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April 2, 2015

Town of Charlotte
Planning and Zoning Department
Attn: Jeannine McCrumb
159 Ferry Road
Charlotte, Vermont 05445

Subject: Susan R. Smith, Two-Lot Subdivision, 5166 Lake Road, Charlotte, Vermont –Wastewater Disposal System Design and Permit Application

Dear Jeannine:

Enclosed you will find two (2) copies of the Susan R. Smith full size design drawings, two (2) copies of the 11" x 17" design drawings, electronic copies of the design drawings in PDF format, and the required supporting documents (paper and electronic copies) for her two-lot subdivision at 5166 Lake Road in Charlotte, Vermont. Mrs. Smith is proposing to subdivide her existing 10.17+/- acre parcel and create a new 5.13+/- acre parcel (Lot No. 2) that will be transferred to her daughter and son-in-law. Once the subdivision is approved, Lot No. 2 will be improved with a 4-bedroom single-family residence that will be provided water by an on-site drilled bedrock well and will be served by an on-site in-ground wastewater system. The proposed Lot No. 2 wastewater disposal system is a shallow-placed inter-fingered (i.e. primary and replacement trenches in one area) absorption trench-type disposal system.

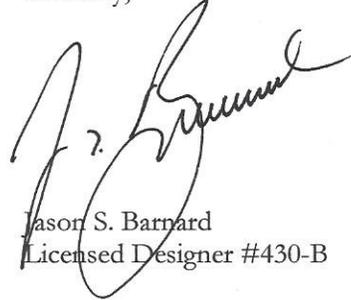
The remaining land (Lot No. 1) will be 5.04+/- acres in size and will contain the existing 3-bedroom single-family residence. The existing residence is provided water by a drilled bedrock well and is served by an on-site in-ground wastewater disposal system. A replacement wastewater area that is suitable for a mound-type wastewater system has been identified for the Lot No. 1 existing single-family residential structure.

Included to facilitate your review of this permit application are the following:

1. Check made payable to the Town of Charlotte for the amount of \$500.00.
2. State of Vermont, Agency of Natural Resources, Potable Water Supply and Wastewater System Permit Application.
3. Supplemental Information.
4. Adjoining Landowner Notification Forms No. 1 and No. 4.
5. Test Pit Logs.
6. Percolation Tests.
7. Lot No. 1 Replacement Mound System Sizing.
8. Lot No. 2 In-Ground System Basis of Design.
9. Full Size Design Drawing No. 1, No. 2 and No. 3 dated April 2, 2015.
10. 11" x 17" Design Drawing No. 1, No. 2 and No. 3 dated April 2, 2015.
11. Electronic Copies of the Design Drawings and Supporting Documents in PDF format.

Should you have any questions or comments relative to the information submitted herein,
please do not hesitate to call me at (802) 453-2597.

Sincerely,

A handwritten signature in black ink, appearing to read "J. S. Barnard". The signature is fluid and cursive, with the first name "J." and last name "Barnard" clearly distinguishable.

Jason S. Barnard
Licensed Designer #430-B

c: Susan R. Smith (2)

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 Smith		2 First Name (and Middle Initial if appropriate) Susan R.	
3 Mailing Address Line 1 5166 Lake Road		4 Mailing Address Line 2	
5 Town/City Charlotte	6 State/Province Vermont	7 Country United States	8 Zip/Postal Code 05445
9 Email Address			10 Telephone 802-425-2732

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)	
<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)	
Barnard		Jason S.	
3 Designer License#	4 Company Name		
430	Jason Barnard Consulting, LLC		
5 Mailing Address Line 1		6 Mailing Address Line 2	
4400 VT Route 17		<input type="text"/>	
7 Town/City	8 State/Province	9 Country	10 Zip/Postal Code
Starksboro	Vermont	United States	05487
11 Email Address			12 Telephone
jbsitotech@hotmail.com			802-453-2597
13 Designer Role(s) (check all that apply)			
<input checked="" type="checkbox"/> Water Supply Designer			
<input checked="" type="checkbox"/> Wastewater Disposal System Designer			
<div style="border: 1px solid black; padding: 2px; display: inline-block; background-color: #ffff00;">Remove This Designer</div>			

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
<input type="text" value="Charlotte"/>	<input type="text" value="5166 Lake Road"/>

Section B - Center of Property GPS Coordinates	
1 Enter the approximate center of property coordinates using GPS set for NAD83 or as derived from a map (map must be based on NAD83).	
(a) Latitude <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="44.27989"/> °	W (-) <input style="width:80px;" type="text" value="73.27140"/> °

Part IV Project Information

Section A - General Project Information & Questions

1 Project Name (if applicable)	2 Total Acreage of Property
<input style="width:95%;" type="text"/>	<input style="width:95%;" type="text" value="10.14"/>

3 Business Name (if applicable)

4 Detailed Project Description

Susan R. Smith owns a 10.17+/- acre parcel of land located at 5166 Lake Road in Charlotte. The subject property is improved with a 3-bedroom single-family residence that is served by an on-site in-ground wastewater system and provided water by an on-site drilled bedrock well. Mrs. Smith is proposing to subdivide the 10.17+/- acre property and create a new 5.13+/- acre parcel (Lot No. 2. Proposed Lot No. 2 will be improved with a 4-bedroom single-family residence that will be served by an on-site in-ground wastewater system and will be provided water by an on-site drilled water supply well. The remaining land (Lot No. 1) will be 5.04+/- acres in size and will contain the existing 3-bedroom single-family residence. A replacement wastewater area has been identified for the Lot No. 1 existing 3-bedroom single-family residence that is suitable for a mound type wastewater disposal system.

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

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

6 Does this application include subdividing the property? Yes No

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

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

(a) Name of Staff Person	(b) Date of Visit (m/d/yyyy)
<input style="width:90%;" type="text" value="Spencer Harris"/>	<input style="width:90%;" type="text" value="10/24/2011"/>

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"/>
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	M08B01L37	34	11

[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	Overall Subdivision Plan	3/4/2015	
X	2	Lot No. 2 Site Plan and Drilled Well Detail	3/4/2015	
X	3	Lot No. 2 Wastewater System Details and Notes	3/4/2015	

[Add Another Plan Reference](#)

Section D - Existing Project Lot/Building Details

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

1 Lot#	2 Lot Size (acres)	3 Existing Use of the Lot		
1	10.17	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	Lot 1 Residence	Residential	Prior to 2007	None Found	<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	5.04	Residential		

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	Lot 1 Residence		<input type="checkbox"/>	3-Bedroom Residence

Add Another Building

Remove This Lot

1 Lot#	2 Lot Size (acres)	3 Proposed Use of the Lot
2	5.13	Residential

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	Lot 2 Residence		<input checked="" type="checkbox"/>	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? 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 Lot 1 Drilled Well	2 Water Supply Owner (if not Applicant)
3 Water Source Type Non-Public Drilled Bedrock Well	4 Type of Change to Supply No Change

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	Lot 1 Residence		420	0	420	Rule-based
	Add Another Lot/Building Served by this Supply			6	7	8	
				420	0	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

1 Water Supply Name/Identifier Lot 2 Drilled 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	2	Lot 2 Residence	Connection to New System	0	490	490	Rule-based

Add Another Lot/Building Served by this Supply

6	7	8
0	490	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	Lot 1 Drilled Well	420	0	420	
X	Lot 2 Drilled Well	0	490	490	
		2	3	4	
		420	490	910	

Add Another Water Supply

Part VI Wastewater Disposal System Information

Section A - Wastewater Disposal System Screening Questions

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

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

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

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

Section B - General Wastewater Disposal System Questions

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

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

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

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

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

(a) Class A Watershed Name

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

If Yes, indicate where the floor drains will discharge:

(a) Floor Drain Discharge Point

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

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

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

Section C - Individual Wastewater Disposal System Details

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

1 Wastewater Disposal System Name/Identifier <div style="border: 1px solid black; padding: 2px;">Lot 1 In-Ground</div>	2 Wastewater Disposal System Owner (if not Applicant) <div style="border: 1px solid black; height: 20px;"></div>
3 Wastewater Disposal System Type <div style="border: 1px solid black; padding: 2px;">In-ground</div>	4 Type of Change to System <div style="border: 1px solid black; padding: 2px;">No Change</div>

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	Lot 1 Residence	No Change	420	0	0	420	Rule-based
	Add Another Lot/Building Served by this System			6 420	7 0	8 0	9 420	

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

Prescriptive

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

2 Wastewater Disposal System Owner (if not Applicant)

3 Wastewater Disposal System Type

4 Type of Change to 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)			(g) Total	(h) Rule or Meter Based Flows
				(d) Existing	(e) Change	(f) Infiltration		
X	2	Lot 2 Residence	Connection to New System	0	490	0	490	Rule-based
<p>Add Another Lot/Building Served by this System</p>				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.

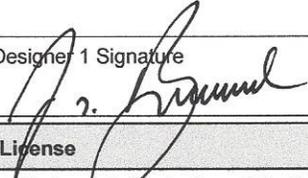
		Design Flows (Gallons Per Day)			
(a) Wastewater Disposal System Name/Identifier		(b) Existing	(c) Change	(d) Infiltration	(e) Total
X	Lot 1 In-Ground	420	0	0	420
X	Lot 2 In-Ground		490	0	490
Add Another Wastewater System		2	3	4	5
		420	490	0	910

Part VII Application Fees

1 Fee Amount \$500.00

2 Fee Calculation Details

In accordance with the Town of Charlotte permit fee schedule, the application fee for the new parcel (Lot No. 2) is \$500.00.

Part VIII Designer Certification & Copyright License			
Section A - Certifying Designer 1 Certification & Copyright License			
<p>"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.</p> <p>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."</p>			
<p>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.</p> <p><input checked="" type="checkbox"/> Water Supply Designer</p> <p><input checked="" type="checkbox"/> Wastewater Disposal System Designer</p>			
1 Designer 1 Name	2 Designer 1 Signature	3 Signature Date	
Jason S. Barnard		4/2/15	
Section B - Certifying Designer 2 Certification & Copyright License			
<p>"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.</p> <p>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."</p>			
<p>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.</p> <p><input type="checkbox"/> Water Supply Designer</p> <p><input type="checkbox"/> Wastewater Disposal System Designer</p>			
1 Designer 2 Name	2 Designer 2 Signature	3 Signature Date	
Part IX Applicant(s) Signature & Acknowledgements			
<p>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.</p>			
<p>1 If we do visit your property, do you have any special instructions?</p> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>			
<p>"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.</p> <p>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.</p> <p>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.</p> <p>I also certify that to the best of my knowledge and belief the information submitted above is true, accurate and complete."</p>			
X	2 Print Applicant Name	3 Applicant Signature	4 Signature Date
	Susan R. Smith		
<div style="background-color: #4CAF50; color: white; padding: 2px 10px; display: inline-block; border-radius: 5px;">Add Applicant Signature Block</div>			

Wastewater Permit Application – Part V, Section B

Agency of Natural Resources (ANR) Supplemental Information

A review of the State of Vermont, Waste Management Division (WMD) and Sites Management Section (SMS) on-line database shows there are three (3) hazardous waste sites located within one (1) mile of the Susan R. Smith property: the Scheuer property (Site #2005-3428), Point Bay Marina (Site #98-2352) and the Gellis Residence (Site #200-53385).

Based on a review of the SMS on-line database, all three (3) of the sites have been closed [i.e. Site Management Activities Closed (SMAC) designation] and therefore do not pose a threat to the proposed Lot No. 2 drilled well site.

ANR FORM 1

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

To David A. Scheuer (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 Susan R. Smith

Address 5166 Lake Road, Charlotte VT 05445

Phone Number (802) 425-2732

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

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) Susan R. Smith

Property Address or Property Tax ID # 5166 Lake Road, Charlotte, VT

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 David A. Scheuer

Address 5261 Lake Road, Charlotte VT 05445

Name _____

Address _____

TEST PIT LOG

Client: Susan R. Smith Date: October 24, 2011 Location: 5166 Lake Road, Charlotte, Vermont

Project Description: Site and Test Pit Soil Evaluations for a Two-Lot Subdivision

Logged By: Jason Barnard, Licensed Designer #430-B Topographic Setting: Rolling Brush Meadow and Lawn Area

Current/Historic Land Use: Residential Slope: 8 - 12% Vegetation: Lawn and Brush Meadow

Weather Conditions: 60° Sunny Method of Excavation: Rubber Tired Backhoe

Test Pit #	Depth (inches)	Dominant Color	Soil Texture	Soil Structure	Consistency	Mottles	Comments
01	0-4"	Brown	Very fine to fine sandy loam (topsoil)	Crumb	Very friable	No	Well drained
	4-16"	Brown	Very fine sandy loam	Crumb	Friable	No	Well drained
	16-64"	Tan-brown to grey	Gravelly, loamy fine sand to fine sand with sea shells	Granular	Loose to very friable	No	No groundwater or ledge to a depth of 64"
02	0-5"	Brown	Very fine to fine sandy loam (topsoil)	Crumb	Very friable	No	Well drained
	5-24"	Brown	Gravelly, very fine to fine sandy loam	Crumb	Friable	No	Fairly well drained
	24-65"	Grey and reddish brown	Gravelly, loamy fine sand to fine sand with sea shells	Granular	Loose to friable	No	No groundwater or ledge to a depth of 65"
03	0-6"	Brown	Very fine to fine sandy loam (topsoil)	Crumb	Very friable	No	Well drained
	6" +	Grey	Ledge				

Client: Susan R. Smith Date: October 24, 2011 Location: 5166 Lake Road, Charlotte, Vermont

Test Pit #	Depth (inches)	Dominant Color	Soil Texture	Soil Structure	Consistency	Mottles	Comments
04	0-7"	Brown	Very fine sandy loam (topsoil)	Crumb	Friable	No	Well drained
	7-21"	Brown	Very fine sandy loam	Crumb	Friable	No	Well drained
	21-29"	Tan to orange-brown	Very fine sandy loam	Crumb	Friable	No	Fairly well drained
	29-65"	Tan-brown to grey	Gravelly, loamy fine sand to fine sand with sea shells	Granular	Loose to very friable	No	No groundwater or ledge to a depth of 65"
05	0-7"	Brown	Very fine to fine sandy loam (topsoil)	Crumb	Friable	No	Well drained
	7-29"	Reddish-brown	Very fine sandy loam	Crumb	Friable	Fine, faint and few mottles at 24"	Fairly well drained
	29-40"	Grey	Very fine sandy loam	Crumb	Friable	Prominent, common and distinct	No groundwater or ledge to a depth of 40"
06	0-5"	Brown	Very fine to fine sandy loam (topsoil)	Crumb	Friable	No	Well drained
	5-27"	Reddish-brown	Very fine sandy loam	Crumb	Friable	Fine, faint and few mottles at 24"	Fairly well drained
	27"+	Grey	Ledge	Crumb			Ledge at 27" below ground surface

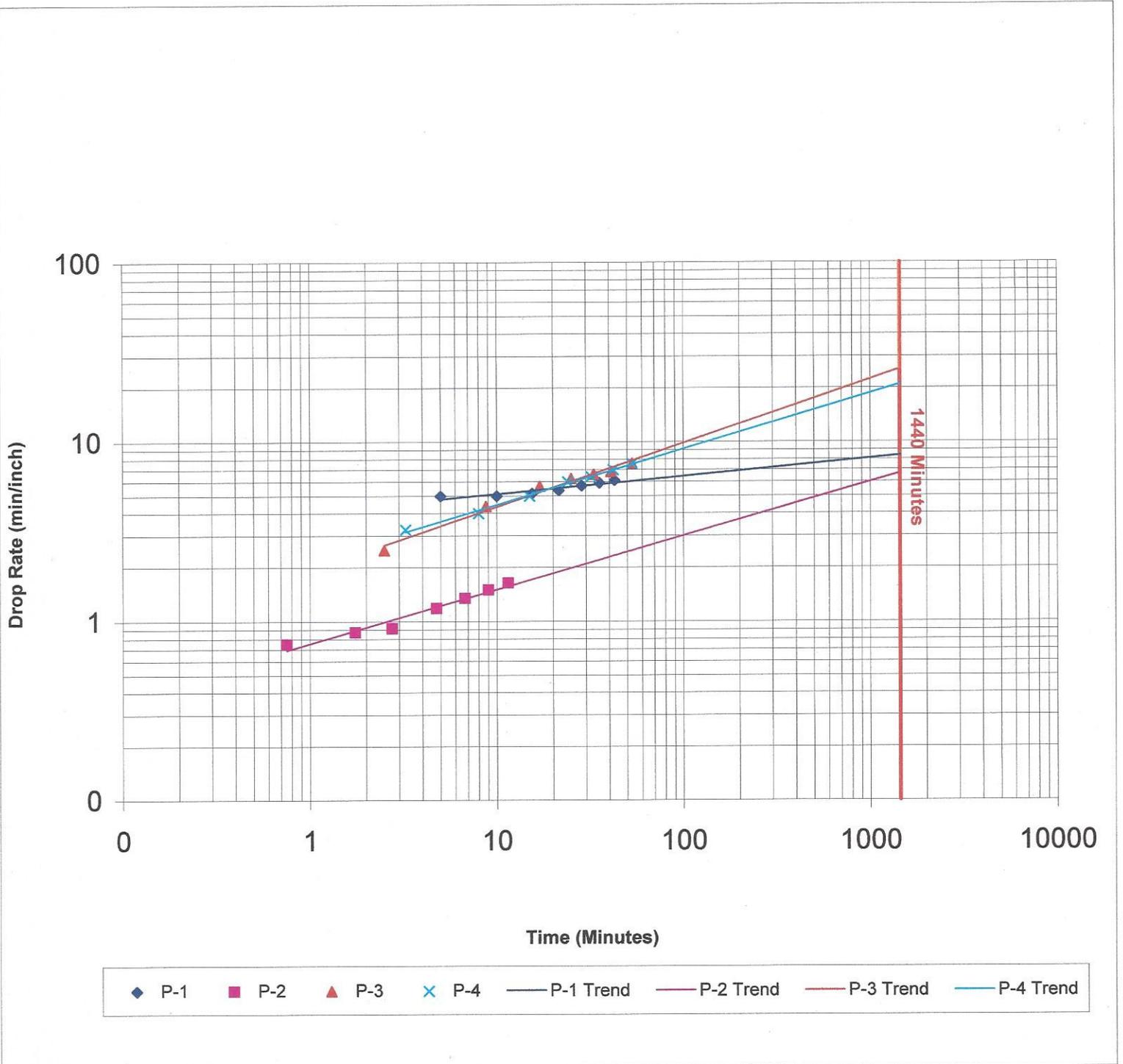
Client: Susan R. Smith Date: October 24, 2011 Location: 5166 Lake Road, Charlotte, Vermont

Test Pit #	Depth (inches)	Dominant Color	Soil Texture	Soil Structure	Consistency	Mottles	Comments
07	0-3"	Brown	Very fine sandy loam (topsoil)	Crumb blocky	Friable	No	Well drained
	3-12"	Brown	Very fine sandy loam	Crumb blocky	Friable	No	Well drained
	12-64"	Tan-brown to grey	Gravelly, loamy fine sand to fine sand with sea shells	Granular	Loose to very friable	No	No groundwater or ledge to a depth of 64"

Susan R. Smith
Two-Lot Subdivision,
5166 Lake Road, Charlotte, Vermont
Percolation Tests of December 19, 2011

Chart 1

Percolation Tests P-1 Through P-4



MOUND WASTEWATER DISPOSAL SYSTEM BASIS OF DESIGN

Susan R. Smith
Two-Lot Subdivision
5166 Lake Road, Charlotte, Vermont
April 1, 2015

Prepared By: Jason S. Barnard, Licensed Designer #430-B

Lot No. 1 Replacement Mound Wastewater Disposal System Area

I. WASTEWATER FLOWS AND MOUND SYSTEM SIZING

A. WASTEWATER FLOWS (Q)

3	Bedrooms	140	gpd/bedroom=	$\frac{420}{3}$	gpd
				Total Flows =	420 gpd

B. REQUIRED SEPTIC TANK

Required Septic Tank Capacity = **1,000 gallons** for a **3-bedroom** single-family residence.

C. PERCOLATION RATE (PR)

Percolation tests P-03 and P-04 were less than 60 min/inch. Therefore, a basal area application rate of 0.74 gallons per day (gpd) per square foot (sf) is used.

D. MOUND SYSTEM APPLICATION RATE (AR)

AR = Application rate for sizing the mound system leachfield area (LA)
Ra maximum = 1.0 gpd/sf for Mounds
Selected Ra = **1.0** gpd/sf

E. REQUIRED LEACHFIELD AREA (RLA)

RLA = Q / AR
RLA = $\frac{420}{1.0}$ / 1.0
RLA = **420** sf

F. PROPOSED LEACHFIELD AREA (PLA)

PLA = LENGTH (L) x WIDTH (W) x NUMBER OF TRENCHES or BEDS (N)

L =	52.5	ft
W =	8	ft
N =	1	Absorption Bed

PLA = **420** sf
PLA > RLA therefore PLA is acceptable

G. MOUND SYSTEM BASAL AREA (BA)

G1. BASAL AREA APPLICATION RATE (BAAR)

BAAR = Application rate for sizing basal area (BA)
BAAR = 0.74 gpd/sf for PR < 60 min/inch
BAAR = 0.24 gpd/sf for 60 min/inch < PR < 120 min/inch
Selected BAAR = **0.74** gpd/sf

G2. REQUIRED BASAL AREA (RBA)

RBA = Q / BAAR
RBA = $\frac{420}{0.74}$ / 0.74
RBA = **568** sf

G3. PROPOSED BASAL AREA (PBA)

PBA = Trench or Seepage Bed Length (L) x Distance from uphill side of the bed to downhill mound toe (MT).

L =	52.5	ft
MT =	24	ft

PBA = **1260** sf
PBA > RBA, therefore the PBA is acceptable

II. MOUND SYSTEM PRESSURE DISTRIBUTION DETAILS

In the event it is necessary to install the replacement mound for the existing residence, a complete design of the pressure distribution system and a permit amendment will be required before the system can be installed.

IN-GROUND WASTEWATER DISPOSAL SYSTEM BASIS OF DESIGN

Susan R. Smith
Two-Lot Subdivision
5166 Lake Road, Charlotte, Vermont
March 4, 2015

Prepared By: Jason S. Barnard, Licensed Designer #430-B

Lot No. 2 Primary and Replacement In-Ground Wastewater Disposal Systems

I. WASTEWATER FLOWS AND IN-GROUND DISPOSAL SYSTEM SIZING

A. WASTEWATER FLOWS

3	Bedrooms	140	gpd/bedroom=	420	gpd
1	Bedroom	70	gpd/bedroom=	70	gpd
			Total Flows =	490	gpd

B. PERCOLATION RATE

The second slowest percolation rate **6.68 min/inch (P-2)** at the site was used to determine the system application rate for the Lot No. 2 primary and replacement wastewater disposal system trenches.

C. WASTEWATER APPLICATION RATE

AR = Application rate for sizing required leachfield area (RLA)
AR maximum = 1.5 gpd/sf for Inground Absorption Trenches
AR = 3/(square root P) for Inground Absorption Trenches
AR maximum = 1.2 gpd/sf for Inground Seepage Beds
AR = 3/(square root P) x 0.8 for Inground Seepage Beds

Selected Ra = **1.16** gpd/sf

D. REQUIRED LEACHFIELD AREA (RLA)

RLA = Q / AR
RLA = **490** / **1.16**
RLA = **422**

E. LEACHFIELD AREA PROPOSED (LA)

A = LENGTH (L) x WIDTH (W) x NUMBER (N) OF TRENCHES or BEDS
L = **55** ft
W = **4** ft
N = **2** trenches
LA = **440** sf supplied

F. REQUIRED SEPTIC TANK

Required Septic Tank Capacity = **1,000 gallons** for a 4-bedroom single-family residence