

Town of New Haven  
Application to Development Review Board

Parcel # 0347-200 Map # 9 Applicant: I own this property:  YES  NO

Name: John + Donna Seguin

Email: djseguin@ymail.com Phone: 802-349-8676

Address 967 South St New Haven, VT 05472

Landowner: I John + Donna Seguin am the legal owner of the property located at 967 South Street Described in Book \_\_\_\_\_ Page \_\_\_\_\_ of the New Haven Land Records. I acquired the property on \_\_\_\_\_

Type of Application: Application for:

Variance  Conditional Use Permit  Site Plan Review  Boundary Line Adjustment

Minor Subdivision (<3)  Major Subdivision (> 3)

Appeal for interpretation of zoning ordinance or map.

Appeal from decision of the administrative officer.  
A copy of this appeal must be filed with the administrative officer.

Application for a change of nonconforming use

Other: \_\_\_\_\_

Provision of zoning ordinance in question \_\_\_\_\_

Previous Use: Residential

Current Use: Residential

Signature of land owner \_\_\_\_\_ Date \_\_\_\_\_

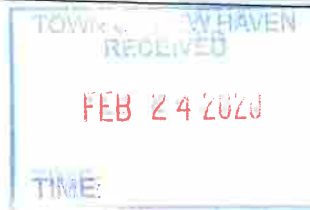
Signature of Applicant (in addition to owner) John Seguin Donna Seguin

Fee Paid \_\_\_\_\_  
Date of Hearing by Board 03/16/2020 Application# 2020-DRB-02-BLA

Approved \_\_\_\_\_ Denied \_\_\_\_\_ Decision \_\_\_\_\_

Conditions \_\_\_\_\_

Date of notice given to applicant \_\_\_\_\_



SOUTH STREET

T.R. #6

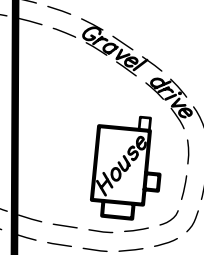
Paved road

W 499.2' MPS to MPF

n/f  
R.L. & J.B. Shed  
Paquette  
Bk 31 Pg 5

160'±

313'±



Proposed well

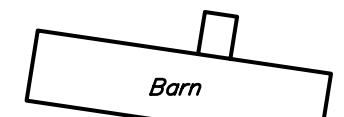


Hedge

Proposed replacement  
septic area

Current  
10.03 Acres

Remains of wire fence found along line



Existing disposal system

Remains of concrete foundation

Proposed  
2.00 Acres

TO BE REMOVED

TO BE REMOVED

remaining lands of  
John A. & Donna M. Seguin  
Bk 55 Pg 498

remaining lands of  
John A. & Donna M. Seguin  
Bk 55 Pg 498



days of issuance of this permit and prior to the conveyance of any property subject to the jurisdiction of this permit.

- 1.5 This project has been reviewed and approved for construction of one 4-bedroom single family residence on Lot 3. All conditions set forth in WW-9-0860, shall remain in effect except as modified herein.
- 1.6 By acceptance of this permit, the landowner agrees to allow representatives of the State of Vermont access to the property covered by the permit, at reasonable times, for the purpose of ascertaining compliance with the Vermont environmental and health statutes and regulations.
- 1.7 A copy of the approved plans and this permit shall remain on the project during all phases of construction, and upon request, shall be made available for inspection by State or local officials.
- 1.8 In issuing this permit, the Division has relied solely upon the licensed designer's certification that the design-related information submitted was true and correct, and complies with the Vermont Wastewater System and Potable Water Supply Rules and the Vermont Water Supply Rules. This permit may be revoked if it is determined that the project does not comply with these Rules.
- 1.9 No permit issued by the Secretary shall be valid for a substantially completed potable water supply and wastewater system until the Secretary receives a certification from a designer or the installer, signed and dated, that states:  
"I hereby certify that, in the exercise of my reasonable professional judgment, the installation-related information submitted is true and correct and the potable water supply and wastewater system installed in accordance with the permitted design and all the permit conditions, were inspected, were properly tested, and have successfully met those performance tests."
- 1.10 Any person aggrieved by this permit may appeal to the Environmental Court within 30 days of the date of issuance of this permit in accordance with 10 V.S.A. Chapter 220 and the Vermont Rules of Environmental Court Proceedings.

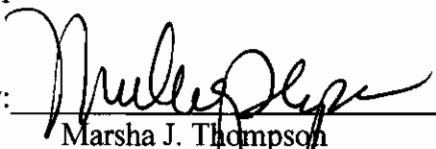
## **2. WATER SUPPLY**

- 2.1 The lot is approved for on-site water supply from a drilled bedrock well provided that the well is located as shown on the approved plans, and is physically constructed in accordance with the minimum standards specified in Part 11 of the above-referenced water supply regulations. No other means of obtaining potable water shall be allowed without prior review and approval by the Division of Wastewater Management.

**3. WASTEWATER DISPOSAL**

- 3.1 The lot is approved for wastewater disposal by construction and utilization of the performance based mound type wastewater disposal system depicted on the approved plans. No other method or location of wastewater disposal shall be allowed without prior review and approval by the Division of Wastewater Management.
- 3.2 Prior to covering of the disposal field within the mound, the inspecting designer shall conduct a performance test of the pressure distribution network, to measure the uniformity of distribution. All necessary modifications shall be made to the piping network to achieve a variation in discharge rate between any 2 orifices no greater than 15 percent. The results of such testing shall be specifically addressed in the inspecting engineer's written report.
- 3.3 The use of the wastewater disposal system approved in this permit requires that an annual inspection be performed by (a class 1 or class B) designer starting when the system is placed in use. The field inspection shall be done in April or May of each year and a written report shall be submitted to the permittee and the regional office that issued the permit by the following June 15<sup>th</sup>. The inspection shall consist of a field inspection of the area where the leachfield has been installed. A visual observation of the surface area over the system and the area within 25' of the system in all directions shall be made for any indications of failure. This inspection requirement does not require the installation or observation of groundwater monitors and does not require inspection of other components of the wastewater system such as septic tanks, pump stations, or advanced treatment systems. Such inspections may be required if they are part of the approved design, including any operation manuals or written instructions, or if they are required in another permit condition. This condition remains in effect until three inspection cycles have been completed as specified in this condition.

Justin G. Johnson, Commissioner  
Department of Environmental Conservation

By:   
Marsha J. Thompson  
Assistant Regional Engineer

Dated 27 July 2009 in Rutland, Vermont.

CC: New Haven  
Jason Barnard, S.T.

<b>Deed Book</b>		<b>Deed Page</b>		
55		498-499		
<b>Fee Type</b>	<b>Gallon Lots</b>	<b>Fee (Gallons)</b>	<b>Fee (Minimum)</b>	<b>Refund Amount</b>
BMC	490	\$70.00	\$0.00	\$0.00

**Project: WW-9-0860-1**

**PIN: RU06-0076**

**Landowner**

John & Donna Seguin  
 967 South Street  
 New Haven VT 05472

**Applicant**

\$ListApplicantsForProject\$

Street/Road: 967 South Street

TownsNew Haven

Development Name: Seguin South Street Subdivision

Reviewer: Marsha Thompson

Project Description: Amendment to previous permit, WW-9-0860 to further subdivide Lot 2=131.4 acres to become Lot 2=121.2 acres w/ approved 4 bdrm SFR & new Lot 3=10.2 acres w/ proposed 4 bdrm SFR (7 occupants)

Received Date: 7/09/2009

Logged Date: 7/10/2009

Reviewed Date: // 27 July 2009

Response Date: // 27 July 2009

Final Action Date: // 27 July 2009 ✓

Final Action Type:   P  

Number of Lots Approved:   1  

**Consultant:**

Jason Barnard, S.T.

**State of Vermont**  
**Department of Environmental Conservation**  
**Wastewater Management Division**  
Rutland Regional Office  
450 Asa Bloomer State Office Building  
88 Merchants Row  
Rutland, VT 05701-5903  
[www.septic.vt.gov](http://www.septic.vt.gov)

[phone] 802-786-5900  
[fax] 802-786-5915

*Agency of Natural Resources*

John & Donna Seguin  
967 South Street  
New Haven VT 05472

**JUL 27 2009**

RE: WW-9-0860-1  
Town of New Haven

Enclosed are two copies of the above referenced permit. You must file this permit with your town clerk within 30 days of issuance.

Please take the items stamped "**DOCUMENTS FOR RECORDING**" and the correct fee (\$10.00 per page) to your town clerk.

Thank you for your cooperation. If you have any questions, please contact me at the above address.

Sincerely,

  
Alicia Owen  
Environmental Technician III *KP*

ENCLOSURES



STATE OF VERMONT  
AGENCY OF NATURAL RESOURCES  
DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
DIVISION OF WASTEWATER MANAGEMENT  
10 V.S.A. CHAPTER 64

NOTICE OF PERMIT RECORDING

To: Municipal/City Clerk, New Haven

Subject: Wastewater System and Potable Water Supply Permit # WW-9-0860-1

Landowner:  
John & Donna Seguin  
967 South Street  
New Haven VT 05472

Land Identified In:

Deed Book	Deed Page
55	498-499

As Municipal Clerk for the town/city, you are hereby notified that the above-referenced Wastewater System and Potable Water Supply Permit is to be recorded in the Municipal Land Records under the authority of 24 V.S.A. §1154 and 1161. The grantor(s) shall be the above-referenced landowner whose lands are identified in the Book(s) and Page(s) specified above and the grantee shall be the State of Vermont, Agency of Natural Resources. The grantor(s) and the grantee shall be listed in the general index for deeds.

The grantee's interest is limited to the lands of the grantor(s) identified in the Book(s) and Page(s) specified above as delineated in the above-referenced Wastewater System and Potable Water Supply Permit issued under the authority of 10 V.S.A. Chapter 64 and the Environmental Protection Rules.

I swear that, to the best of my information and belief, the statements made above are true.

Dated at Rutland Regional Office, Vermont, on July 27, 2009.

For the Wastewater Management Division

Alicia Owen  
Alicia Owen  
Environmental Technician III 140



**State of Vermont**  
**Department of Environmental Conservation**  
**Wastewater Management Division**  
Rutland Regional Office  
450 Asa Bloomer State Office Building  
88 Merchants Row  
Rutland, VT 05701-5903  
[www.septic.vt.gov](http://www.septic.vt.gov)

[phone] 802-786-5900  
[fax] 802-786-5915

*Agency of Natural Resources*

July 10, 2009

John & Donna Seguin  
967 South Street  
New Haven VT 05472

RE: WW-9-0860-1, Seguin South Street Subdivision Amendment to previous permit, WW-9-0860 to further subdivide Lot 2=131.4 acres to become Lot 2=121.2 acres w/ approved 4 bdrm SFR & new Lot 3=10.2 acres w/ proposed 4 bdrm SFR (7 occupants), 967 South Street, New Haven

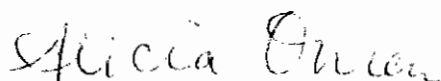
Dear Applicant:

We received your completed application for the above referenced project on July 9, 2009, including a fee of \$70.00 paid by check #3162. Under the performance standards for this program, we have a maximum of 45 days of "in-house" time to review your application. Marsha Thompson has been assigned to review your project. If we require further information from you to make a decision, the time until we receive it is not included in the in-house performance standards.

If you have any questions about the review process, or if you have not received a decision on your application within the 45 in-house days, please contact this office.

We have forwarded the information contained in your application to the Permit Specialist for this region. A Project Review Sheet will be sent to you indicating other state agencies and departments you should contact regarding additional permits or approvals you may need under their programs. If you have not already done so, you should also check with town officials about any necessary town permits.

For the Division of Wastewater Management

  
Alicia M. Owen  
Environmental Technician III

cc:  
New Haven Planning Commission  
Jason Barnard, S.T.



**Jason Barnard  
Consulting, LLC**

4400 VT Route 17  
Starksboro, VT 05487  
(802) 453-2597 Phone  
(802) 453-8497 Fax

JUL 09 2009

May 15, 2009

Ms. Marsha Thompson  
Assistant Regional Engineer  
Agency of Natural Resources  
450 ASA Bloomer Office Building  
Rutland, VT 05701

Subject: John and Donna Seguin, 967 South Street, New Haven, Vermont -  
Potable Water Supply and Wastewater System Permit Amendment Application

Dear Marsha:

Enclosed you will find two copies of the John and Donna Seguin design revised drawings and one copy of the supporting documents relative to their subdivision at 967 South Street in New Haven. The subject property was issued a Potable Water Supply and Wastewater System Permit (WW-9-0860) for the creation of a 10.02+/- acre parcel using their existing 141.4+/- acre parcel (based on the Town of New Haven, Tax Map No. 9). As result of this subdivision, a 10.03+/- acre parcel (Lot No. 1) and a 131.4+/- acre parcel (Lot No. 2) were created. Mr. and Mrs. Seguin are applying for an amendment to the existing permit so that Lot No. 2 can be further subdivided and create a new 10.2+/- acre developable parcel of land (Lot No. 3). As a result, Lot No. 2 will be 121.2+/- acres in size and will contain the originally permitted 4-bedroom single-family residence. All of the parcels will be retained by Mr. and Mrs. Seguin for more than two years and therefore the blood-relative permitting fee exemption is applied.

The new parcel (Lot No. 3) will be improved with a 4-bedroom single-family residence that will be served by a performance-based mound-type wastewater disposal system (formerly the Lot No. 2 replacement area) and will be provided water by an on-site drilled bedrock water supply well. The proposed wastewater disposal system and drilled water supply well proposed for Lot No. 3 meet the current State of Vermont, EPRs, Chapter 1, "Wastewater System and Potable Water Supply Rules".

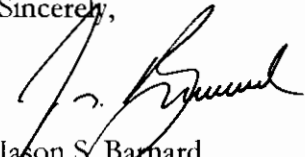
Included to facilitate your review of this permit application are the following:

1. Check made payable to the State of Vermont for the amount of seventy dollars (\$70.00).
2. State of Vermont Agency of Natural Resources Wastewater System and Potable Water Supply Permit Application.
3. Test Pit Logs.
4. Percolations Tests.
5. Lot No. 3. Desktop Effluent Mounding Analysis.

6. Lot No. 3 Mound Wastewater Disposal System Basis of Design.
7. Lot No. 3 Mound Pressure Distribution Details.
8. Lot No. 3 Pump Station Required Effluent Pump.
9. Lot No. 3 Pump Station Alarm Specifications.
10. Mound System Construction Instructions.
11. Mound Sand Specifications.
12. Design Drawings 1 through 3 dated March 10, 2006 and Revised on May 14, 2009.

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:  
John and Donna Seguin

# Wastewater Management Division - Permit Application Wastewater System & Potable Water Supply



**For Office Use Only:**

Application# <u>WW-9-086C-1</u>	PIN# <u>B006-00176</u>	Date Complete Application Received
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**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

1 Last Name <u>Seguin</u>		2 First Name (and Middle Initial if appropriate) <u>John</u>	
3 Mailing Address Line 1 <u>967 South Street</u>		4 Mailing Address Line 2	
5 Town/City <u>New Haven</u>	6 State/Province <u>Vermont</u>	7 Country <u>United States</u>	8 Zip/Postal Code <u>05472</u>
9 Email Address			10 Telephone <u>(802) 453-4046</u>
<input type="button" value="Remove This Applicant"/>			

2

1 Last Name <u>Seguin</u>		2 First Name (and Middle Initial if appropriate) <u>Donna</u>	
3 Mailing Address Line 1 <u>967 South Street</u>		4 Mailing Address Line 2	
5 Town/City <u>New Haven</u>	6 State/Province <u>Vermont</u>	7 Country <u>United States</u>	8 Zip/Postal Code <u>05472</u>
9 Email Address			10 Telephone <u>(802) 453-4046</u>
<input type="button" value="Remove This 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 <u>United States</u>	8 Zip/Postal Code

<b>Certifying Official</b> The Certifying Official must be a person who has signatory authority for the legal entity or organization that is the Applicant. A copy of the document authorizing this person to act as a signatory authority must be attached to this application.	
9 Certifying Official Last Name	10 Certifying Official First Name (and MI if appropriate)
11 Certifying Official Title	
12 Certifying Official Email Address	13 Telephone
<input type="button" value="Remove This Applicant"/>	

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

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

<b>Part II Certifying Designer(s) Information</b>			
1 Designer Last Name Barnard	2 Designer First Name (and Middle Initial if appropriate) Jason S.		
3 Designer License# 00430	4 Company Name Jason Barnard Consulting, LLC		
5 Mailing Address Line 1 4400 VT Route 17	6 Mailing Address Line 2		
7 Town/City Starksboro	8 State/Province Vermont	9 Country United States	10 Zip/Postal Code 05487
11 Email Address jbsitotech@hotmail.com			12 Telephone 802-453-2597

13 Designer Role(s) (check all that apply)

Water Supply Designer

Wastewater Disposal System Designer

**Remove This Designer**

Add Another Designer

**Part III Property Location Information**

**Section A - Property Parcel ID#(s) and Location(s)**

1 Please provide the property location information including Town or City Parcel ID#, Town/City, and Street or Road location in the table below:

	(a) Town/City Parcel ID#	(b) Town or City	(c) Street or Road Location
X	0347-200	New Haven	967 South Street

Add Another Property

**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 44.10989 °	W (-) 73.14463 °

**Part IV Project Information**

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

1 Project Name (if applicable) Seguin South Street Subdivision	2 Total Acreage of Property 131.4
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3 Business Name (if applicable)

4 Detailed Project Description

John and Donna Seguin own a 10.01+/- acre (Lot 1) and a 131.4+/- acre parcel (Lot 2) on the easterly side of South Street in New Haven, Vermont. The subject property was issued a Potable Water Supply and Wastewater System Permit (WW-9-0860) on July 16, 2006 relative to a two lot subdivision. Mr. and Mrs. Seguin propose to further subdivide Lot 2 and create a new developable 10.2+/- acre parcel (Lot 3). Both lots No. 2 and No. 3 will be retained by Mr. and Mrs. Seguin and therefore the blood-relative permit application fee is applied. The 4-bedroom single-family residence proposed for Lot 3 will be served by an on-site performance-based mound system and will be provided water by an on-site drilled bedrock water supply well.

5 Were all buildings or structures, campgrounds, and their associated potable water supplies and wastewater systems substantially completed before January 1, 2007 and all 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 Wastewater Management 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 Marsha Thompson	(b) Date of Visit 01-19-2006
---	---------------------------------

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 Water Quality Division at (802) 241-3770.

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 Water Quality 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 Water Quality 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	New Haven	2

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, Book, and Page reference for the current landowner's deed(s) to this property in the table below:

	(a) Town	(b) Book	(c) Page(s)
X	New Haven	55	498-499

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	03-10-2006	05-14-2009
X	2	Lots No. 2 and 3 Site Plan	03-10-2006	05-14-2009
X	3	Lot No. 3 Wastewater System Details and Notes	05-14-2009	

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
2	131.4	Undeveloped

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	No Building	Residential		WW-9-0860	<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
2	121.2	Residential and 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	Lot 2 House		<input checked="" type="checkbox"/>	4-Bedroom Residence

Add Another Building

Remove This Lot

1 Lot#	2 Lot Size (acres)	3 Proposed Use of the Lot
3	10.2	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 3 House		<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 for this project? .....  Yes  No

2 Are you proposing changes to an existing water supply for this project? .....  Yes  No

3 Is there a connection to an existing water supply for the project? .....  Yes  No

*If you answered No to all three of the above questions, skip to Part VI. Otherwise, proceed with Part V.*

**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 Water Supply Division at (802) 241-3400 for source, construction and operating*



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 Water Supply 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 Water Supply 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 Water Supply Division? .....  Yes  No

*If in areas of known interference issues, please contact the Water Supply 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 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) Increase	(f) Total	
X 2	Lot 2 House	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**

1 Water Supply Name/Identifier Lot 3 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) Increase	(f) Total	
X	3	Lot 3 House	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? .....							<input type="radio"/> Yes <input checked="" type="radio"/> No
10 Is this water supply shared? .....							<input type="radio"/> Yes <input checked="" type="radio"/> 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? .....							<input type="radio"/> Yes <input checked="" type="radio"/> No
If Yes, please submit additional details related to the variance request.							
<b>Remove This Water Supply</b>							

Add Another Water Supply

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

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

	(a) Water Supply Name/Identifier	Design Flows (Gallons Per Day)				
		(b) Existing	(c) Increase	(d) Total		
X	Lot 2 Drilled Well	0	490	490		
X	Lot 3 Drilled Well	0	490	490		
Add Another Water Supply				2	3	4
		0	980	980		

**Part VI Wastewater Disposal System Information**

**Section A - Wastewater Disposal System Screening Questions**

1 Are you proposing a new wastewater disposal system or replacement area for this project? .....

2 Are you proposing changes to an existing wastewater disposal system for this project? .....

3 Is there a connection to an existing wastewater disposal system for the project? .....

If you answered **No** to **all three of the above questions**, skip to Part VII. Otherwise, proceed with Part VI.

**Section B - General Wastewater Disposal System Questions**

1 Does this project involve a failed wastewater disposal system? .....

2 Do any of the systems require a curtain or dewatering drain as part of the design? .....

3 Is a hydrogeologic study required for this project? .....

4 If the project has a soil-based wastewater disposal system with design flows that exceed 1,000 GPD, is this project located in a Class A Watershed?.....

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 Wastewater Management 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 Water Supply Division? .....  Yes  No

If Yes, contact the Water Supply 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 Lot 2 Mound	2 Wastewater Disposal System Owner (if not Applicant)
3 Wastewater Disposal System Type Mound	4 Type of Change to System New System

5 Lots/Buildings Served by this Wastewater Disposal System

(a) Lot#	(b) Building ID	(c) Type of Change to the Building's System	Design Flows (Gallons Per Day)				(h) Rule or Meter Based Flows
			(d) Existing	(e) Increase	(f) Infiltration	(g) Total	
X 2	Lot 2 House	Connection to New System	0	490	0	490	Rule-based
Add Another Lot/Building Served by this System			6	7	8	9	
			0	490	0	490	

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

11 Is this wastewater disposal system shared? .....  Yes  No

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

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

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

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

Indirect Discharge System ID Number \_\_\_\_\_

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

Town \_\_\_\_\_

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

Design Approach Used \_\_\_\_\_

Performance Based

16 For soil-based systems, please check all that apply.

Storage and Dose  Filtrate

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 Lot 3 Mound	2 Wastewater Disposal System Owner (if not Applicant) <input type="text"/>
3 Wastewater Disposal System Type Mound	4 Type of Change to System New System

5 Lots/Buildings Served by this Wastewater Disposal System

(a) Lot#	(b) Building ID	(c) Type of Change to the Building's System	Design Flows (Gallons Per Day)				(h) Rule or Meter Based Flows
			(d) Existing	(e) Increase	(f) Infiltration	(g) Total	
X 3	Lot 3 House	Connection to New System	0	490	0	490	Rule-based
Add Another Lot/Building Served by this System			6	7	8	9	
			0	490	0	490	

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

11 Is this wastewater disposal system shared? .....  Yes  No

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

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

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

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

Indirect Discharge System ID Number

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

Town

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

Design Approach Used  
 Performance Based

16 For soil-based systems, please check all that apply.

Storage and Dose  Filtrate

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) Increase	(d) Infiltration	(e) Total	
X Lot 2 Mound	0	490	0	490	
X Lo 3 Mound	0	490	0	490	
<b>Add Another Wastewater System</b>	2	3	4	5	
	0	980	0	980	

**Part VII Application Fees**

1 Fee Amount \$70.00

2 Fee Calculation Details

Lots No. 2 and 3 will be retained by Mr. and Mrs. Seguin for more than two years. Therefore, the blood-relative permit application fee of \$35 per lot is applied.

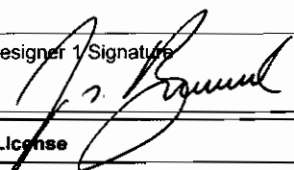
**Part VIII Designer Certification & Copyright License**

**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 Jason S. Barnard	2 Designer 1 Signature 	3 Signature Date 5-15-09
---------------------------------------	--	-----------------------------

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

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

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

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

1 Designer 2 Name	2 Designer 2 Signature	3 Signature Date

**Part IX Applicant(s) Signature & Acknowledgements**

In order to insure compliance with the requirements of the regulations administered by the Department of Environmental Conservation, Wastewater Management 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.

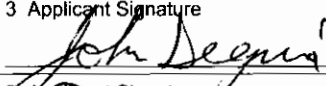
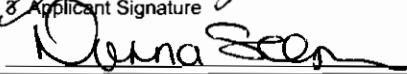
1 If we do visit your property, do you have any special instructions?

"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 Wastewater Management 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."

X	2 Print Applicant Name John Seguin	3 Applicant Signature 	4 Signature Date 7/8/09
X	2 Print Applicant Name Donna Seguin	3 Applicant Signature 	4 Signature Date 7/8/09

Add Applicant Signature Block

JUL 09 2006

# SOIL TEST PIT LOG

Client: John and Donna Seguin Project: Two-Lot Subdivision

Location: 967 South Street, New Haven VT Logged By: Jason Barnard, LD #430-B

Date: January 19, 2006 Time: 9:00 a.m. Weather Conditions: 40° Cloudy

Method of Excavation: Tracked Excavator

Topography: 5 - 12% Ground Slope Vegetation: Open Field

Test Pit #	Depth (inches)	Color	Texture	Consistency & Structure	Mottles	Comments
<b>Lot No 2</b>	<b>Primary</b>	<b>And</b>	<b>Replacement</b>	<b>Wastewater</b>	<b>Areas</b>	
01	0-10"	Dark brown	Fine sandy loam topsoil	Friable	No	
	10-20"	Brown	Gravelly, fine sandy loam	Friable	Fine, faint, few at 20"	
	20-40"	Tan to gray	Fine sandy glacial till	Friable	Prominent, common and distinct	Groundwater, seeps at 30", no bedrock to 40"
02	0-8"	Dark brown	Fine sandy loam topsoil	Friable	No	
	8-20"	Brown	Cobbly, gravelly, fine sandy loam	Friable	Fine, faint, few at 20"	
	20-48"	Tan to gray	Fine sandy glacial till	Friable	Prominent, common and distinct	Groundwater, seeps at 30", no bedrock to 48"
03	0-10"	Dark brown	Fine sandy loam topsoil	Friable	No	
	10-20"	Brown	Gravelly, fine sandy loam	Friable	Fine, faint, few at 20"	
	20-40"	Tan to gray	Fine sandy glacial till	Friable	Prominent, common and distinct	Groundwater, seeps at 30", no bedrock to 40"



Test Pit #	Depth (inches)	Color	Texture	Consistency & Structure	Mottles	Comments
04	0-10"	Dark brown	Gravelly, fine sandy loam topsoil	Friable	No	
	10-20"	Brown	Gravelly, fine sandy loam	Friable	Fine, faint, few at 18"	
	20-48"	Brown	Fine sandy glacial till	Friable	Prominent, common and distinct	Groundwater, seeps at 32", no bedrock to 48"
05	0-10"	Dark brown	Fine sandy loam topsoil	Friable	No	
	10-24"	Orange - brown	Gravelly, fine sandy loam	Friable	Fine, faint, few at 22"	
	24-48"	Gray	Clay loam	Friable to firm	Prominent, common and distinct	Groundwater, seeps at 36", no bedrock to 48"
06	0-10"	Dark brown	Very fine sandy loam topsoil	Friable	No	
	10-24"	Brown	Gravelly, fine sandy loam	Friable	Fine, faint, few at 16"	
	24-48"	Gray	Fine sandy glacial till	Friable to firm	Prominent, common and distinct at 20"	Groundwater, seeps at 36", no bedrock to 48"
07	0-8"	Dark brown	Very fine sandy loam topsoil	Friable	No	
	8-17"	Brown	Gravelly, fine sandy loam	Friable	Fine, faint, few at 16"	
	17-40"	Gray	Silt loam	Friable	Prominent, common and distinct	Groundwater, seeps at 30", no bedrock to 40"



**John and Donna Seguin**  
**Two-Lot Subdivision**  
**967 South Street, New Haven**  
**February 11, 2006**  
**Lot No. 2 Primary and Replacement**  
**Mound Wastewater Systems**

**Table 1**

P-01	Drop Time (min)	Total Drop Time (min)	Total Drop (inches)	Drop Rate (min/inch)
	1.25	4.33	1	4.33
	5.05	10.35	2	5.18
	5.37	17.40	3	5.80
	7.25	24.55	4	6.14
	7.50	33.97	5	6.79
	10.25	45.18	6	7.53
	7.08	57.25	7	8.18
	---	<b>1440.00</b>	---	<b>17.09</b>

P-03	Drop Time (min)	Total Drop Time (min)	Total Drop (inches)	Drop Rate (min/inch)
	1.32	1.32	1	1.32
	4.52	5.84	2	2.92
	5.32	11.16	3	3.72
	5.47	16.63	4	4.16
	6.59	23.22	5	4.64
	9.52	32.74	6	5.46
	13.42	46.16	7	6.59
	---	<b>1440.00</b>	---	<b>29.21</b>

P-02	Drop Time (min)	Total Drop Time (min)	Total Drop (inches)	Drop Rate (min/inch)
	2.54	2.54	1	2.54
	3.15	5.69	2	2.85
	4.09	9.78	3	3.26
	5.07	14.85	4	3.71
	7.57	22.42	5	4.48
	9.41	31.83	6	5.31
	11.38	43.21	7	6.17
	---	<b>1440.00</b>	---	<b>21.49</b>

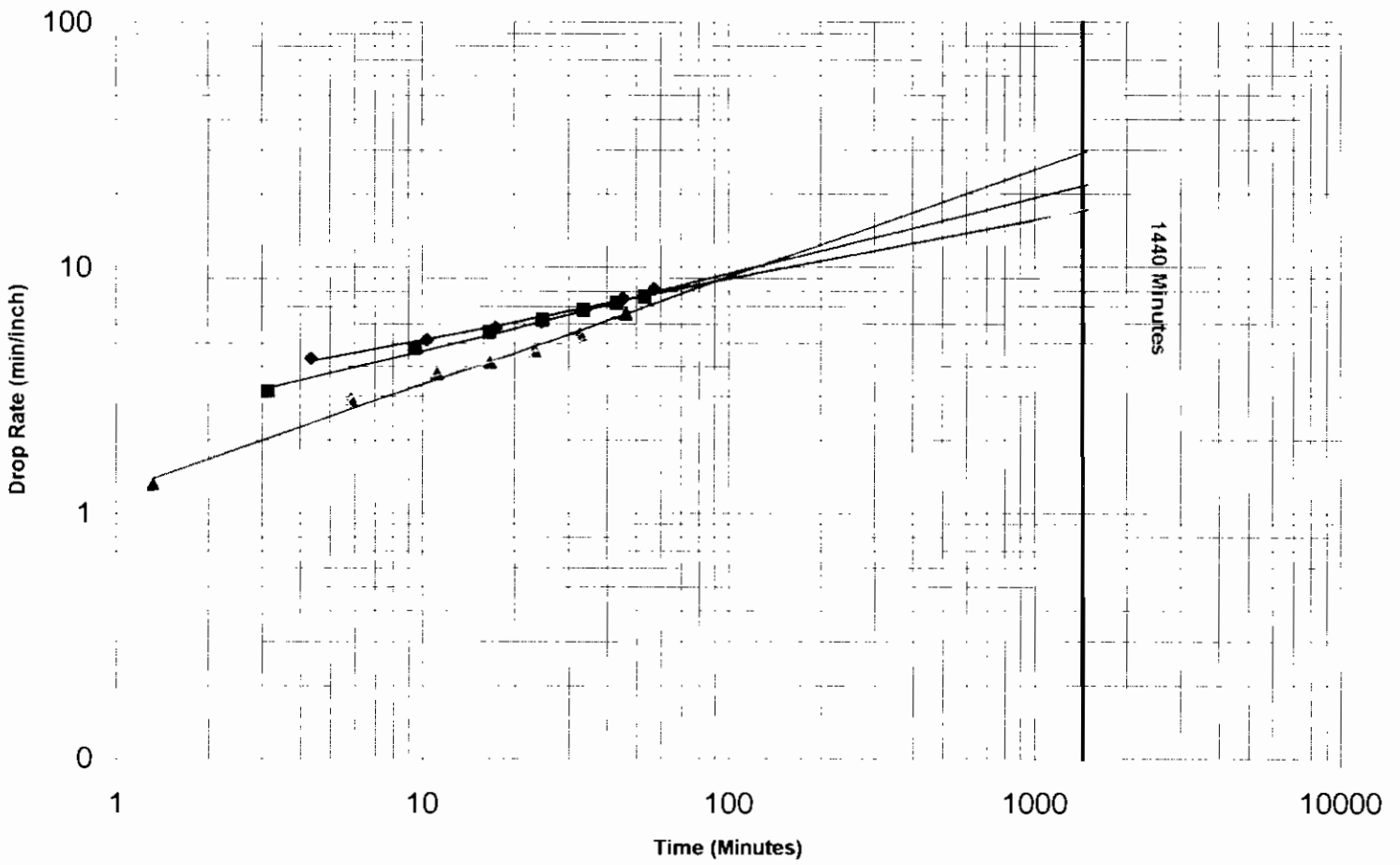
P-04	Drop Time (min)	Total Drop Time (min)	Total Drop (inches)	Drop Rate (min/inch)
	3.15	3.15	1	3.15
	6.31	9.46	2	4.73
	7.14	16.60	3	5.53
	8.15	24.75	4	6.19
	9.05	33.80	5	6.76
	9.35	43.15	6	7.19
	10.24	53.39	7	7.63
	---	<b>1440.00</b>	---	<b>17.29</b>

NOTES:

1. Percolation tests performed at 12 to 18-inches below ground surface.

**John and Donna Seguin**  
**Two-Lot Subdivision**  
**967 South Street, New Haven**  
**February 11, 2006**  
**Lot No. 2 Primary and Replacement**  
**Mound Wastewater Disposal Systems**

**Chart 1**



◆ P-1    ■ P-2    ▲ P-3    × P-4    — P-1 Trend    — P-2 Trend    — P-3 Trend    — P-4 Trend

**John and Donna Seguin  
South Street Subdivision,  
967 South Street  
New Haven, Vermont**

**Lots No. 2 and No. 3 Primary Mound Systems  
Desktop Effluent Mounding Analysis**

Lot No. 2 Primary Mound - Desktop Effluent Mounding Analysis

*Lot No. 2 Primary Mound:*

- Soils present directly beneath and down slope of the Lot No. 2 primary mound system consist of fine sandy loam topsoil over top of a fine sandy loam to approximately 20" below ground surface. The very fine sandy loam unit was used in the effluent mounding analysis.
- Depth to the SHWT is 20" (1.67') below grade (conservative), based on the presence of soil mottling in test pits TP-01, TP-02 and TP-03.

The ground surface slopes 11% in the vicinity of primary mound system.

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:

Fine sandy loam soils with a slope of 11%, therefore  $f = 18.7$

SHWT = 1.67' (20") - 0.5' (6") = 1.17' =  $h$  (conservative).

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

<  $LLR = (1.17)(18.7) = 21.8$  gpd/linear foot.

<  $490 \text{ gpd} / 21.8 \text{ feet} = 22.47$  feet minimum length.

< Since loading at  $1.0 \text{ gpd/ft}^2$ ,  $490 \text{ gpd} / 1.0 \text{ gpd/ft}^2 = 490 \text{ ft}^2$  of infiltration area is

required.

< 490 ft<sup>2</sup> of infiltration area is supplied via one 6 foot by 82 foot absorption bed.

< The linear loading rate is: 490 gpd/82 ft = 6.0 gpd/linear foot.

< The actual effluent mounding is determined as follows:

$$h = LLR/f = 6/18.7 = 0.32 \text{ feet or 4-inches.}$$

### Lot No. 3 Primary Mound - Desktop Effluent Mounding Analysis

#### *Lot No. 3 Primary Mound:*

- Soils present directly beneath and down slope of the Lot No. 3 primary mound system consist of fine sandy loam topsoil over top of a fine sandy loam between 17" and 24" below ground surface. The very fine sandy loam was used in the effluent mounding analysis.
- Depth to the SHWT is 16" (1.33') below grade (conservative), based on the presence of soil mottling in test pit TP-06 and TP-07.

The ground surface slopes 11% in the vicinity of Lot No. 3 primary mound system.

As with the preceding analysis, the following equation is used:

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

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:

Fine sandy loam soils with a slope of 11%, therefore  $f = 18.7$

$$SHWT = 1.33' (16") - 0.5' (6") = 0.83' = h \text{ (conservative).}$$

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

<  $LLR = (0.83)(18.7) = 15.6 \text{ gpd/linear foot.}$

< 490 gpd/15.6 feet = 31.41 feet minimum length.

< Since loading at 1.0 gpd/ft<sup>2</sup>, 490 gpd/1.0 gpd/ft<sup>2</sup> = 490 ft<sup>2</sup> of infiltration area is

required.

< 490 ft<sup>2</sup> of infiltration area is supplied via one 6 foot by 82 foot seepage bed.

< The linear loading rate is: 490 gpd/82 ft = 6.0 gpd/linear foot.

< The actual effluent mounding is determined as follows:

$$h = LLR/f = 6/15.6 = 0.38 \text{ feet or } 4.5\text{-inches.}$$

### Conclusions

Based on the January 19, 2006 test pit evaluations and the hydrogeologic effluent mounding analysis presented above, the Lot No. 2 primary mound system constructed with a 6' wide by 82' long absorption bed with 1.7 feet of mound sand beneath the bed will maintain the effluent plume at least 6-inches below existing grade at all times of the year. The January 19, 2006 test pit information and the hydrogeologic effluent mounding analysis also show the Lot No. 3 primary mound system constructed with a 6' wide by 82' long absorption bed with 2.1 feet of mound sand beneath the bed will maintain the effluent plume at least 6-inches below existing grade at all times of the year.

**MOUND WASTEWATER DISPOSAL SYSTEM BASIS OF DESIGN**

**John and Donna Seguin**  
**967 South Street, New Haven, Vermont**  
**May 14, 2009**  
**Prepared By: Jason Barnard Licensed Designer #430-B**

**Lot No. 3 Primary Mound Wastewater Disposal System****I. WASTEWATER FLOWS AND MOUND SYSTEM SIZING****A. WASTEWATER FLOWS (Q)**

3	Bedrooms	140	gpd/bedroom=	420	gpd
1	Bedrooms	70	gpd/bedroom=	70	gpd
				<b>Total Flows =</b>	<b>490</b> gpd

**B. REQUIRED SEPTIC TANK**

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

**C. PERCOLATION RATE (PR)**

All percolation tests were less than 60 min/inch, therefore an 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 = **490** / **1.0**  
 RLA = **490** sf

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

PLA = LENGTH (L) x WIDTH (W) x NUMBER OF TRENCHES or BEDS (N)  
 L = **82** ft  
 W = **6** ft  
 N = **1** absorption bed  
 PLA = **492** 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 = **490** / **0.74**  
 RBA = **662** 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 = **82** ft  
 MT = **24.5** FT  
 PBA = **2009** sf  
 PBA > RBA, therefore the PBA is acceptable



**MOUND WASTEWATER DISPOSAL SYSTEM BASIS OF DESIGN**

**John and Donna Seguin**  
**967 South Street, New Haven, Vermont**  
**May 14, 2009**  
**Prepared By: Jason Barnard Licensed Designer #430-B**  
**Lot No. 3 Primary 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 = **22** orifices

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

LA/Orifice = LA / Total Number of Orifices

LA/Orifice = **22.4** 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 4-bedroom single-family residence.

**B. REQUIRED MOUND SYSTEM DOSE**

Required Dose = **130** Gallons

Pump Station Dimensions: Camp Precast 1,000 Gallon Pump Station = 4.67 ft x 7.38 ft

Area of Pump Station = **34.5** sf

Volume per Inch of depth = **21.5** gallons / vertical inch

Pump on/off switch difference setting required for dose: **6.0** inches

**C. REQUIRED PUMP STATION STORAGE**

Storage Required = **490** gallons (1 day's flow)

**D. PUMP STATION STORAGE**

Pump alarm to overflow point height difference = **29.0** inches

Storage Provided = **624** gallons

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

**E. PROPOSED EFFLUENT PUMP**

Goulds Model Number 3885 WE1012H 1.0 hp 230 volt 1 phase

**F. PROPOSED EFFLUENT PUMP OPERATING POINT**

See Attached Effluent Pump Curve

JUL 09 2009

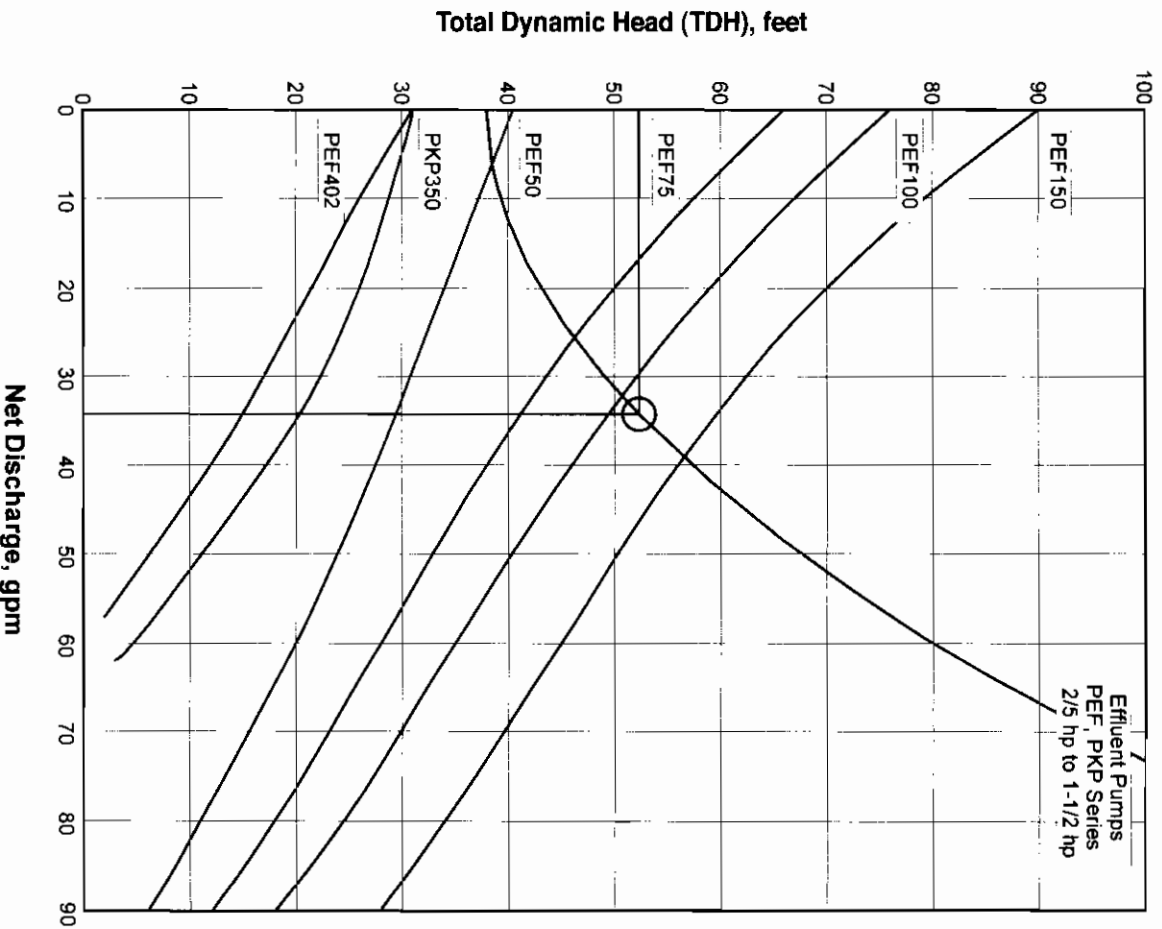
# Pump Selection for a Pressurized System

## Input Parameters

Orifice Size	1/4 inches
Residual Head at Last Orifice	4.00 feet
Orifice Spacing	8.0 feet
Number of Laterals per Cell	2
Lateral Length	80.0 feet
Lateral Line Size	2.00 inches
Lateral Pipe Class/Schedule	40
Distributing Valve Model	None
Manifold Length	3.0 feet
Manifold Line Size	2.00 inches
Manifold Pipe Class/Schedule	40
Lift to Manifold	38.0 feet
Transport Line Length	390.0 feet
Transport Line Size	2.00 inches
Transport Pipe Class/Schedule	40
Discharge Assembly Size	2.00 inches
Flow Meter	None
'Add-on' Friction Losses	0.0 feet

## Calculations

Minimum Flow Rate per Orifice	1.55 gpm
Number of Orifices per Zone	22
Total Actual Flow Rate	34.2 gpm
Number of Lines per Zone	2
% Flow Differential 1st and Last Orifice	1.8 %
Lift to Manifold	38.0 feet
Residual Head at Last Orifice	4.00 feet
Head Loss in Laterals	0.2 feet
Head Loss Through Distributing Valve	0.0 feet
Head Loss in Manifold	0.0 feet
Head Loss in Transport Pipe	7.8 feet
Head Loss Through Discharge	2.3 feet
Head Loss Through Flow Meter	0.0 feet
'Add-on' Friction Losses	0.0 feet
<b>Total Flow Rate</b>	<b>34.2 gpm</b>
<b>TDH</b>	<b>52.3 feet</b>



John and Donna Seguin, South St. Subdivision  
New Haven - Lot No. 3 Mound Pressure Details



**Orenco Systems:**  
Incorporated

814 AIRWAY AVENUE  
SUTHERLIN, OREGON  
97479

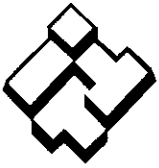
TOLL FREE:  
(800) 348-9843

TELEPHONE:  
(541) 459-4449

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(541) 459-2894

[www.orenco.com](http://www.orenco.com)

John & Donna Seguin  
Lot No. 3 Primary Mound  
Required Effluent Pump



# ITT

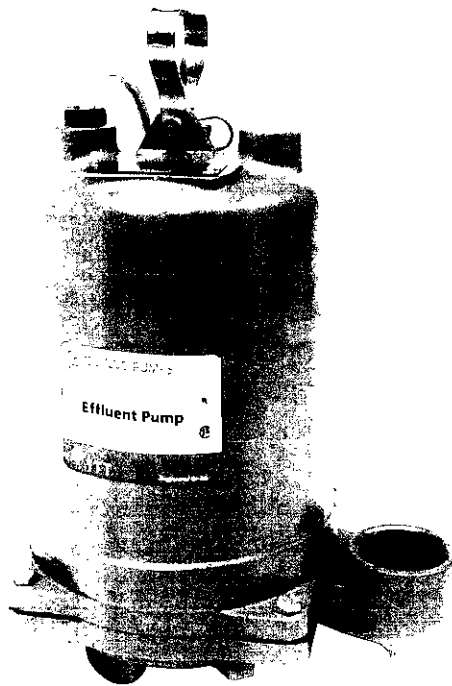
Wastewater

## Goulds Pumps

WE Series Model 3885

Submersible Effluent Pump

PROSURANCE AVAILABLE FOR  
RESIDENTIAL APPLICATIONS.



### FEATURES

- **Impeller:** Cast iron, semi-open, non-clog with pump-out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.
- **Casing:** Cast iron volute type for maximum efficiency. 2" NPT discharge.
- **Mechanical Seal:** Silicon Carbide vs. Silicon Carbide sealing faces. Stainless steel metal parts, BUNA-N elastomers.
- **Shaft:** Corrosion-resistant, stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.
- **Fasteners:** 300 series stainless steel.
- Capable of running dry without damage to components.
- Designed for continuous operation when fully submerged.

 **GOULDS PUMPS**

Goulds Pumps is a brand of ITT  
Residential and Commercial Water.

[www.goulds.com](http://www.goulds.com)

*Engineered for life*

UL 09 07



# ITT

John E Donna Seguir  
Lot No. 3 Primary Mound  
Required Effluent Pump

## GOULDS PUMPS Wastewater

### APPLICATIONS

Specifically designed for the following uses:

- Homes, Farms, Trailer Courts, Motels, Schools, Hospitals, Industry, Effluent Systems

### SPECIFICATIONS

#### Pump

- Solids handling capabilities: 3/4" maximum.
- Discharge size: 2" NPT.
- Capacities: up to 140 GPM.
- Total heads: up to 128 feet TDH.
- Temperature: 104°F (40°C) continuous, 140°F (60°C) intermittent.
- See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

### MOTORS

- Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.
- Class B insulation on 1/3-1 1/2 HP models.
- Class F insulation on 2 HP models.

#### Single phase (60 Hz):

- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.
- SJTOW or STOW severe duty oil and water resistant power cords.

- 1/3 - 1 HP models have NEMA three prong grounding plugs.
- 1 1/2 HP and larger units have bare lead cord ends.

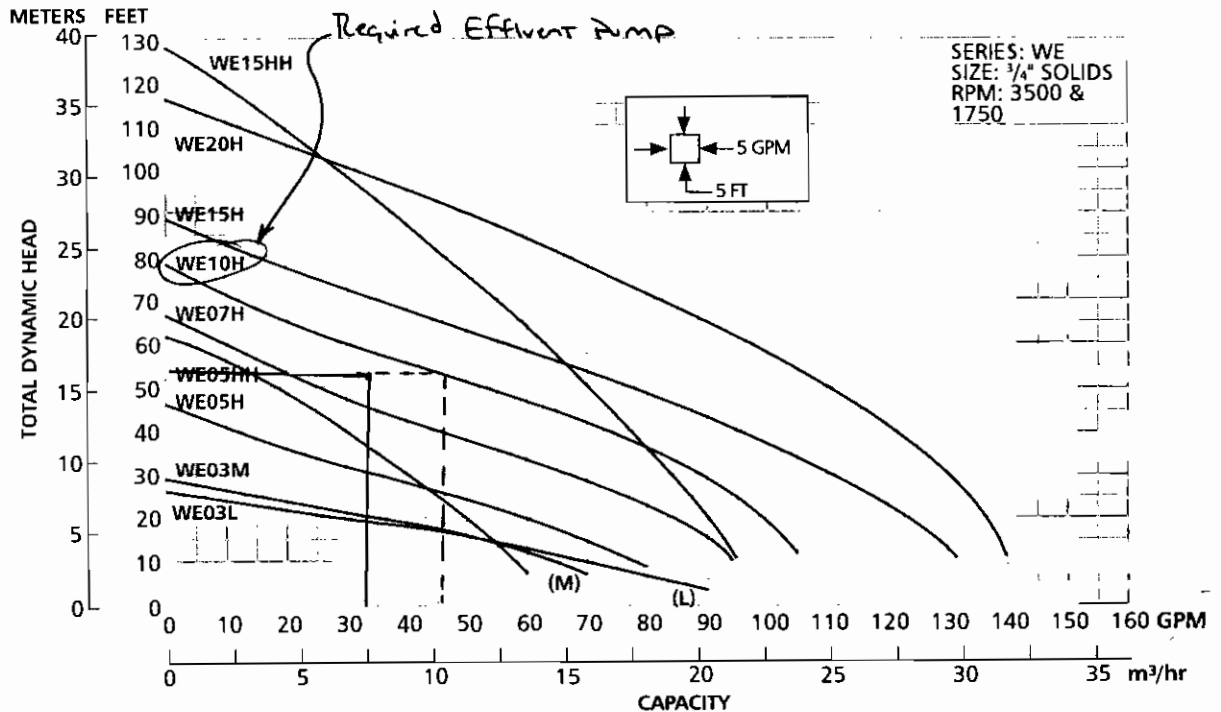
#### Three phase (60 Hz):

- Class 10 overload protection must be provided in separately ordered starter unit.
- STOW power cords all have bare lead cord ends.
- **Designed for Continuous Operation:** Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.
- **Bearings:** Upper and lower heavy duty ball bearing construction.
- **Power Cable:** Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.
- **O-ring:** Assures positive sealing against contaminants and oil leakage.

### AGENCY LISTINGS



Tested to UL 778 and CSA 22.2 108 Standards  
By Canadian Standards Association File #LR38549  
Goulds Pumps is ISO 9001 Registered.





# ITT

John & Donna Seguin  
 Lot No. 3 Primary Mound  
 Required Effluent Pump

## GOULDS PUMPS Wastewater

### MODELS

Order Number	HP	Phase	Volts	RPM	Impeller Diameter (in.)	Maximum Amps	Locked Rotor Amps	KVA Code	Full Load Efficiency %	Resistance		Power Cable Size	Weight (lbs.)		
										Start	Line-Line				
WE0311L	0.33	1	115	1750	5.38	10.7	30.0	M	54	11.9	1.7	16/3	56		
WE0318L			208			6.8	19.5	K	51	9.1	4.2				
WE0312L			230			4.9	14.1	L	53	14.5	8.0				
WE0311M			115			10.7	30.0	M	54	11.9	1.7				
WE0318M			208			6.8	19.5	K	51	9.1	4.2				
WE0312M			230			4.9	14.1	L	53	14.5	8.0				
WE0511H	0.5	1	115	3450	3.56	14.5	46.0	M	54	7.5	1.0	14/3	60		
WE0518H			208			8.1	31.0	K	68	9.7	2.4	16/3	60		
WE0512H			230			7.3	34.5	M	53	9.6	4.0	14/4	60		
WE0538H		3	200			4.9	22.6	R	68	NA	3.8	14/4	60		
WE0532H			230			3.3	18.8	R	70	NA	5.8				
WE0534H			460			1.7	9.4	R	70	NA	23.2				
WE0537H		575	1.4		7.5	R	62	NA	35.3						
WE0511HH		1	1		115	3.88	3.88	14.5	46.0	M	54	7.5	1.0	14/3	60
WE0518HH					208			8.1	31.0	K	68	9.7	2.4	16/3	60
WE0512HH					230			7.3	34.5	M	53	9.6	4.0		
WE0538HH			3		200			4.9	22.6	R	68	NA	3.8	14/4	60
WE0532HH					230			3.6	18.8	R	70	NA	5.8		
WE0534HH	460			1.8	9.4			R	70	NA	23.2				
WE0537HH	575	1.5	7.5	R	62	NA	35.3								
WE0718H	0.75	1	208	3450	4.06	11.0	31.0	K	68	9.7	2.4	14/3	70		
WE0712H			230			10.0	27.5	J	65	12.2	2.7	14/4	70		
WE0738H		3	200			6.2	20.6	L	64	NA	5.7	14/4	70		
WE0732H			230			5.4	15.7	K	68	NA	8.6				
WE0734H			460			2.7	7.9	K	68	NA	34.2				
WE0737H			575			2.2	9.9	L	78	NA	26.5				
WE1018H	1	1	208	3450	4.44	14.0	59.0	K	68	9.3	1.1	14/3	70		
WE1012H			230			12.5	36.2	J	69	10.3	2.1	14/4	70		
WE1038H		3	200			8.1	37.6	M	77	NA	2.7	14/4	70		
WE1032H			230			7.0	24.1	L	79	NA	4.1				
WE1034H			460			3.5	12.1	L	79	NA	16.2				
WE1037H			575			2.8	9.9	L	78	NA	26.5				
WE1518H	1.5	1	208	3450	4.56	17.5	59.0	K	68	9.3	1.1	14/3	80		
WE1512H			230			15.7	50.0	H	68	11.3	1.6	14/4	80		
WE1538H			200			10.6	40.6	K	79	NA	1.9	14/4	80		
WE1532H		3	230			9.2	31.7	K	78	NA	2.9				
WE1534H			460			4.6	15.9	K	78	NA	11.4				
WE1537H			575			3.7	13.1	K	75	NA	16.9				
WE1518HH		1	1		208	5.50	5.50	17.5	59.0	K	68	9.3	1.1	14/3	80
WE1512HH					230			15.7	50.0	H	68	11.3	1.6	14/4	80
WE1538HH					200			10.6	40.6	K	79	NA	1.9	14/4	80
WE1532HH			3		230			9.2	31.7	K	78	NA	2.9		
WE1534HH					460			4.6	15.9	K	78	NA	11.4		
WE1537HH					575			3.7	13.1	K	75	NA	16.9		
WE2012H	2	1	230	3450	5.38	18.0	49.6	F	78	3.2	1.2	14/3	83		
WE2038H			200			12.0	42.4	K	78	NA	1.7	14/4	83		
WE2032H			3			230	11.6	42.4	K	78	NA			1.7	
WE2034H		460				5.8	21.2	K	78	NA	6.6				
WE2037H		575				4.7	16.3	L	78	NA	10.5				



# ITT

John & Donna Seguin  
Lot No. 3 Primary Almond  
Required High Water  
Level Alarm

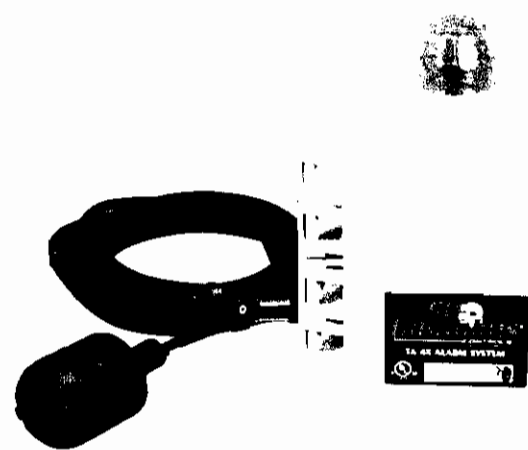
## CENTRIPRO Wastewater and Water Systems

### 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.



## MOUND CONSTRUCTION INSTRUCTIONS

Mound construction procedures are just as important as the mound design. Good design with poor construction will result in the mound operating poorly and may result in failure. Proper equipment is essential. Small track type excavators work best. Wheel type tractors are too difficult to maneuver in the fill. The following is a step by step procedure for mound construction which has been tried and proven. Other techniques could be used as long as the basic principles of mound design, operation, and construction are not violated.

1. Submit a *representative* sample (enough to fill a 5 gallon bucket) of mound sand from the intended source for testing according to ASTM D 422 (Knight Consulting Engineers and Vermont Testing can perform this test). Submit a copy of the results to the designer.
2. Stake out the mound on this site so that the trenches or bed run perpendicular to the direction of the slope. Reference stakes are recommended in case corner stakes are disturbed.
3. Stake out corners of the bed and determine the bottom elevation of the bed.
4. Determine where the force main from the pump chamber connects to the distribution system in the mound.
5. Trench and lay the force main from the pump chamber to the mound. Lay the pipe 5.5' below the ground surface for frost protection. Where there is less than 5.5' of cover, insulate with 2" of rigid polystyrene insulation 4' wide (2' either side of pipe, placed in two 1" layers with staggered joints). Alternatively, where there is less than 5.5' of soil cover, the force main can be sloped *uniformly* back to the pumping chamber so that it drains after each dosing. Cut and cap the pipe one foot beneath the ground surface. Backfill and compact soil around the pipe to prevent back seepage of effluent along pipe. This step must be done before plowing to avoid compacting and disturbance of surface.
6. Install the curtain drain (if shown on plans).
7. Check the moisture content of the soil at 7 – 8 inches deep. If it is too wet, smearing and compaction will result, thus reducing the infiltration capacity of the soil. Soil moisture can be determined by rolling a soil sample between the hands. If it rolls into a ribbon, the site is too wet to prepare. If it crumbles, soil preparation can proceed.
8. Cut trees to ground level, remove excess vegetation by mowing. Prepare the site by using a moldboard plow to create 8 – 10 inch deep furrows perpendicular to the slope. Furrows must be thrown up hill. Chisel plowing may be used if a

moldboard plow is not available. Rototilling must not be done on heavy soils but can be used on non-structural soil such as sands. Alternatively, plowing can be done by using an excavator bucket to pull the soil into furrows parallel with the ground contours (the resulting surface must look as though it had been plowed with a moldboard plow, as outlined above). Immediate construction after plowing is necessary. Avoid rutting of plowed area with vehicular traffic. Inspection required at this point.

9. Extend the effluent pipe to several feet above the ground surface.
10. Place the approved fill material around the edge of the plowed area. Keep wheels of truck off plowed areas. Minimize the traffic on the downslope side of the mound. Work from the end and upslope side.
11. Move the fill material into place using a small track type tractor with a blade. Always keep a minimum of 6 inches of sand beneath tracks to prevent compaction of the natural soil.
12. Place the fill material to the required depth which is the top of the trenches or bed. Shape sides to the desired slope. Inspection required at this point.
13. With the blade of the tractor form the bed or trenches. Hand level the bottom of the bed. Make sure bottom is at the same elevation and level.
14. Place the coarse aggregate in the trenches or bed. It should be  $\frac{3}{4}$  to  $1\frac{1}{2}$  inch, washed, durable aggregate (i.e. **not** limestone or marble). Level aggregate to the design depth.
15. Place the distribution system on the aggregate. Connect the manifold to the force main from the pump chamber or siphon chamber. Slope manifold slightly toward distribution laterals. Lay laterals level, removing rises and dips. Place orifices upwards until pressure testing is complete. Inspection required at this point (to observe discharge rate and pressure testing).
16. Rotate orifices downward and properly cement all components. Place 2 inches of aggregate over the distribution pipe.
17. Place a synthetic non-woven filter fabric (Mirafi 140N or equivalent) over the entire stone bed. Overlap joints by 12" minimum. Place an 8'x8' mat of rigid polystyrene insulation, 2 inches thick, centered over force main riser. Place insulation in two layers (1" each) and stagger the joint pattern.
18. Place soil on top of the bed or trench to a depth of 1 foot in center and 6 inches at outer edge of bed or trenches. This may be a subsoil or topsoil.



19. Place 6 inches of good quality topsoil over the entire mound surface. This will raise the elevation at the center of the mound to a minimum of 1.5 feet and the outside edges of bed or trenches 1 foot. Inspection required at this point.
20. Landscape the mound by planting grass, using the best vegetation adaptable to the area. A mixture of 90% birdsfoot trefoil and 10% timothy may be desirable if the mound is not manicured. If manicuring is desired, a combination of 60% bluegrass, 30% creeping red fescue and 10% annual rye grass may be the desired vegetative cover. Shrubs can be planted around the base and up the sideslopes. They should be somewhat moisture tolerant since the toe of the mound may be somewhat moist during various times of the year. Keep all trees and shrubs away from the top of the mound, as root systems can destroy the distribution network.
21. Mound maintenance involves pumping the septic tank and pump chamber every 1 to 3 years to avoid carryover of solids into the mound. A good water conservation plan within the house assures that the mound will not be overloaded. Avoid excess traffic on the mound area. Winter traffic on mound should be avoided to minimize the frost penetration. Inspect pump chamber and septic tank each year to determine the level of sludge accumulation.

## STATE MOUND SAND SPECIFICATIONS

(c) Fill Material: The fill material from the natural soil plowed surface to the top of the trench or bed shall be sand texture with one of the following sieve analyses:

(1).

<u>Sieve Number</u>	<u>Opening (mm)</u>	<u>Percent Passing, by Weight</u>
10	2.000	85-100
40	0.420	25-75
60	0.240	0-30
100	0.149	0-10
200	0.074	0-5

(2).

<u>Sieve Number</u>	<u>Opening (mm)</u>	<u>Percent Passing, by Weight</u>
4	4.750	95-100
8	2.380	80-100
16	1.190	50-85
30	0.590	25-60
50	0.297	10-30
100	0.149	2-10

(3).

<u>Sieve Number</u>	<u>Opening (mm)</u>	<u>Percent Passing, by Weight</u>
10	2.000	85-100
40	0.420	30-50
200	0.074	0-5

The material must meet specifications 1, 2, or 3 above. Interpolation of analyses is not permitted. Fill material 2 is ASTM Specification C-33 and is intended for manufactured material.