

**Jason Barnard  
Consulting, LLC**

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Starksboro, VT 05487  
(802) 453-2597 Phone  
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March 5, 2015

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

Subject: George and Claire Aube, Two-Lot Subdivision, Dorset Street and Carpenter Road,  
Charlotte, Vermont –Wastewater Disposal System Design and Permit Application

Dear Jeannine:

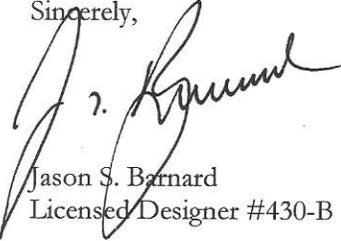
Enclosed you will find two (2) copies of the George and Claire Aube full size design drawings, two (2) copies of the 11" x 17" design drawings, electronic copies of the design drawings in PDF format, and the required supporting documents (paper and electronic copies) for their most recent two-lot subdivision of their 105+/- acre property located at the intersection of Dorset Street and Carpenter Road in Charlotte, Vermont. Mr. and Mrs. Aube are applying for a Potable Water Supply and Wastewater Permit from the Town of Charlotte Planning and Zoning Office to subdivide the existing 105+/- acre parcel so the existing 6-bedroom farmhouse and various agricultural buildings are on their own 5.03+/- acre parcel (Lot No. 3). Once the subdivision is approved, Lot No. 3 will be transferred to their daughter and the existing 6-bedroom farmhouse structure will be removed and replaced with a new 5-bedroom single-family residence. The new 5-bedroom single-family residence will be served by an on-site performance-based mound-type wastewater disposal system with an upslope curtain drain and will be provided water by an off-site shared drilled bedrock water supply well. The remaining land (Lot No. 1) will be 100+/- acres in size and will be undeveloped agricultural land that will contain deferral language new warranty deed.

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. ANR Form No. 5 Landowner Notification Exemption Form.
4. Test Pit Logs.
5. Percolation Tests.
6. Lot No. 3 Effluent Mounding Analysis.
7. Lot No. 3 Replacement Mound System Basis of Design.
8. Lot No. 3 Replacement Mound System Pressure Distribution Details.
9. Lot No. 3 Required Effluent Pump Specifications.
10. Lot No. 3 High Water Level Alarm Specifications.
11. Full Size Design Drawing No. 1 dated July, 25 2013 and Revised on December 23, 2014, and Drawings No. 2 and No. 3 dated March 4, 2015.
12. 11" x 17" Design Drawing No. 1 dated July, 25 2013 and Revised December 23, 2014, and Drawings No. 2 and No. 3 dated March 4, 2015.
13. 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,



Jason S. Barnard  
Licensed Designer #430-B

c: George and Claire Aube (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<br>Aube                             |                             | 2 First Name (and Middle Initial if appropriate)<br>George R. |                              |
| 3 Mailing Address Line 1<br>1052 Carpenter Road |                             | 4 Mailing Address Line 2                                      |                              |
| 5 Town/City<br>Charlotte                        | 6 State/Province<br>Vermont | 7 Country<br>United States                                    | 8 Zip/Postal Code<br>05445   |
| 9 Email Address                                 |                             |   | 10 Telephone<br>802-425-3920 |

Remove This Applicant

|   |                             |   |                              |
|---|-----------------------------|---|------------------------------|
| 1 Last Name<br>Aube                             |                             | 2 First Name (and Middle Initial if appropriate)<br>Claire C. |                              |
| 3 Mailing Address Line 1<br>1052 Carpenter Road |                             | 4 Mailing Address Line 2                                      |                              |
| 5 Town/City<br>Charlotte                        | 6 State/Province<br>Vermont | 7 Country<br>United States                                    | 8 Zip/Postal Code<br>05445   |
| 9 Email Address                                 |                             |   | 10 Telephone<br>802-425-3920 |

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<br>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) |                      |
| <input type="text"/>                                 |  | <input type="text"/>                                      |                      |
| 11 Certifying Official Title                         |  |   |                      |
| <input type="text"/>                                 |  |   |                      |
| 12 Certifying Official Email Address                 |  |   | 13 Telephone         |
| <input type="text"/>                                 |  |   | <input type="text"/> |
| <input type="button" value="Remove This 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       |
| jbsitetech@hotmail.com  |                               |   | 802-453-2597       |
| 13 Designer Role(s) (check all that apply)  |                               |   |                    |
| <input type="checkbox"/> Water Supply Designer<br><input checked="" type="checkbox"/> Wastewater Disposal System Designer |                               |   |                    |
| <input type="button" value="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        | Dorset Street and Carpenter 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<br><i>(in decimal degrees to five decimal places, ex. 44.38181°)</i> | (b) Longitude<br><i>(in decimal degrees to five decimal places, ex. -72.31392 °)</i> |
| N <input type="text" value="44.33599"/> °   | W (-) <input type="text" value="73.17151"/> °  |

**Part IV Project Information**

**Section A - General Project Information & Questions**

|                                |                                  |
|--------------------------------|----------------------------------|
| 1 Project Name (if applicable) | 2 Total Acreage of Property      |
| <input type="text"/>           | <input type="text" value="105"/> |

3 Business Name (if applicable)

4 Detailed Project Description

George R. and Claire C. Aube own a 105+/- acre developed residential and agricultural parcel of land located at the intersection of Dorset Street and Carpenter Road in Charlotte. Mr. and Mrs. Aube are proposing to subdivide the 105+/- acre property and create a new 5.03+/- acre parcel (Lot No. 3) that will contain the existing 6-bedroom farmhouse and various agricultural outbuildings. Once the subdivision is approved, Lot No. 3 will be transferred to their daughter and the existing 6-bedroom farmhouse will be removed and new 5-bedroom single-family residence will be constructed on the parcel. The new 5-bedroom residence will be served by an on-site performance-based mound wastewater disposal system with an up slope curtain drain and will be provided water by an off-site shared drilled water supply well. The remaining land (Lot No. 1) will be 100+/- acres in size and will be undeveloped agricultural land that will contain deferral language in the warranty deed.

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 type="text" value="Spencer Harris"/> | <input type="text" value="11/17/2014"/> |

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 Charlotte   | 2                  |
| <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   | M03B01L38     | 77       | 88-89       |
| <input type="button" value="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                      | 7/25/2013     | 12/23/2014             |
| X 2   | Lot No. 3 Site Plan                           | 3/4/2015      |                        |
| X 3   | Lot No. 3 Wastewater System Details and Notes | 3/4/2015      |                        |
| <input type="button" value="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      | 105                | 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 Farmhouse   | Residential      | Before 2007  | None Found        | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| <input type="button" value="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      | 100                | Agricultural              |

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

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

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

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

|   | (a) Building ID | (b) If building is exempt, indicate exemption | (c) Construction or increased flow? | (d) Proposed Use |
|---|-----------------|---|-------------------------------------|------------------|
| X | No Building     |   | <input type="checkbox"/>            | Agricultural     |

Add Another Building

Remove This Lot

|        |                    |                           |
|--------|--------------------|---------------------------|
| 1 Lot# | 2 Lot Size (acres) | 3 Proposed Use of the Lot |
| 3      | 5.03               | 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 | New Residence   |   | <input checked="" type="checkbox"/> | New 5-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<br>Aube Shared Drilled Well | 2 Water Supply Owner (if not Applicant)      |
| 3 Water Source Type<br>Non-Public Drilled Bedrock Well     | 4 Type of Change to Supply<br>Decreased Flow |

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   | 3        | New Residence   | Decreased Flow                              | 630                            | -70        | 560       | Rule-based                    |
| <input type="button" value="Add Another Lot/Building Served by this Supply"/> |          |                 |   | 6                              | 7          | 8         |                               |
|   |          |                 |   | 630                            | -70        | 560       |                               |

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.*

**Section D - Water Supply Design Flows Summary Table**

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

|   | (a) Water Supply Name/Identifier         | Design Flows (Gallons Per Day) |            |           |
|---|--|--------------------------------|------------|-----------|
|   |  | (b) Existing                   | (c) Change | (d) Total |
| X | Aube Shared Drilled Well                 | 630                            | -70        | 560       |
|   | <a href="#">Add Another Water Supply</a> | 2                              | 3          | 4         |
|   |  | 630                            | -70        | 560       |

**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<br><input style="width: 95%; height: 20px;" type="text" value="Lot 3 Replacement Mound"/> | 2 Wastewater Disposal System Owner (if not Applicant)<br><input style="width: 95%; height: 20px;" type="text"/> |
| 3 Wastewater Disposal System Type<br><input style="width: 95%; height: 20px;" type="text" value="Mound"/>                              | 4 Type of Change to System<br><input style="width: 95%; height: 20px;" 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  | 3        | New Residence   | Connection to New System                    | 0                              | 560        | 0                | 560       | Rule-based                    |
| Add Another Lot/Building Served by this System |          |                 |   | 6                              | 7          | 8                | 9         |                               |
|  |          |                 |   | 0                              | 560        | 0                | 560       |                               |

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.

|                               | (a) Wastewater Disposal System Name/Identifier | Design Flows (Gallons Per Day) |            |                  |           |
|-------------------------------|--|--------------------------------|------------|------------------|-----------|
|                               |  | (b) Existing                   | (c) Change | (d) Infiltration | (e) Total |
| X                             | Lot 3 Replacement Mound                        | 0                              | 560        | 0                | 560       |
| Add Another Wastewater System |  | 2                              | 3          | 4                | 5         |
|                               |  | 0                              | 560        | 0                | 560       |

| <b>Part VII Application Fees</b>  |   |
|---|---|
| 1 Fee Amount  | <input style="width: 80%;" type="text" value="\$500.00"/> |
| 2 Fee Calculation Details   |   |
| <div style="border: 1px solid black; padding: 5px; min-height: 40px;">                     In accordance with the Town of Charlotte permit fee schedule, the application fee for the new parcel (Lot No. 3) is \$500.00.                 </div> |   |

**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 |
| <input style="width: 95%;" type="text" value="Jason S. Barnard"/> |                        | 3-5-15           |

**Section B - Certifying Designer 2 Certification & Copyright License**

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

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

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

Water Supply Designer

Wastewater Disposal System Designer

|  |                        |                  |
|--|------------------------|------------------|
| 1 Designer 2 Name                        | 2 Designer 2 Signature | 3 Signature Date |
| <input style="width: 95%;" type="text"/> |                        |                  |

**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."

|  |   |   |  |
|--|---|---|--|
| <b>X</b>   | 2 Print Applicant Name<br><input type="text" value="George R. Aube"/> | 3 Applicant Signature<br><input type="text"/> | 4 Signature Date<br><input type="text"/> |
| <b>X</b>   | 2 Print Applicant Name<br><input type="text" value="Claire C. Aube"/> | 3 Applicant Signature<br><input type="text"/> | 4 Signature Date<br><input type="text"/> |
| <input type="button" value="Add Applicant Signature Block"/> |   |   |  |

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

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

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

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

Signature \_\_\_\_\_

Name (Printed) George R. Aube and Claire C. Aube

Property Address or Property Tax ID # M03B01L38

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

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

## TEST PIT LOG

Client: George R. and Claire C. Aubé Date: November 17, 2014 Location: Dorset Street and Carpenter Road, Charlotte, VT

Project Description: Two-Lot Subdivision Wastewater Disposal System Design and Permitting

Logged By: Jason Barnard, Licensed Designer #430-B Topographic Setting: Northerly Sloping Grass Area

Current/Historic Land Use: Residential and Agriculture Slope: 8-12% Vegetation: Grass

Weather Conditions: 35° Mostly Sunny Method of Excavation: Tracked Excavator

| Test Pit # | Depth (inches) | Dominant Color | Soil Texture                        | Soil Structure          | Consistency      | Mottles                        | Comments                                   |
|------------|----------------|----------------|-------------------------------------|-------------------------|------------------|--------------------------------|--|
| 01         | 0-6"           | Brown          | Very fine sandy loam (topsoil)      | Granular                | Loose to friable | No                             | Well drained                               |
|            | 6-16"          | Brown          | Very fine sandy loam                | Weak-sub-angular blocky | Friable          | Fine, faint, few at 14"        | Fairly well drained, SHWT estimated at 14" |
|            | 16-44"         | Olive-gray     | Very fine sandy loam (glacial till) | Sub-angular blocky      | Friable          | Prominent, common and distinct | No groundwater or ledge to 44"             |
| 02         | 0-6"           | Brown          | Very fine sandy loam (topsoil)      | Granular                | Loose to friable | No                             | Well drained                               |
|            | 6-18"          | Brown          | Very fine sandy loam                | Granular                | Friable          | Fine, faint and few at 17"     | Fairly well drained, SHWT estimated at 17" |
|            | 18-48"         | Gray to brown  | Very fine sandy loam (glacial till) | Sub-angular blocky      | Friable          | Prominent, common and distinct | No groundwater or ledge to 48"             |

Client: George R. and Claire C. Aube Date: November 17, 2014 Location: Dorset Street and Carpenter Road, Charlotte, VT

| Test Pit # | Depth (inches) | Dominant Color | Soil Texture                        | Soil Structure          | Consistency      | Mottles                               | Comments  |
|------------|----------------|----------------|-------------------------------------|-------------------------|------------------|---------------------------------------|---|
| 03         | 0-7"           | Brown          | Very fine sandy loam (topsoil)      | Granular                | Loose to friable | No                                    | Well drained  |
|            | 7-12"          | Brown          | Very fine sandy loam                | Weak sub-angular blocky | Friable          | No                                    | Fairly well drained                                   |
|            | 12-56"         | Brown          | Very fine sandy loam (glacial till) | Sub-angular blocky      | Friable          | Prominent, common and distinct at 14" | No groundwater or ledge to 56", SHWT estimated at 14" |
| 04         | 0-8"           | Brown          | Very fine sandy loam (topsoil)      | Granular                | Loose to friable | No                                    | Well drained  |
|            | 8-14"          | Brown          | Very fine sandy loam                | Weak sub-angular blocky | Friable          | Prominent, common and distinct at 14" | Fairly well drained                                   |
|            | 14-52"         | Gray to brown  | Very fine sandy loam (glacial till) | Sub-angular blocky      | Friable          | Prominent, common and distinct        | No groundwater or ledge to 52", SHWT estimated at 14" |

**George R. and Claire C. Aube  
Two-Lot Subdivision  
Dorset Street and Carpenter Road, Charlotte, Vermont  
Percolation Tests of December 19, 2014  
Wastewater Disposal System Design**

**Table 1**

| P-01 | Drop Time (min) | Total Drop Time (min) | Total Drop (inches) | Drop Rate (min/inch) |
|------|-----------------|-----------------------|---------------------|----------------------|
|      | 20.00           | 20.00                 | 1                   | 20.00                |
|      | 24.00           | 44.00                 | 2                   | 22.00                |
|      | 25.00           | 69.00                 | 3                   | 23.00                |
|      | 27.00           | 96.00                 | 4                   | 24.00                |
|      | 31.00           | 127.00                | 5                   | 25.40                |
|      | 30.00           | 157.00                | 6                   | 26.17                |
|      | 32.00           | 189.00                | 7                   | 27.00                |
|      | ---             | <b>1440.00</b>        | ---                 | <b>34.96</b>         |

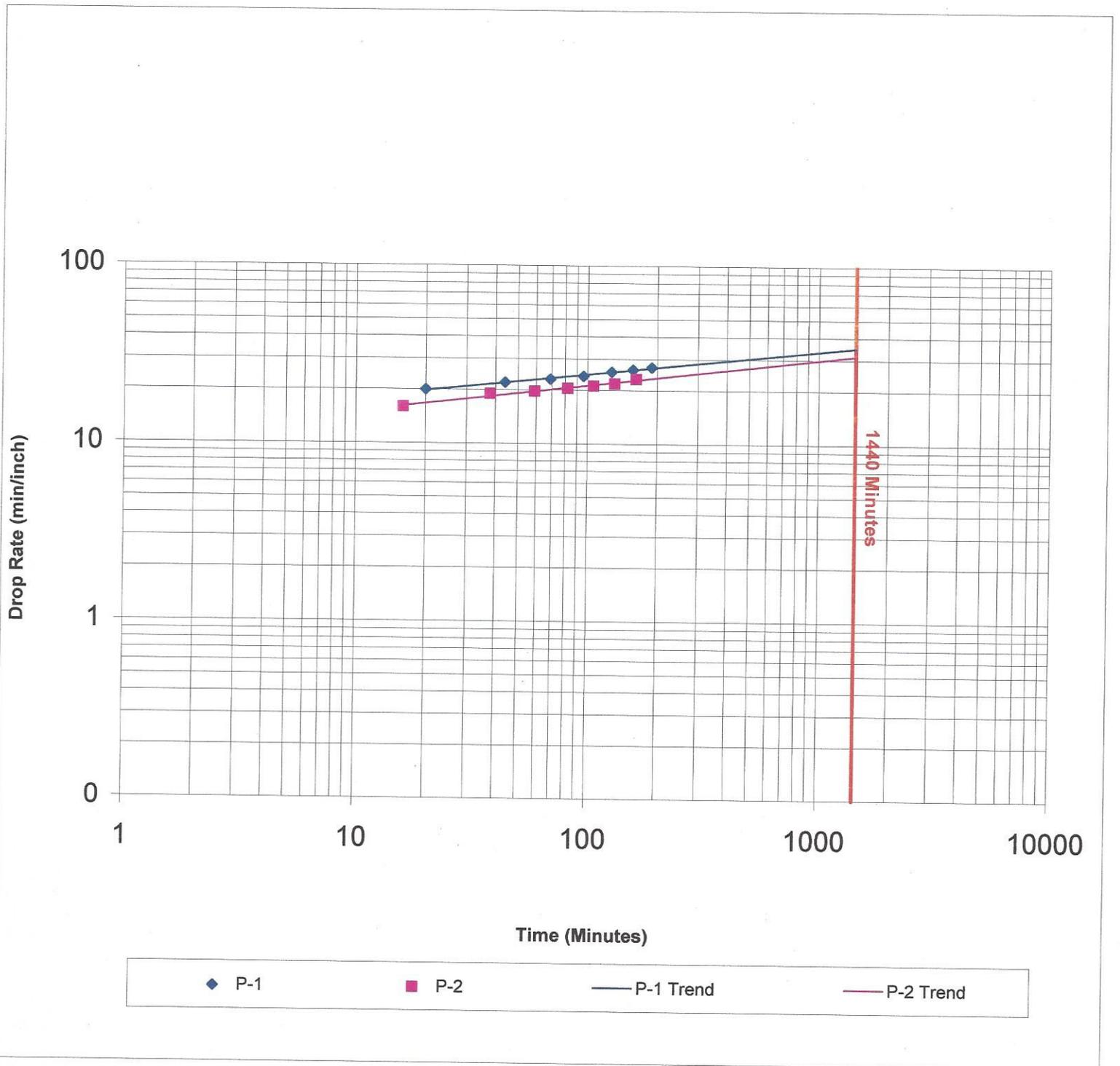
| P-02 | Drop Time (min) | Total Drop Time (min) | Total Drop (inches) | Drop Rate (min/inch) |
|------|-----------------|-----------------------|---------------------|----------------------|
|      | 16.00           | 16.00                 | 1                   | 16.00                |
|      | 22.00           | 38.00                 | 2                   | 19.00                |
|      | 21.00           | 59.00                 | 3                   | 19.67                |
|      | 23.00           | 82.00                 | 4                   | 20.50                |
|      | 24.00           | 106.00                | 5                   | 21.20                |
|      | 25.00           | 131.00                | 6                   | 21.83                |
|      | 31.00           | 162.00                | 7                   | 23.14                |
|      | ---             | <b>1440.00</b>        | ---                 | <b>31.48</b>         |

**NOTES:**

1. Percolation tests performed at 6 to 14 inches below ground surface.

George R. and Claire C. Aube  
Two-Lot Subdivision  
Dorset Street and Carpenter Road, Charlotte, Vermont  
Percolation Tests of December 19, 2014  
Wastewater Disposal System Design

Chart 1



**George R. and Claire C. Aube  
Two-Lot Subdivision  
Dorset Street and Carpenter Road,  
Charlotte, Vermont**

**Lot No. 3 Replacement Mound Wastewater Disposal System  
Desktop Effluent Mounding Analysis**

*Lot No. 3 Replacement Mound System:*

- Soils present in the vicinity of the Lot No. 3 primary mound system consist of very fine sandy loam topsoil over top of a very fine sandy loam that extends to between 12" and 16" below ground surface. Beneath the B-horizon very fine sandy loam soils are the C-horizon very fine sandy loam (glacial till) that extends to at least 44" below ground surface. The very fine sandy loam soil was used in the effluent mounding analysis.
- Depth to the seasonal high water table (SHWT) is conservatively estimated at 14" (1.17') below ground surface, based on the presence of soil mottling in test pits TP-01, TP-03 and TP-04.
- The average ground surface slope is 9% in the vicinity of the Lot No. 3 replacement mound wastewater disposal system area.

The following equation is used from the ANR "Simplified Procedure for Prescriptive Desktop Mounding Analysis", dated January 30, 2003:

$$LLR = (f)(h)$$

where:  $LLR$  = linear loading rate, gpd/ft.  
 $h$  = soil thickness available for groundwater mounding in feet.  
 $f$  = the LLR factor from Table 1 of the January 30, 2003 ANR document, which is based on soil texture and slope.

from Table 1:

Very fine sandy loam with an average slope of 9%, therefore  $f = 13.5$

$$SHWT = 1.17' (14") - 0.5' (6") = 0.67' (8") = h \text{ (conservative).}$$

Using the formula above, the linear loading rate and minimum mound size is determined as follows:

- $LLR = (0.67)(13.5) = 9$  gpd/linear foot.
- $560 \text{ gpd} / 9 \text{ gpd/linear feet} = 62.22$  feet minimum mound length.
- Loading at  $1.0 \text{ gpd/ft}^2$ ,  $560 \text{ gpd} / 1.0 \text{ gpd/ft}^2 = 560 \text{ ft}^2$  of infiltration area is required.

- 560 ft<sup>2</sup> of infiltration area is supplied by one 8 foot by 70 foot absorption trench.
- The actual linear loading rate is: 560 gpd/70 ft = 8.0 gpd/linear foot.
- The actual effluent mounding (AEM) is determined by dividing the actual linear loading rate (ALLR) by the linear loading rate factor ( $f$ ) = AEM = (ALLR/ $f$ ) = (8/13.5) = 0.59' or 7.1".
- Then, the amount of unsaturated soil ("freeboard") between the top of the induced groundwater mound and the ground surface is determined by subtracting the AEM from the SHWT = 1.17' - 0.59' = 0.58' or 6.9".

### Conclusions

Based on the November 17, 2014 test pit evaluations and the hydrogeologic effluent mounding analysis presented above, the Lot No. 3 replacement mound-type wastewater disposal system if constructed with an 8 foot wide by 53 foot long absorption bed with 2.5 feet (30 inches) of mound sand beneath the bottom of the bed will maintain the effluent plume at least six (6) inches below ground surface at all times of the year. The proposed mound system with 2.5 feet (30 inches) of sand beneath the bed will provide the required three (3) feet (36 inches) of vertical separation between the top of the induced groundwater mound and the bottom of the mound system's absorption bed. Furthermore, with a minimum of 2.5 feet of mound sand beneath the mound system's absorption bed and greater than 44 inches to bedrock in the test pits excavated in the Lot No. 3 replacement wastewater disposal system area, there is greater than 4 feet (48 inches) of vertical separation between the bottom of the mound system's absorption bed and any underlying bedrock that may be present.

**MOUND WASTEWATER DISPOSAL SYSTEM BASIS OF DESIGN**

George R. and Claire C. Aube  
Two-Lot Subdivision  
Dorset Street and Carpenter Road,  
Charlotte, Vermont  
February 23, 2015

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

**Lot No. 3 Replacement Mound Wastewater Disposal System**

**I. WASTEWATER FLOWS AND MOUND DISPOSAL SYSTEM SIZING**

**A. WASTEWATER FLOWS (Q)**

|   |          |     |               |            |     |
|---|----------|-----|---------------|------------|-----|
| 3 | Bedrooms | 140 | gpd/bedroom=  | 420        | gpd |
| 2 | Bedroom  | 70  | gpd/bedroom=  | 140        | gpd |
|   |          |     | Total Flows = | <u>560</u> | gpd |

**B. REQUIRED SEPTIC TANK**

Required Septic Tank Capacity = **1,000 gallons** for a **5-bedroom** single-family residence.

**C. PERCOLATION RATE (PR)**

All percolation tests 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 = **560** / **1.0**  
RLA = **560** sf

**F. PROPOSED LEACHFIELD AREA (PLA)**

PLA = LENGTH (L) x WIDTH (W) x NUMBER OF TRENCHES or BEDS (N)  
L = **70** ft  
W = **8** ft  
N = **1** Absorption Bed  
PLA = **560** 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 = **560** / **0.74**  
RBA = **757** sf

**G3. PROPOSED BASAL AREA (PBA)**

PBA = Trench or Seepage Bed Length (L) x Distance from uphill side of trench to downhill mound toe (MT).  
L = **70** ft  
MT = **25** FT  
PBA = **1750** sf  
PBA > RBA, therefore the PBA is acceptable

**MOUND WASTEWATER DISPOSAL SYSTEM BASIS OF DESIGN**

**George R. and Claire C. Aube  
Two-Lot Subdivision  
Dorset Street and Carpenter Road,  
Charlotte, Vermont  
February 23, 2015**

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

**Lot No. 3 Replacement Mound Wastewater Disposal System**

**II. MOUND SYSTEM PRESSURE DISTRIBUTION DETAILS**

**A. PROPOSED MOUND SYSTEM DISTRIBUTION SYSTEM**

SEE THE ATTACHED ORENCO SYSTEMS, INC. PUMP SELECT SPREAD SHEET FOR THE PROPOSED MOUND SYSTEM PRESSURE DISTRIBUTION DETAILS.

**B. TOTAL NUMBER OF ORIFICES IN THE DISTRIBUTION SYSTEM**

Number of Orifices = **28** orifices

**C. LEACHFIELD AREA (LA) PER ORIFICE**

LA/Orifice = LA / Total Number of Orifices

LA/Orifice = **20.0** sf

LA/Orifice is less than 25 SF per Orifice, therefore the proposed number of orifices is in accordance with the current State of Vermont, EPRs.

**III. PROPOSED PUMP STATION DESIGN**

**A. REQUIRED PUMP STATION**

Required Pump Station Capacity = **1,000 gallons** for a **5-bedroom** residence.

**B. REQUIRED MOUND SYSTEM DOSE**

Required Dose Volume = **153** Gallons

Pump Station Dimensions: On-Site Septic Solutions 1,000 Gallon Pump Station = 4.67 ft x 7.5 ft

Area of Pump Station = **35.0** sf

Volume per Inch of depth = **21.8** gallons / vertical inch

Pump on/off switch difference setting required for dose: **7.0** inches

**C. REQUIRED PUMP STATION STORAGE**

Storage Required = **560** gallons (1 day's flow)

**D. PUMP STATION STORAGE**

Pump alarm to overflow point height difference = **33** inches

Storage Provided = **720** gallons

Storage provided is greater than 1 day's flow, therefore the proposed pump station is adequately sized.

**E. PROPOSED EFFLUENT PUMP**

Champion Model Number **CPE5A-22** **1/2** hp **230** volt **1** phase

**F. PROPOSED PUMP STATION EFFLUENT PUMP**

See Attached Effluent Pump Curve

# Pump Selection for a Pressurized System - Single Family Residence Project

George and Claire Aube, Two Lot Subdivision, Charlotte / Lot 3 Mound System Pressure Distribution

## Parameters

|                             |      |        |
|-----------------------------|------|--------|
| Discharge Assembly Size     | 2.00 | inches |
| Transport Length            | 332  | feet   |
| Transport Pipe Class        | 40   |        |
| Transport Line Size         | 2.00 | inches |
| Distributing Valve Model    | None |        |
| Max Elevation Lift          | 15   | feet   |
| Manifold Length             | 4    | feet   |
| Manifold Pipe Class         | 40   |        |
| Manifold Pipe Size          | 2.00 | inches |
| Number of Laterals per Cell | 2    |        |
| Lateral Length              | 65   | feet   |
| Lateral Pipe Class          | 40   |        |
| Lateral Pipe Size           | 2.00 | inches |
| Orifice Size                | 7/32 | inches |
| Orifice Spacing             | 5    | feet   |
| Residual Head               | 5    | feet   |
| Flow Meter                  | None | inches |
| 'Add-on' Friction Losses    | 0    | feet   |

## Calculations

|                                      |      |     |
|--------------------------------------|------|-----|
| Minimum Flow Rate per Orifice        | 1.33 | gpm |
| Number of Orifices per Zone          | 28   |     |
| Total Flow Rate per Zone             | 37.2 | gpm |
| Number of Laterals per Zone          | 2    |     |
| % Flow Differential 1st/Last Orifice | 1.4  | %   |
| Transport Velocity                   | 3.6  | fps |

## Frictional Head Losses

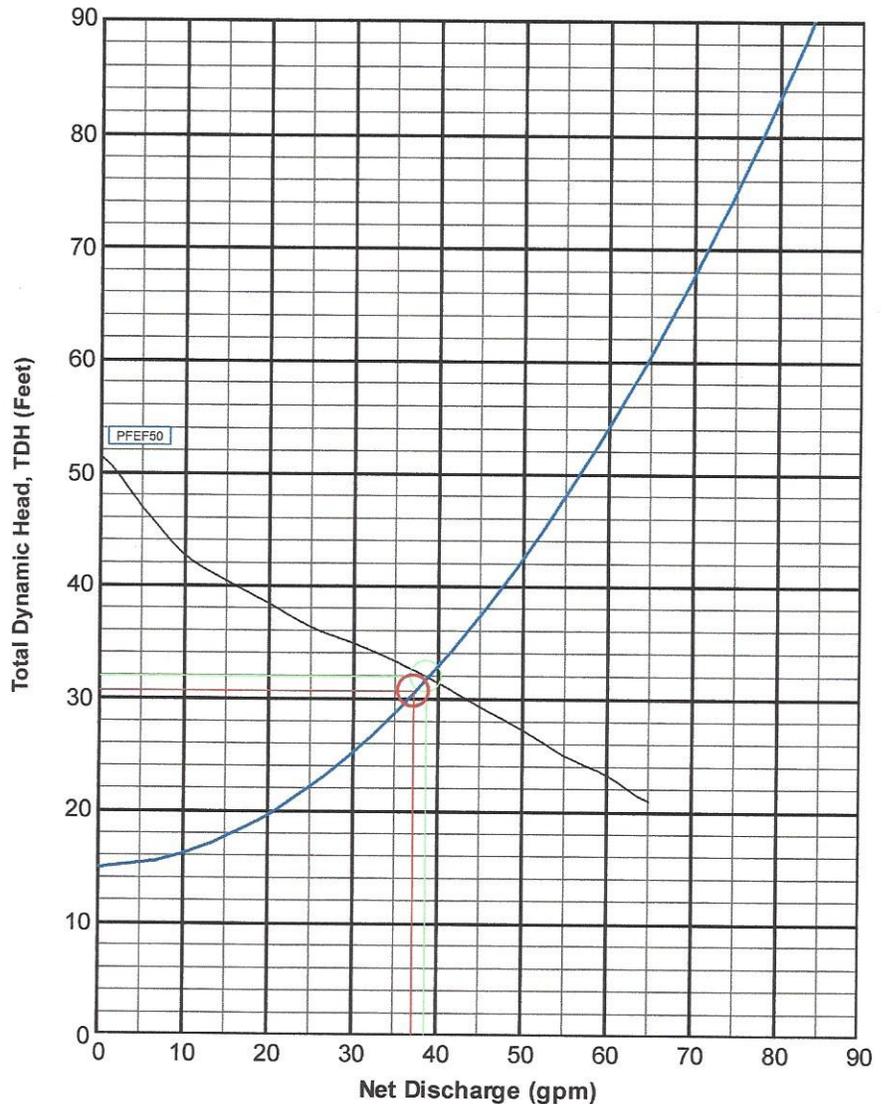
|                          |     |      |
|--------------------------|-----|------|
| Loss through Discharge   | 2.8 | feet |
| Loss in Transport        | 7.7 | feet |
| Loss through Valve       | 0.0 | feet |
| Loss in Manifold         | 0.0 | feet |
| Loss in Laterals         | 0.2 | feet |
| Loss through Flowmeter   | 0.0 | feet |
| 'Add-on' Friction Losses | 0.0 | feet |

## Pipe Volumes

|                          |      |      |
|--------------------------|------|------|
| Vol of Transport Line    | 57.9 | gals |
| Vol of Manifold          | 0.7  | gals |
| Vol of Laterals per Zone | 22.7 | gals |
| Total Volume             | 81.2 | gals |

## Minimum Pump Requirements

|                    |      |      |
|--------------------|------|------|
| Design Flow Rate   | 37.2 | gpm  |
| Total Dynamic Head | 30.7 | feet |



## PumpData

PFEF40 Effluent Pump  
4/10HP, 115/230V 1Ø

## Legend

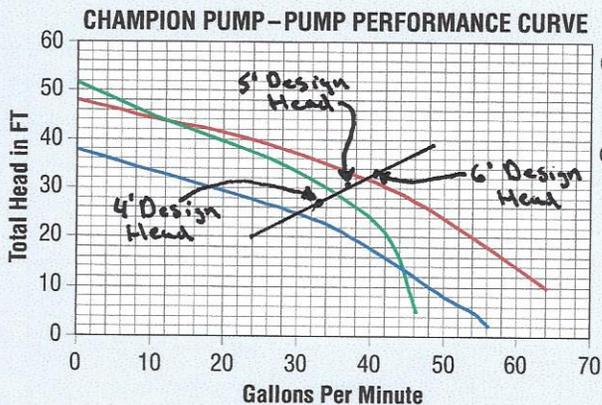
|                     |   |
|---------------------|---|
| System Curve:       | — |
| Pump Curve:         | — |
| Pump Optimal Range: | — |
| Operating Point:    | ○ |
| Design Point:       | ○ |

### FEATURES/BENEFITS

- High Efficient Motor With Upper & Lower Ball Bearings/Runs Cooler & Last Longer
- Cast Iron Vortex Impeller/Helps Prevent Clogging
- Inboard Seal-Rotating Components Of Seal Are In The Motor Housing, Lubricated By The Motor Oil/Seal Will Last Longer If Pump Runs Dry, Hair And Debris Cannot Wrap Around Seal Components
- Secondary Exclusion Seal/Keeps Debris From Entering Seal Cavity
- Sealed Entry-Replaceable Power Cord/Easy To Replace In The Field, Prevents Water From Entering The Motor Housing Through A Cut Power Cord (Up To 50' Available)
- Piggy-Back Switch Design/Defective Switches Can Be Diagnosed By Phone; Pump Can Be Operated Manually by Overriding The Switch
- Every Pump Is Tested In Water/Ensures That The Pump Meets Head & Flow Requirements

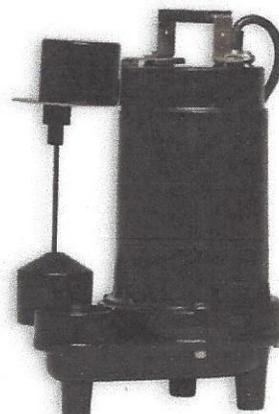
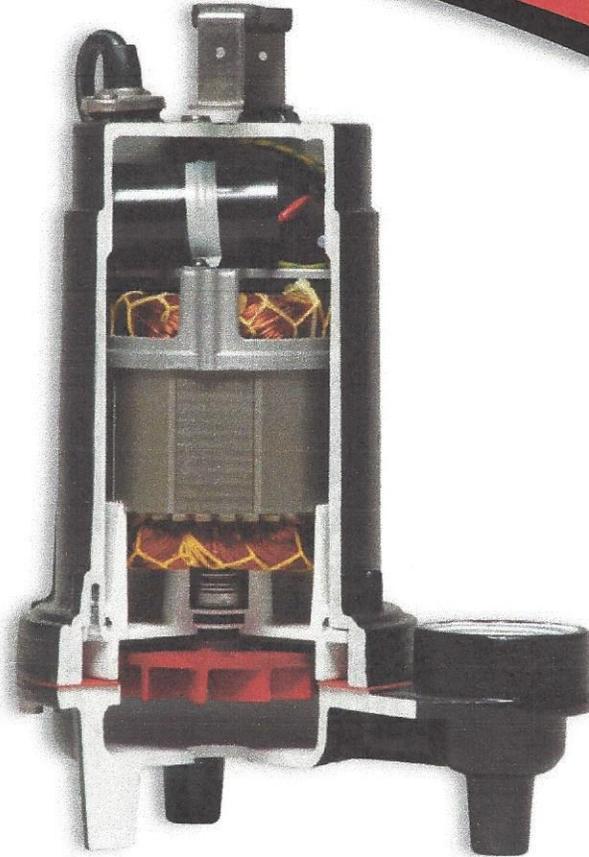
### APPLICATIONS

- Dewatering, Elevator Pits, Septic Systems



Distributed by:

On-site Septic Solutions, LLC  
802-644-5500

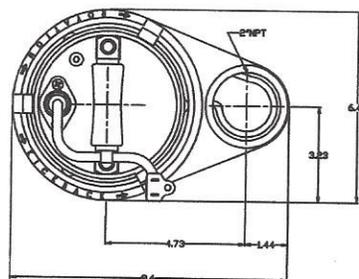
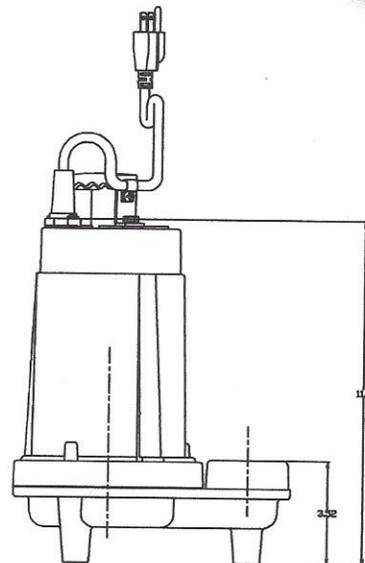


**CPE5V-12**

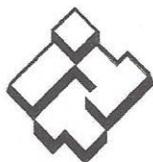


**CPE5A-12**

|                                    |  |
|------------------------------------|--|
| <b>DISCHARGE</b>                   | 2" NPT. Vertical   |
| <b>SOLIDS HANDLING</b>             | 3/4"   |
| <b>LIQUID TEMPERATURE</b>          | 140 Degrees F. (Intermittent)  |
| <b>MOTOR HOUSING</b>               | Cast Iron  |
| <b>VOLUTE</b>                      | Cast Iron  |
| <b>SEAL PLATE</b>                  | Cast Iron  |
| <b>IMPELLER</b>                    | Cast Iron  |
| <b>SHAFT</b>                       | Stainless Steel  |
| <b>SHAFT SEAL</b>                  | Inboard Mechanical With Secondary Exclusion Seal<br>Carbon - Rotating Face<br>Ceramic - Stationary Face<br>Buna-N - Elastomer<br>300 Series Stainless Steel - Hardware |
| <b>BEARING (UPPER &amp; LOWER)</b> | Single Row, Ball, Oil Lubricated   |
| <b>HARDWARE</b>                    | 300 Series Stainless Steel   |
| <b>SQUARE RINGS</b>                | Buna-N   |
| <b>CORD</b>                        | (UL/CUL) Listed 16 AWG, Type SJTW<br>20' Length Standard. Other Lengths Available.   |
| <b>CORD ENTRY</b>                  | Compression Grommet - Outer Jacket Seal<br>Quick Disconnect Pin Terminals  |
| <b>MOTOR (SINGLE PHASE)</b>        | 4/10 & 1/2 HP, 3450 RPM. 60Hz<br>NEMA L Includes Overload Protection In The Motor.<br>Oil Filled, Class B<br>Permanent Split Capacitor                                 |
| <b>WEIGHT</b>                      | 35lbs (Manual)   |



| Model                           | HP               | Volts | Phase | Amps            | Cord Length | Switch         |
|---------------------------------|------------------|-------|-------|-----------------|-------------|----------------|
| CPE4-12 • CPE5-12 • CPEF5-12    | 4/10 • 1/2 • 1/2 | 115   | 1     | 6.6 • 7.2 • 8.5 | 20          | Manual         |
| CPE4-22 • CPE5-22 • CPEF5-22    | 4/10 • 1/2 • 1/2 | 230   | 1     | 3.3 • 3.6 • 4.3 | 20          | Manual         |
| CPE4-13 • CPE5-13 • CPEF5-13    | 4/10 • 1/2 • 1/2 | 115   | 1     | 6.6 • 7.2 • 8.5 | 30          | Manual         |
| CPE4-15 • CPE5-15 • CPEF5-15    | 4/10 • 1/2 • 1/2 | 115   | 1     | 6.6 • 7.2 • 8.5 | 50          | Manual         |
| CPE4A-12 • CPE5A-12 • CPEF5A-12 | 4/10 • 1/2 • 1/2 | 115   | 1     | 6.6 • 7.2 • 8.5 | 20          | Float          |
| CPE4A-22 • CPE5A-22 • CPEF5A-22 | 4/10 • 1/2 • 1/2 | 230   | 1     | 3.3 • 3.6 • 4.3 | 20          | Float          |
| CPE4A-13 • CPE5A-13 • CPEF5A-13 | 4/10 • 1/2 • 1/2 | 115   | 1     | 6.6 • 7.2 • 8.5 | 30          | Float          |
| CPE4V-12 • CPE5V-12 • CPEF5V-12 | 4/10 • 1/2 • 1/2 | 115   | 1     | 6.6 • 7.2 • 8.5 | 20          | Vertical Float |
| CPE4V-22 • CPE5V-22 • CPEF5V-22 | 4/10 • 1/2 • 1/2 | 230   | 1     | 3.3 • 3.6 • 4.3 | 20          | Vertical Float |



# ITT

George R. and Claire C. Aube  
 Two-Lot Subdivision  
 Dorset Street and Carpenter Road, Charlotte, Vermont  
 Lot No. 3 Mound Wastewater System Pump Station  
 Required High Water Level Alarm or Equal

## CENTRIPRO Wastewater and Water Systems

### TAN3M (XT Alarm System)

- The Tank Alert® XT can be used as a high level alarm in lift chambers, sump pump basins and holding tanks.
- UL Listed (for indoor and outdoor use) and CSA Certified.
- Voltage: 120 VAC, 50/60 Hz, 8.5 watts maximum, (alarm condition)
- Enclosure meets Type 3R water-tight standards, listed for indoor or outdoor use under UL standard 864. Dimensions are 6.5" x 4.5" x 3.0"
- Premounted terminal block so enclosure can also be used as a junction box for splicing pump, pump switch and pump power. Meets NEC standard for junction boxes.
- N.O. float switch has a 15' long, 18 gauge, 2 conductor SJOW (UL) cord
- Mechanical SignalMaster® Float on TAN3M, switches are rated for a maximum fluid temperature of 140° F (60° C)
- Automatic alarm reset, alarm test switch and horn silence switch
- Alarm Horn: 85 decibels at 10 feet (3 meters)
- Does not control or interface with pump
- Operates even if pump circuit fails when wired on separate circuit
- No power cord.

### TAN4M (4X Alarm System)

- The Tank Alert® 4X can be used as a weatherproof high level alarm in lift chambers, sump pump basins and holding tanks.
- UL and cUL Listed
- Single phase, 120 volt, 60/50 hertz power supply required, 7 watts max. during alarm condition
- NEMA 4X enclosure rated for indoor or outdoor use.
- No power cord.
- Float Switch: Sensor Float® control switch with mounting clamp, 15' long, 18 gauge, SJOW.
- Stainless steel alarm horn sounds at 88db @ 10' (3 meters)
- NEMA 4X alarm beacon
- Automatic alarm reset and alarm test/normal/horn silence switch
- Dimensions are 6.4" x 5.3" x 5.0"
- Switches are rated for a maximum fluid temperature of 140° F (60° C)
- Does not control or interface with pump
- Operates even if pump circuit fails when wired on separate circuit.



LR54245 LISTED



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