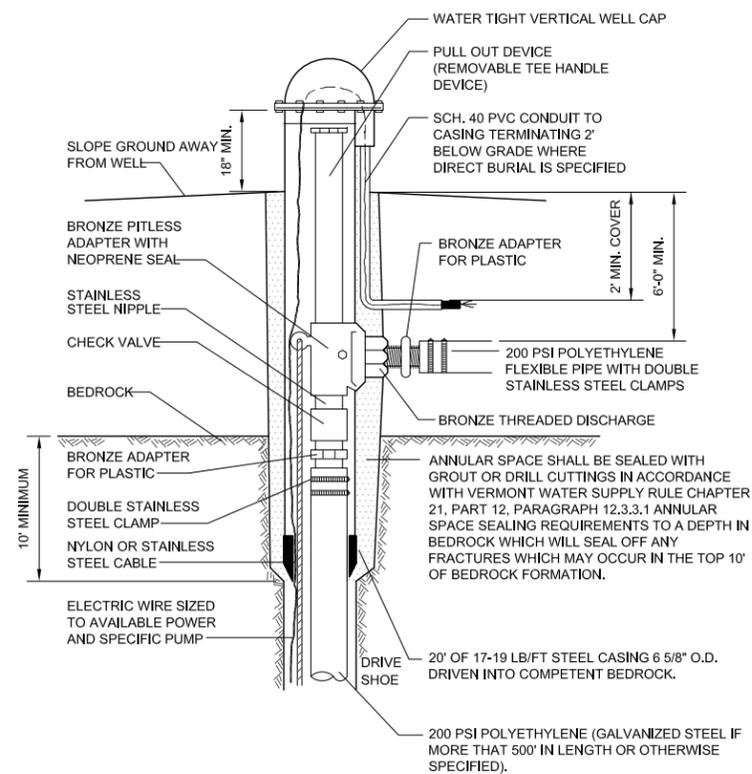
LAG PROJECT #	13044
DATE	June 20, 2013
SURVEYORS	Shurt Morrow
DRAWN BY	TAM
FIGURE	1





**TYPICAL INDIVIDUAL WATER SYSTEM**

NOT TO SCALE

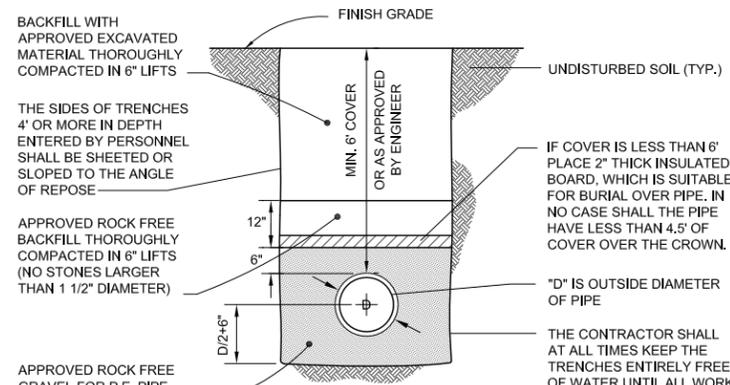


**TYPICAL RESIDENTIAL DRILLED WELL**

NOT TO SCALE

**INDIVIDUAL DRILLED WELL NOTE:**

1. THE SUBMERSIBLE PUMP MODEL AND DEPTH OF SETTING TO BE SPECIFIED BY THE ENGINEER AFTER THE WELL IS DRILLED AND YIELD TESTED (PIPE AND ADAPTOR SIZE TO SUIT ALSO).



**TYPICAL WATER TRENCH**

NOT TO SCALE

**INDIVIDUAL DRILLED WELL DESIGN DATA**

1. THE DRILLED WELL(S) CONSTRUCTION, LOCATION, DISINFECTION, AND TESTING SHALL BE IN ACCORDANCE WITH THE STATE OF VERMONT - WATER SUPPLY RULES.
2. THE BASIS OF DESIGN FOR EACH DRILLED WELL IS:
  - A. AVERAGE DAY DEMAND: 140 GPD X 3 BEDROOMS = 420 GPD.
  - B. MAXIMUM DAILY DEMAND: (140 GPD X 3 BEDROOMS)/720 MIN/DAY = 0.58 GPM (3 BEDROOM)
  - C. OPERATING PRESSURE RANGE: 40-60 PSI AT PRESSURE SWITCH
  - D. INSTANTANEOUS PEAK DEMAND = 5 GPM.

POTENTIAL SOURCE OF CONTAMINATION AND OTHER SITING LIMITATIONS	SEPARATION DISTANCE
Roadway, Parking Lot (outer edge of shoulder)	25 Feet
Driveway (Fewer than 3 residences)	15 Feet
Sewage System Disposal Fields	(See a.)
Subsurface Wastewater Piping and Related Tanks	50 Feet
Property Line	10 Feet (See b.)
Limit of Herbicide Application on utility R.O.W.	100 Feet (See c.)
Surface Water	10 Feet (See d.)
Buildings	10 Feet
Concentrated Livestock Holding Areas and Manure Storage Systems	200 Feet
Hazardous or Solid Waste Disposal Site	(See f.)
Non-sewage Wastewater Disposal Fields	(See f.)

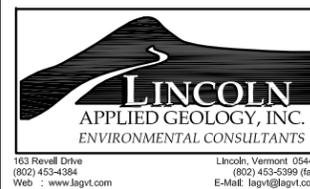
**DRILLED WELL ISOLATION DISTANCES**

- a. See Table a11-2.
- b. Increased to 50' when adjacent to agricultural cropland.
- c. Applies to rights-of-way (ROW) where herbicides have been applied in the past 12 months or may be applied in the future. This distance may be increased to 200' depending on the active ingredient in the herbicide according to Vermont Regulations for Control of Pesticides.
- d. For Public water sources, see appendix A, Part 3, Subpart 3.4.
- e. Water sources shall not be located in a flood way.
- f. If a water source is potentially downgradient of a source of contamination, then the Secretary shall apply criteria in Appendix A Subpart 11.4.2.2.

NOT TO SCALE

"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."

Stephen Revell, CPG Date  
Licensed Class B Designer #178



**Testamentary Trust of Clark W. Hinsdale, Jr.**  
Bingham Brook Road  
Charlotte, Vermont

**Water System Design Details**

LAG PROJECT #: 13044  
DATE: June 20, 2013  
SURVEYORS: Stuart Morrow  
DRAWN BY: TAM  
FIGURE: