

Mr. Spencer Harris, Septic Consultant
Ms. Jeannine McCrumb, Septic Officer
Town of Charlotte
P.O. Box 119
Charlotte, VT 05445

RE: Bushey Property, 648 Bingham Brook Rd, Charlotte, VT, Lot 1/Lot 2 Subdivision
of an Improved Property

Dear Jeannine & Spencer:

Jason and Jensa Bushey are moving forward with the subdivision of their improved property. Their +/- 10.5 acre improved property will be subdivided into Lot 1, a +/- 7.68 acre property improved with a 4 bedroom residence and Lot 2, a +/- 2.67 acre unimproved 4 bedroom property. Both lots are or will be served by on-site water and wastewater systems. The proposed Lot 1/Lot 2 subdivision is shown on Figure 1.

Proposed Lot 2 was evaluated with test pits on May 13, 2013 and with a percolation test and a site topographic survey on May 28, 2013. The Site Plan is shown on Figure 1 and the soil profile descriptions and percolation test are attached which show permeable fine sandy loam soil that is well drained to a minimum depth of 18". Based on the soil profile, the evaluated area is suitable for a performance based mound disposal system. To define the dimension and size of the mound, a site specific effluent mounding analysis was conducted for a 4 bedroom residence. The analysis is attached which indicates that a 55' long mound application area is required with 2' of approved mound sand. The pressure distribution and mound dimension details are attached that shown a 9' x 55' (495 ft²) bed typed application area based on a 1.0 gpd /ft² application rate with 1441 ft² of basal area compared to the required 661 ft² based on a basal application rate of 0.74 gpd/ft². The pressure distribution details indicate a 20.1 gpm versus 22.6' total dynamic head effluent pump is required. An acceptable pump specification is attached that meets the flow and total head requirements. The proposed wastewater system details are shown on Figure 2. The isolation zone for the mound is also shown which very minimally over shadows the Bausch property to the west.

The location of the proposed well is shown on Figure 1 along with its isolation zone and the water system details are shown on Figure 3. The well will be a drilled bedrock well and the water system will be composed of a standard residential water system with a submersible pump 30/50 psi pressure switch and hydropneumatic tank. The 100' x 200' well isolation zone is shown that is totally contained on the Bushey property.

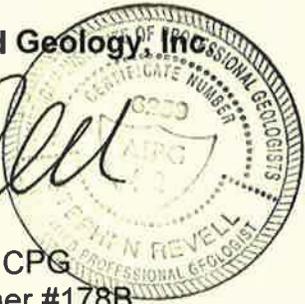
I believe the Bushey's Lot 2 application is complete with a signed application and ANR Form 4, a \$500.00 permit fee payable to the Town of Charlotte, 2 copies of Figure 1, 2

and 3, 11' x 17' copy of Figure 1, 2 and 3, 1 copy of this letter and the attachments and 1 CD of the complete application. The Bushey's and I look forward to your satisfactory review and issuance of the requested permit.

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

Very truly yours,

Lincoln Applied Geology, Inc



Stephen Revell, CPG
Licensed Designer #178B
Senior Hydrogeologist

SR/ih

Enclosure

CC: Jason & Jensa Bushey

F:\CLIENTS\2013\13087\Submittal Letter of Lot 1 & Lot 2 Subdivision.docx



Lincoln Applied Geology, Inc.
Environmental Consultants

163 Revell Drive Lincoln, VT 05443 (802) 453-4384 Fax (802) 453-5399 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 Bushey		2 First Name (and Middle Initial if appropriate) Jason & Jensa	
3 Mailing Address Line 1 P.O. Box 10		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 777-8799

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	648 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 (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) Bushey's Subdivision	2 Total Acreage of Property 10.5
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3 Business Name (if applicable)

4 Detailed Project Description
The Bushey's are proposing to subdivide their improved 10.5 acre property into Lot 1, the 7.68 acre improved 4 bedroom residential property and Lot 2, a proposed 2.67 acre 4 bedroom residential property served by on-site water and wastewater 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: 90%;" type="text" value="Spencer Harris"/>	(b) Date of Visit (m/d/yyyy) <input style="width: 90%;" type="text" value="several vists"/>
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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: 90%;" type="text"/>	<input style="width: 90%;" type="text"/>
<input 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	00021-0648	209	253

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 for Lot 1 & Lot 2	9/15/2014	
X 2	Wastewater System Details	9/15/2014	
X 3	Water System Details	9/15/2014	

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	10.5	Single Family 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	12/31/2013	WW-138-1314	<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	7.68	No Change

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 type="checkbox"/>	No Change

Add Another Building

Remove This Lot

1 Lot# 2	2 Lot Size (acres) 2.67	3 Proposed Use of the Lot Single Family Residential
4 Is the lot being created as part of a subdivision?		<input checked="" type="radio"/> Yes <input type="radio"/> No
5 Are you requesting that the Blood, Marriage, or Civil Union special fee be applied to this lot?		<input type="radio"/> Yes <input checked="" type="radio"/> 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?
X 1		<input checked="" type="checkbox"/>
(d) Proposed Use 4 Bedroom Residence		
Add Another Building		
Remove This Lot		
Add Another Lot		

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?	<input checked="" type="radio"/> Yes <input type="radio"/> 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)?	<input type="radio"/> Yes <input checked="" type="radio"/> No
3 Is there an existing connection to a water supply or water service line for this project?	<input checked="" type="radio"/> Yes <input type="radio"/> No
<i>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.</i>	
Section B - General Water Supply Questions	
1 Does this project involve a failed water supply?	<input type="radio"/> Yes <input checked="" type="radio"/> No
2 Will any of the proposed water sources serve 25 or more people or have 15 or more service connections?	<input type="radio"/> Yes <input checked="" type="radio"/> No
<i>If Yes, the applicant must contact the Drinking Water & Groundwater Protection Division at (802) 241-3400 for source, construction and an operating permit.</i>	
3 Are any of the existing or proposed water sources located within a special flood hazard area?	<input type="radio"/> Yes <input checked="" type="radio"/> No
4 Are any of the existing or proposed water sources located within a floodway?	<input type="radio"/> Yes <input checked="" type="radio"/> 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?	<input type="radio"/> Yes <input checked="" type="radio"/> No
<i>If Yes, please submit additional information on the site. The Waste Management Division can be reached at (802) 241-3888.</i>	
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?	<input type="radio"/> Yes <input checked="" type="radio"/> No
<i>If Yes, please submit a copy of the approval letter from the Drinking Water & Groundwater Protection Division.</i>	
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?	<input type="radio"/> Yes <input checked="" type="radio"/> No
<i>If Yes, please submit additional information regarding the constituent(s) that exceeds the standards and plans, details, and specifications of the treatment device.</i>	
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?	<input type="radio"/> Yes <input checked="" type="radio"/> No
<i>If in areas of known interference issues, contact the Drinking Water & Groundwater Protection Division at (802) 241-3400.</i>	
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 <input style="width:95%;" type="text" value="Lot 1 Well"/>	2 Water Supply Owner (if not Applicant) <input style="width:95%;" type="text"/>
3 Water Source Type <input style="width:95%;" type="text" value="Non-Public Drilled Bedrock Well"/>	4 Type of Change to Supply <input style="width:95%;" type="text" value="No Change"/>

5 Lots/Buildings Served by this Water Supply System

	Design Flows (Gallons Per Day)						(g) Rule or Meter Based Flows
	(a) Lot#	(b) Building ID	(c) Type of Change to the Building's Supply	(d) Existing	(e) Change	(f) Total	
X	<input style="width: 40px;" type="text" value="1"/>	<input style="width: 40px;" type="text" value="1"/>	<input style="width: 150px;" type="text" value="No Change"/>	<input style="width: 40px;" type="text" value="490"/>	<input style="width: 40px;" type="text" value="0"/>	<input style="width: 40px;" type="text" value="490"/>	<input style="width: 60px;" type="text" value="Rule-based"/>
<input style="width: 150px;" type="button" value="Add Another Lot/Building Served by this Supply"/>				<input style="width: 40px;" type="text" value="490"/>	<input style="width: 40px;" type="text" value="0"/>	<input style="width: 40px;" type="text" value="490"/>	

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

1 Water Supply Name/Identifier <input style="width:95%;" type="text" value="Lot 2 Well"/>	2 Water Supply Owner (if not Applicant) <input style="width:95%;" type="text"/>
3 Water Source Type <input style="width:95%;" type="text" value="Non-Public Drilled Bedrock Well"/>	4 Type of Change to Supply <input style="width:95%;" type="text" value="New Connection or Increased Flow"/>

5 Lots/Buildings Served by this Water Supply System

	Design Flows (Gallons Per Day)						(g) Rule or Meter Based Flows
	(a) Lot#	(b) Building ID	(c) Type of Change to the Building's Supply	(d) Existing	(e) Change	(f) Total	
X	<input style="width: 40px;" type="text" value="2"/>	<input style="width: 40px;" type="text" value="1"/>	<input style="width: 150px;" type="text" value="Connection to New System"/>	<input style="width: 40px;" type="text" value="0"/>	<input style="width: 40px;" type="text" value="490"/>	<input style="width: 40px;" type="text" value="490"/>	<input style="width: 60px;" type="text" value="Rule-based"/>
<input style="width: 150px;" type="button" value="Add Another Lot/Building Served by this Supply"/>				<input style="width: 40px;" type="text" value="0"/>	<input style="width: 40px;" type="text" value="490"/>	<input style="width: 40px;" type="text" value="490"/>	

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.

	Design Flows (Gallons Per Day)			
	(a) Water Supply Name/Identifier	(b) Existing	(c) Change	(d) Total
X	<input style="width: 450px;" type="text" value="Lot 1 Well"/>	<input style="width: 40px;" type="text" value="490"/>	<input style="width: 40px;" type="text" value="0"/>	<input style="width: 40px;" type="text" value="490"/>

X	Lot 2 Well	0	490	490
	Add Another Water Supply	2	3	4
		490	490	980

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 <input style="width: 95%; height: 20px;" type="text" value="Lot 1 Mound"/>	2 Wastewater Disposal System Owner (if not Applicant) <input style="width: 95%; height: 20px;" type="text"/>
3 Wastewater Disposal System Type <input style="width: 95%; height: 20px;" type="text" value="Mound"/>	4 Type of Change to System <input style="width: 95%; height: 20px;" type="text" value="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	490	0	0	490	Rule-based
				6	7	8	9	
				490	0	0	490	

Add Another Lot/Building Served by this System

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 <input type="text" value="Lot 2 Mound"/>	2 Wastewater Disposal System Owner (if not Applicant) <input type="text"/>
3 Wastewater Disposal System Type <input type="text" value="Mound"/>	4 Type of Change to System <input type="text" value="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 2	1	Connection to New System	0	490	0	490	Rule-based
Add Another Lot/Building Served by this System			6	7	8	9	
			0	490	0	490	

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 Lot 1 Mound	490	0	0	490	
X Lot 2 Mound	0	490	0	490	
Add Another Wastewater System	2 490	3 490	4 0	5 980	

Part VII Application Fees

1 Fee Amount

2 Fee Calculation Details

Single lot subdivision of water/wastewater permitting = \$500

Part VIII Designer Certification & Copyright License

Section A - Certifying Designer 1 Certification & Copyright License

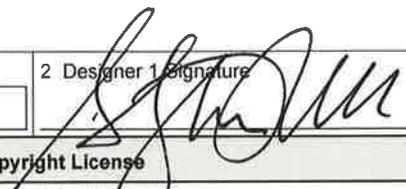
"I hereby certify that in the exercise of my reasonable professional judgment, the design-related information submitted with this application is true and correct, and that the design included in this application for a permit complies with the Vermont Wastewater System and Potable Water Supply Rules and 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	2 Designer 1 Signature	3 Signature Date
Stephen Revell		9/15/14

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	3 Applicant Signature	4 Signature Date
Jason Bushey		
<input checked="" type="checkbox"/> 2 Print Applicant Name	3 Applicant Signature	4 Signature Date
Jensa Bushey		

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) Jason Bushey

Property Address or Property Tax ID # 648 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 Marion Bausch (Life Estate)
Charles E. Nicholas McDougal

Address 556 Bingham Brook Rd
Charlotte, VT 05445

Name _____

Address _____

Name _____

Address _____

ANR FORM 1

Notice of Overshadowing at the time of Filing an Application for a Wastewater System and Potable Water Supply Permit

To MARION, BAUSCH (LIFE ESTATE)
CHARLES NICHOLAS MCDONALD (Overshadowed Landowner):

I am currently preparing an application for a State of Vermont Wastewater System and Potable Water Supply Permit. My project proposes a water supply and/or wastewater (septic) system designed to comply with the technical standards of the Wastewater System and Potable Water Supply Rules (Rules). The Rules include required isolation distances around the supply or system. These isolation distances are designed to prevent wastewater systems and water supplies from being built too close to each other in order to protect drinking water quality and human health.

The isolation distances for my proposed water supply and/or wastewater system extend onto your property. The extension of these isolation distances is often referred to as an "overshadowing" of property.

In 2010, the legislature determined that people who own property that will be "overshadowed" by the required isolation distance be notified of that fact. This form is being sent to you in order to provide that notice. Attached to this form is a copy of a plan that shows what I propose to build and the isolation distance(s) that extend onto your property.

Please consider the following facts to help you understand what this actually means to you:

1. Under the existing Rules, an evaluation of the horizontal relationship between existing wastewater systems and potable water supplies and newly proposed wastewater systems and potable water supplies is required during the review of any application. Therefore, the horizontal isolation distance between newly proposed wastewater systems and potable water supplies and the location of your current water supply and wastewater system will be evaluated and determined to comply with the Rules as part of the permit process.
2. A permit application review does not determine if the proposed water supply or wastewater system may affect or restrict potential future development of a water supply or wastewater system on your property. These possible restrictions exist because of the required isolation distances between potable water supplies and wastewater systems.
3. It is important to note that in many instances overshadowing may have no effect on the ability to develop adjoining properties. Whether there is actually any effect is a very site specific determination that depends on a number of factors. For example, the fact that an isolation distance from a wastewater system may prohibit where a well could be drilled may have no real effect because that portion of the neighboring property that is overshadowed by the wastewater system is too steep to be accessed by a well drilling rig. Another example is where a well isolation distance means that no wastewater system could be placed in a certain area but that area is a wetland that prevents the construction of a wastewater system.

ANR FORM 1
Notice of Overshadowing

4. When considering potential effects on your property, you should be aware that you may drill a well within the identified well isolation zone and you may build a wastewater systems in the identified septic isolation zones provided the well or wastewater system complies with the technical standards of the Rules. What may not be allowed without providing additional technical information is putting a wastewater system in a well isolation zone and putting a well in a wastewater system isolation zone.

5. The water supply and wastewater system isolation zones only restrict the construction of water supplies and wastewater systems. Construction of other things such as houses, garages, and driveways may be in the isolation zones as allowed by the Rules.

6. This notification requirement did not start until 2010 and the state permit program has been in place since 1969 so it is possible that there are already water supplies or wastewater systems that "overshadow" your property or that your own wastewater system and/or water supply "overshadows" your neighbor's property.

7. The Legislature created the notification requirement so that neighbors have the opportunity to discuss the possible effects on future development and potentially resolve them before a well is drilled or a septic system is built. Therefore you are getting this notice before the permit application is filed so that you may consider having those discussions.

8. VERY IMPORTANT: Although the legislature has required notification to potentially affected landowners, the legislature did not give the Agency of Natural Resources the authority to deny a permit application based on isolation zones that may "overshadow" your property.

Please contact me if you have any questions.

Sincerely,

Name of Applicant Jason Bushey

Address P.O. Box 10
Charlotte, VT 05445

Phone Number 777-8799 or CALL STEVE REVELL (Designer) 349-8542

8/24/12 Last Revised 9/11/12 (To Comply with Act 145 and Act 117)

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Postage	\$	\$1.40
Certified Fee		\$3.30
Return Receipt Fee (Endorsement Required)		\$0.00
Restricted Delivery Fee (Endorsement Required)		\$0.00
Total Postage & Fees	\$	\$4.70

0527

02

Postmark
Here

09/15/2014

Sent To

Marion Bausch (Life Estate) Charles Nicholas Bausch

Street, Apt. No.,
or PO Box No.

556 Bingham Brook Rd.

City, State, ZIP

Charlotte, VT 05445

PS Form 3800, August 2006

See Reverse for Instructions

**Bushey Property
Lot 2
Soil Profile Descriptions
May 13, 2013
By Stephen Revell, CPG
Licensed Designer #178B
Senior Hydrogeologist
With Spencer Harris in Attendance**

Test Pit #1 (TP-1)

- | | |
|--------|---|
| 0-10" | Brown fine sandy loam, loose, strong fine blocky structure, well drained |
| 10-18" | Red-brown sandy loam, loose to friable, strong fine blocky, well drained |
| 18-48" | Gray-tan stony fine sandy loam, friable, weak blocky, redoximorphic features (redox) at 18" |

Test Pit #2 (TP-2)

- | | |
|--------|---|
| 0-10" | Brown fine sandy loam, loose, strong fine blocky structure, well drained |
| 10-19" | Red-brown sandy loam, loose to friable, strong fine blocky, well drained |
| 19-42" | Gray-tan stony fine sandy loam, friable, weak blocky, redoximorphic features (redox) at 19" |

Test Pit #3 (TP-3)

- | | |
|--------|---|
| 0-8" | Brown fine sandy loam, loose, strong fine blocky structure, well drained |
| 8-18" | Red-brown sandy loam, loose to friable, strong fine blocky, well drained |
| 18-40" | Gray-tan stony fine sandy loam, friable, weak blocky, redoximorphic features (redox) at 18" |



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Environmental Consultants

Test Pit #4 (TP-4)

- 0-10" Brown fine sandy loam, loose, strong fine blocky structure, well drained
- 10-20" Red-brown sandy loam, loose to friable, strong fine blocky, well drained, redoximorphic features (redox) at 19"
- 20-38" Gray-tan stony fine sandy loam, friable, weak blocky

Test Pit #5 (TP-5)

- 0-8" Brown fine sandy loam, loose, strong fine blocky structure, well drained
- 8-20" Red-brown sandy loam, loose to friable, strong fine blocky, well drained, redoximorphic features (redox) at 18"
- 20-44" Gray-tan stony fine sandy loam, friable, weak blocky

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Lincoln Applied Geology, Inc.
Environmental Consultants

163 Revell Drive Lincoln, VT 05443 (802) 453-4384 Fax (802) 453-5399 www.lagvt.com

Bushey Lot 2 Property
Bingham Brook Road
Charlotte, Vermont
Percolation Test Results
All tests were performed on May 28, 2014 at a depth of 18" - 24"

PT-1	Drop Time (min)	Total Drop Time (min)	Total Drop (inches)	Drop Rate (min/inch)
	7.1	7.1	1	7.1
	12.2	19.3	2	9.7
	15.8	35.1	3	11.7
	17.9	53.0	4	13.3
	19.6	72.6	5	14.5
	22.8	95.4	6	15.9
	24.3	119.7	7	17.1
	---	1440.0	---	34.0

*NOTE:
 Drop time includes fill time for each of the seven runs.

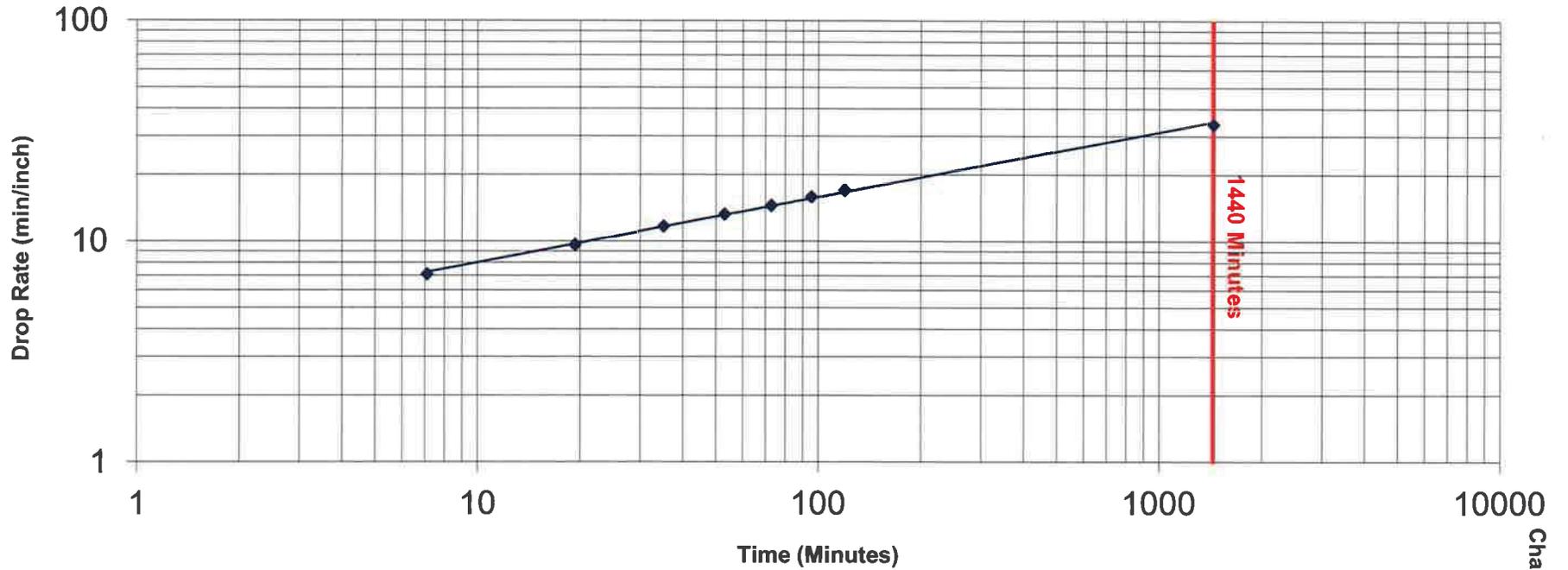
Bushey Lot 2 Property

Bingham Brook Road

Charlotte, Vermont

Percolation Test Results

All tests were performed on May 28, 2014 at a depth of 18" - 24"



◆ PT-1

— Best Fit PT-1

Chart 1

**Site Specific Effluent Mounding Analysis
Bushey Lot 2 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 ground water system.

Using the equation:

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

Where: Q= Volume= 490 gallons/ day = 65.5 ft³/ day;
k= Hydraulic Conductivity = 30 ft./ day (approved k value for fine sandy loam with strong blocky structure);
i= Gradient = 8% = 0.08 ft./ ft.;
h= effluent mound height in feet = 0.5'
l= solve for mound length = 55'

When solving this equation for l, an effluent mound of 0.50' was used. Since evidence of a seasonal high ground water system was identified at 18" or 1.50' with an induced mound of 0.50', 1.00' feet of unsaturated soil will remain. To maintain the required 3' separation to the induced mound, 3' - 1.00' or 2.00' of state approved mound sand is required beneath the application area.

F:\CLIENTS\2013\13087\Site Specific Effluent Mounding Analysis for Lot 2.doc



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PRESSURE DISTRIBUTION & MOUND DIMENSION DETAILS

CLIENT'S NAME: Bushey Lot 2 Mound
 DATE: 9/14/2014 PERFORMED BY: S. Revell LAG Project #: 13087

Design Flow Rate		490 GPD
Width of Distribution Stone Bed/Trench		9 FEET
Length of Distribution Stone Bed/Trench		55 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		40 MPI
Natural Ground Slope		8 PERCENT
Thickness of Sand on Upper Side of Level Area		2.67 FEET
Thickness of Sand on Lower Side of Level Area		3.55 FEET
Width of Level Area		11 FEET
Length of Level Area		57 FEET
Area of Distribution Stone Bed/Trench		495 SQUARE FT
Volume of Stone Required		11 CUBIC YARDS
Proposed Basal Area		1441 SQUARE FEET
Volume of Mound Sand Required		269.5 CUBIC YARDS
Number of Laterals		4
Length of Each Lateral		26 FEET
Number of Orifices in the Manifold		0
Number of Orifices in Each Lateral		7
Distance Between Manifold and First Orifice		2 FEET
Distance Between Orifices (on center)		4 FEET
Distribution Area per Orifice		17.68 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)		15 FEET
Diameter of Force Main		1.5 INCHES
Length of Force Main		130 FEET
Length of Manifold to Lateral		0 FEET
Diameter of Manifold Pipe		1.5 INCH
Diameter of Lateral Pipe		1.5 INCH
Friction Loss in Force Main		4.51 FEET
Friction Loss in Manifold		0.00 FEET
Friction Loss in Section 1		0.00 FEET
Friction Loss in Entire Lateral		0.02 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		0.27 PERCENT
Total Dynamic Head Loss		22.597 FEET
Total Distribution System Flow		20.10 GPM
Volume of Distribution System		9.55 GALLONS
Pump Capacity	20.10 GPM vs	22.597 FEET OF HEAD
Volume per Dose		120 GALLONS
On/Off Float Swing (1,000 gal. Tank)		4.0 INCHES

PRESSURE DISTRIBUTION & MOUND DIMENSION DETAILS

CLIENT'S NAME: Bushey Lot 2 Mound
 DATE: 9/14/2014 PERFORMED BY: S. Revell LAG Project #: 13087

DIMENSIONS OF MOUND SYSTEM

Dimensions of Mound Sand

6.5 feet from level area to uphill sand toe	9.2 ft corner of level area to upper toe corner
11 ft wide level area	8.1 ft to side toe from upper edge of level area
9 ft wide stone bed/trench	
55 ft long stone bed/trench	10.8 ft to side toe from lower edge of level area
57 ft long level area	
14.2 feet from level area to downhill sand toe	20.1 ft corner of level area to lower toe corner

Dimensions of Final Cover

9.0 feet from level area to uphill toe	12.7 ft corner of level area to upper fill toe
	11.1 ft to side toe from upper edge of level area
11 ft wide level area	
57 ft long level area	
	13.8 ft to side toe from lower edge of level area
	25.7 ft corner of level area to lower fill toe
18.2 feet from level area to downhill toe	

PLOW AREA LAYOUT MEASUREMENTS

Center of Bed/Trench to Downslope Toe	52.4 feet
End of Level Area @ Midpoint to Downslope Toe	29.9 feet
Center of Bed/Trench to Upslope Toe	40.1 feet
End of Level Area @ Midpoint to Upslope Toe	17.0 feet

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Submersible High Head Effluent Pump

Applications

- Septic Tank Effluent
- High Head Sump
- Dewatering



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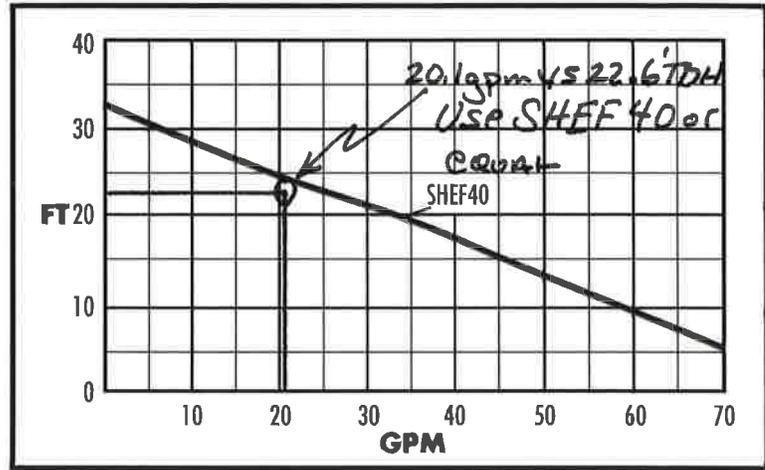
SHEF40 - Submersible Effluent Pump

DETAILS

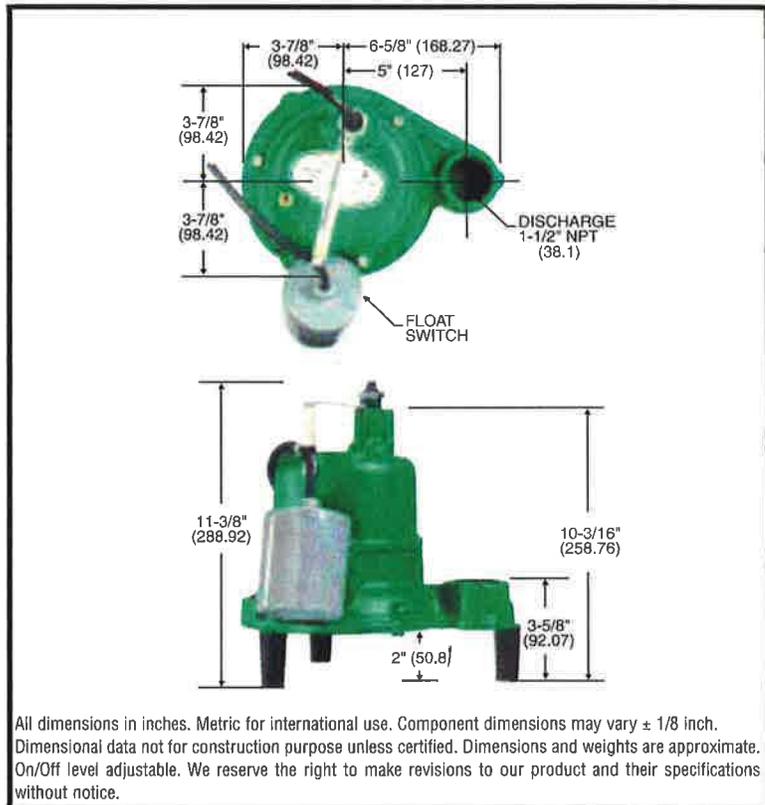
Pump Characteristics

Pump/Motor Unit	Submersible	
Manual Models	SHEF40M1	SHEF40M2
Automatic Models	SHEF40A1	SHEF40A2
Horsepower	4/10	
Full Load Amps	12	6.5
Motor Type	Shaded Pole (4 Pole)	
R.P.M.	1550	
Phase	1Ø	
Voltage	115	230
Hertz	60	
Temperature	120° F Max. Fluid Temp.	
NEMA Design	A	
Insulation	Class A	
Discharge Size	1 1/2" NPT	
Solids Handling	3/4"	
Weight	28 lbs.	
Power Cord	18/3, SJTW, 20' std. (30' optional)	

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.

Materials of Construction

Handle	Stainless Steel
Lubricating Oil	Dielectric Oil
Motor Housing	Cast Iron
Pump Casing	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	Bronze Sleeve Bearing
Lower Bearing	Single Row Ball Bearing
Bottom Plate	Polyester Coated Steel
Fasteners	Stainless Steel
Legs	Engineered Thermoplastic



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