

December 5, 2013

Mr. Thomas Mansfield, Zoning Administrator
Mr. Spencer Harris, Septic Consultant
Town of Charlotte
P.O. Box 119
Charlotte, VT 05445

RE: Trono Property – Water and Wastewater Permit Application for Proposed Lot 1 and Lot 4 Subdivision, 800 Bingham Brook Road, Charlotte, Vermont

Dear Tom and Spencer:

As you are aware, Mr. Peter Trono owns Lot 1, a permitted yet undeveloped 79.2 acre parcel located at the abovementioned address. Mr. Trono would like to subdivide the property into two separate lots with Lot 1 (for himself) equaling 75.9 acres, and Lot 4 (for his son) equaling 1.31 acres. The proposed Lots 1 and 4 will each be developed with a year-round four bedroom single family residence (SFR). The proposed SFR on Lot 1 and Lot 4 will be served by a shared on-site drilled bedrock water supply well and a shared in-ground absorption trench-type wastewater disposal system both located on Lot 1. The existing site and soil conditions along with the proposed water supply and wastewater disposal systems for Lots 1 and 4 are described below in greater detail.

On October 22, 2010 and January 18, 2011, I evaluated a total of twelve (12) test pits associated with the Lot 1 and Lot 4 subdivision. I also evaluated test pit 300 on Lot 1 on August 25, 2012 to fill in a data gap in case a shared system was to be considered for Lot 1 and future Lot 4. It's description is similar to the other test pits located around the Lot 1 and 4 shared disposal area shown on Figure 2 and 3 with well drained conditions to a depth of at least 84". The location of each test pit is shown on Figure 2 and 3. A detailed description of each observed soil profile is included in Attachment A. In and around the proposed Lot 1 in-ground absorption trench, a typical soil profile is described as:

- | | |
|--------|---|
| 0-8" | Dark brown sandy loam, loose, strong granular structure, well drained |
| 8-40" | Orange-brown stony, loamy fine to medium sand, loose, strong granular structure, well drained |
| 40-60" | Brown to gray gravelly loamy fine sand, friable, strong fine blocky structure, well drained |

60-100" Salt and pepper mixed sand and gravel with medium to coarse sand and fine to medium gravel, loose, strong to granular to single grain, well drained, no mottles, water or ledge to depth

Two percolation tests, PT-1 and PT-2, were conducted on Lot 1 associated with Test Pits TP-204 and TP-201, respectively. The percolation tests were conducted at a depth of 18-24" BGS. The slowest percolation rate equals 9.0 minutes/inch (min/in). Therefore, an application rate on 1.0 gpd/ft² was used for the basis of design for the proposed in-ground absorption trench disposal system. The percolation test results are presented in Attachment A. Based on the results of the site and soil evaluation, a fully complying shared in-ground absorption trench-type disposal system for Lot 1 and Lot 4 will adequately address existing site and soil conditions. The Lot 1 and Lot 4 site locations, existing and proposed property dimensions, test pit and percolation test locations, proposed and existing well locations, proposed disposal system layouts, and shared water and wastewater system design details are shown on Plan Sheets 1, 2, 3 and 4.

The proposed shared wastewater disposal system for Lot 1 and 4 require wastewater to flow by gravity from each SFR to a proposed 1,000 gallon concrete septic tank. The Lot 1 wastewater will continue to flow by gravity to a gravity inlet to a 4 outlet distribution box. The Lot 4 wastewater will continue to flow by gravity to a 1000 gallon pump station that will move wastewater through a 1½" force main to a pressurized inlet in the bottom of the 4 outlet distribution box. In terms of pump sizing, the required pump must be capable of pumping 20 gpm versus 35' of total dynamic head (TDH). The head conditions are based on 31' of elevation head and 4' of friction loss head. An acceptable pump specification for a Hydromatic SHEF 50 effluent pump is attached. In order to ensure equalized distribution through the system, the proposed distribution box is located at the center of the proposed 4' x 92' absorption trench system. Each 4' x 92' absorption trench requires a minimum of 18" of stone below the distribution pipe. Because of this, the proposed absorption trench is subject to a 25% size reduction as stipulated in §1-907 (p) of the Vermont Wastewater System and Potable Water Supply Rules, effective September 29, 2007. Therefore, the typical application area for each four bedroom SFR which normally equals 490 ft² (using an application rate of 1.0 gpd/ft²) is reduced to 368 ft². The proposed absorption trench serving Lot 1 and Lot 4 each provide 368 ft² of infiltration area. The Lot 1 and Lot 4 system layout and disposal system details are shown on Plan Sheets 2 and 3.

A shared drilled bedrock water supply is proposed to serve the SFR's on Lot 1 and Lot 4. As Figure 1 and 2 indicate the proposed shared well site is located east of the proposed Lot 1 house site. The proposed well site maintains all applicable isolation distances and the protective well shield does not encroach upon any existing or proposed wastewater disposal system.

The proposed shared water supply system for Lot 1 will consist of a submersible pump set in the drilled well, a 1¼" diameter Class 160 polyethylene riser pipe from the pump to the pitless adapter in the well casing, and from the pitless adapter to the Lot 1 and 4

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residences in 1" water service lines. The details of the shared well and water system are shown on Figure 4. The water system controls, a 4" variable speed pump, a brass check valve, a hose bib, a hydropneumatic surge tank, pressure gauge, pressure relief valve, brass ball valve, a Pentek Intellidrive Variable Frequency Drive (VFD) automatic water pressure controller will be installed in the Lot 1 or Lot 4 residence (whichever is constructed first). You should note that standard residential hydropneumatic tanks are not required in each residence because of the variable speed pump that will be set to provide 70 psi at the well head and at least 50 psi in each residence. The pump is controlled by an in-line pressure transducer.

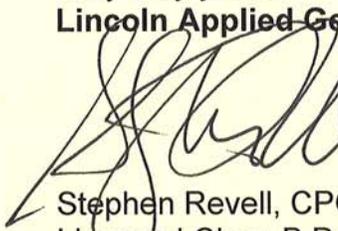
Mr. Trono acknowledges that the proposed well must meet performance testing and water quality testing requirements following its drilling and before putting the well into service. In fact, it is understood that an amendment must be submitted which includes a final water system design the Table 11-5 and 11-7 water quality results and proof that the shared well can meet the maximum daily demand (MDD) of 1.36 gpm and the instantaneous peak demand (IPD) of 10 gpm.

I believe this Lot 1 and Lot 4 subdivision and water/wastewater permit application is complete with a signed application and ANR Form 5, and application fee of \$500.00 covering Lot 4, 2 signed copies of Figures 1, 2, 3 and 4, 1 signed 11" x 17" copy of Figures 1, 2, 3 and 4, one copy of this letter and the attachments and a CD of the complete application. You will also note that I've attached copies of the draft Subdivision Plats B1 and B2 prepared by Larry Young L.S of Summit Engineering. Peter Trono and I look forward to your favorable review and issuance of the requested permit.

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

Very truly yours,

Lincoln Applied Geology, Inc.



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

Enclosures

CC: Peter Trono
David Miskell

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Environmental Consultants

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

Drinking Water & Groundwater Protection Division - Permit Application Wastewater System & Potable Water Supply



For Office Use Only:

Application#	PIN#	Date Complete Application Received
<input type="text"/>	<input type="text"/>	<input type="text"/>

Authority:
10 V.S.A. Chapter 64, the Environmental Protection Rules, Chapter 1, Wastewater System & Potable Water Supply Rules, and Chapter 21, Water Supply Rules, Appendix A. Part 11 - Small Scale Water Systems.

General Information:

The organization and/or content of this form may not be altered, however, the form is designed to expand to allow additional information to be entered. Changes in the organization and/or content of the form may result in an invalid application or permit.

In most cases a licensed designer will be required for your project and to help complete this application form. There are also line-by-line instructions available to assist with completing this form.

NOTE: We strongly suggest referring to the application instructions while completing this application form.

Part I Applicant (Landowner) & Project Contact Information

Section A - Applicant Details (if Landowner is an Individual or Individuals)

1 Last Name Trono		2 First Name (and Middle Initial if appropriate) Peter (J.)	
3 Mailing Address Line 1 Trono Oil and Gas Company		4 Mailing Address Line 2 8 Chase Lane	
5 Town/City Burlington	6 State/Province VT	7 Country United States	8 Zip/Postal Code 05401
9 Email Address tronovt@tronofuels.comcastbiz.net		10 Telephone 802-864-7828	

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
<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 United States	8 Zip/Postal Code
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

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"/>

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

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

Part II Certifying Designer(s) Information			
1 Designer Last Name		2 Designer First Name (and Middle Initial if appropriate)	
3 Designer License#		4 Company Name	
5 Mailing Address Line 1		6 Mailing Address Line 2	
7 Town/City	8 State/Province	9 Country	10 Zip/Postal Code
11 Email Address		12 Telephone	
13 Designer Role(s) (check all that apply)			
<input checked="" type="checkbox"/> Water Supply Designer <input checked="" type="checkbox"/> Wastewater Disposal System Designer			
Remove This Designer			

Add Another Designer

Part III Property Location Information	
Section A - Property Location	
1 Please provide the property Town and the property address or a brief description of the location.	
(a) Town or City	(b) Street or Road Location
Charlotte	800 Bingham Brook 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 (in decimal degrees to five decimal places, ex. 44.38181°) (b) Longitude (in decimal degrees to five decimal places, ex. -72.31392°)

N ° W (-) °

Part IV Project Information

Section A - General Project Information & Questions

1 Project Name (if applicable) <input type="text" value="Trono Property"/>	2 Total Acreage of Property <input type="text" value="77.21"/>
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3 Business Name (if applicable)

4 Detailed Project Description
Mr. Trono currently owns Lot 1 a permitted but unimproved +/- 77.21 acre parcel located at 800 Bingham Brook Road in Charlotte, VT. He is proposing to subdivide his Lot 1 property into two separate lots with Lot 1 equaling +/- 75.9 acres, and Lot 4 equaling 1.31 acres. The proposed Lots 1 and 4 will each be developed with year-round four bedroom single family residences (SFR). Lot 1 will be served by a shared bedrock water supply well and a shared in-ground absorption trench wastewater disposal system on Lot 1.

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

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

6 Does this application include subdividing the property? Yes No

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

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

(a) Name of Staff Person <input type="text" value="Spencer Harris"/>	(b) Date of Visit (m/d/yyyy) <input type="text" value="8/910 & 8/23/10"/>
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8 Will any construction occur within 50 feet of a wetland boundary, mapped or designated? Yes No

If Yes, contact the Wetlands Program of the Watershed Management Division at (802) 338-4835.

9 Will more than one acre be disturbed during the entire course of construction, including all lots and phases? Yes No

If Yes, contact the Stormwater Program of the Watershed Management Division at (802) 241-4320.

10 Will there be any stream crossings by roads, utilities, or other construction? Yes No

If Yes, contact the River Corridor Mgmt. Program of the Watershed Management Division at:

Central & Northwest Vermont	(802) 879-5631
Southern Vermont	(802) 786-5906
Northeastern Vermont	(802) 751-0129

11 Is the project located in a special flood hazard area as designated on the flood insurance maps prepared for a municipality by the Federal Emergency Management Agency? Yes No

If Yes, show the special flood hazard area limits on the site plan.

12 Act 250: Has the Applicant (Landowner) subdivided any other lots of any size within a five mile radius of this subdivision, or within the environmental district within the last five years ? Yes No

If Yes, enter the town(s) and the associated number of lots in the table below:

	(a) Town	(b) Number of Lots
X	<input type="text"/>	<input type="text"/>
<input type="button" value="Add Another Town/Lot"/>		

13 Is there any prior Act 250 jurisdiction on the tract of land?..... Yes No

If Yes, enter the Act 250 permit number:

(a) Act 250 Permit Number

Section B - Project Deed Reference

1 Please provide the Town, Parcel ID, Book, and Page reference for the current landowner's deed(s) to this property:

	(a) Town	(b) Parcel ID	(c) Book	(d) Page(s)
X	Charlotte	0021-0800	188	155
X	Charlotte	0021-0800	188	158
X	Charlotte	0021-0800	190	641
X	Charlotte	0021-0800	209	249

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 Property Site Plan	12/3/2013	
X	2	Lot 4 Site Development Plan	12/3/2013	
X	3	Lot 1 & 4 Wastewater System Details	12/3/2013	
X	4	Lot 1 & 4 Shared Water System Details	12/3/2013	

Add Another Plan Reference

Section D - Existing Project Lot/Building Details

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

1 Lot#	2 Lot Size (acres)	3 Existing Use of the Lot
1	77.2	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	0	Undeveloped	NA	WW-138-1104	<input checked="" type="radio"/> Yes <input type="radio"/> No

Add Another Building

Remove This Lot

Add Another Lot

Section E - Proposed Project Lot/BuildingDetails

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	75.9	Single Family Residence

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

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

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

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

(a) Building ID	(b) If building is exempt, indicate exemption	(c) Construction or increased flow?	(d) Proposed Use
X 1		<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
2	1.3	Single Family Residence

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

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

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

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

(a) Building ID	(b) If building is exempt, indicate exemption	(c) Construction or increased flow?	(d) Proposed Use
X 1		<input checked="" type="checkbox"/>	4 bedroom residence

Add Another Building

Remove This Lot

Add Another Lot

Part V Water Supply Information

Section A - Water Supply Screening Questions

1 Are you proposing a new water supply or water service line or changes to a permitted but not constructed water supply or water service line for this project? Yes No

2 Are you proposing changes to an existing water supply or water service for this project (including changes to location, design flows, or operational change)? Yes No

3 Is there an existing connection to a water supply or water service line for this project? Yes No

Complete Part V if you answered Yes to any of the above questions. A project with no existing or proposed water supply may skip to Part VI.

Section B - General Water Supply Questions

1 Does this project involve a failed water supply? Yes No

2 Will any of the proposed water sources serve 25 or more people or have 15 or more service connections? Yes No
 If Yes, the applicant must contact the Drinking Water & Groundwater Protection Division at (802) 241-3400 for source, construction and an operating permit.

3 Are any of the existing or proposed water sources located within a special flood hazard area? Yes No

4 Are any of the existing or proposed water sources located within a floodway? Yes No

5 Are any of the proposed water sources located within 1 mile of a hazardous waste site as designated by the Waste Management Division and identified on the Agency mapping website? Yes No

If Yes, please submit additional information on the site. The Waste Management Division can be reached at (802) 241-3888.

6 Does this project require an approval letter from the Drinking Water & Groundwater Protection Division for the construction of a public water system, municipal water line extension over 500 feet, or hydrants or sprinkler systems? Yes No

If Yes, please submit a copy of the approval letter from the Drinking Water & Groundwater Protection Division.

7 Does the proposed or existing water supply(ies) use a water treatment device to obtain compliance with the quality requirements in the Water Supply Rule? Yes No

If Yes, please submit additional information regarding the constituent(s) that exceeds the standards and plans, details, and specifications of the treatment device.

8 Is any portion of the proposed water supply located in or near a Water Source Protection Area as designated by the Drinking Water & Groundwater Protection Division? Yes No

If in areas of known interference issues, contact the Drinking Water & Groundwater Protection Division at (802) 241-3400.

Section C - Individual Water Supply Details

Please provide the following information for each of the existing and proposed water supply(ies) serving a building or structure, or campground on the property.

1 Water Supply Name/Identifier Lot 1/Lot 4 Shared Well	2 Water Supply Owner (if not Applicant)
3 Water Source Type Non-Public Drilled Bedrock Well	4 Type of Change to Supply New System

5 Lots/Buildings Served by this Water Supply System

	(a) Lot#	(b) Building ID	(c) Type of Change to the Building's Supply	Design Flows (Gallons Per Day)			(g) Rule or Meter Based Flows
				(d) Existing	(e) Change	(f) Total	
X	1	1	Connection to New System	490	0	490	Rule-based
X	4	1	Connection to New System	0	490	490	Rule-based
Add Another Lot/Building Served by this Supply				6	7	8	
				490	490	980	

9 Is this water supply located off-lot? Yes No

10 Is this water supply shared? Yes No

If the water supply is located off-lot or shared, submit a copy of the agreement to provide an easement prior to construction.

11 Is a variance being requested for this water supply? Yes No

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

Remove This Water Supply

Add Another Water Supply

Section D - Water Supply Design Flows Summary Table

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

	(a) Water Supply Name/Identifier	Design Flows (Gallons Per Day)		
		(b) Existing	(c) Change	(d) Total
X	Lot 1/Lot 4 Shared Well	490	490	980

Add Another Water Supply

2	3	4
490	490	980

Part VI Wastewater Disposal System Information

Section A - Wastewater Disposal System Screening Questions

- 1 Are you proposing a new or replacement wastewater disposal system, a new wastewater service line, or changes to a permitted but not constructed wastewater disposal system or wastewater service line for this project? Yes No
- 2 Are you proposing changes to an existing wastewater disposal system, replacement wastewater disposal system, replacement area, or wastewater service line for this project (including changes to location, design flows, or operational change)? Yes No
- 3 Is there an existing connection to a wastewater disposal system or wastewater service line for this project?..... Yes No

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

Section B - General Wastewater Disposal System Questions

- 1 Does this project involve a failed wastewater disposal system? Yes No
- 2 Do any of the systems require a curtain or dewatering drain as part of the design? Yes No
- 3 Is a hydrogeologic study required for this project? Yes No
- 4 For projects using soil-based wastewater systems having a total design flow that exceeds 1,000 gpd, is this project located in a Class A Watershed?..... Yes No NA

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

(a) Class A Watershed Name

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

If Yes, indicate where the floor drains will discharge:

(a) Floor Drain Discharge Point

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

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

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

Section C - Individual Wastewater Disposal System Details

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

1 Wastewater Disposal System Name/Identifier <input style="width: 95%; height: 20px;" type="text" value="Lot 1/Lot 4 Shared System"/>	2 Wastewater Disposal System Owner (if not Applicant) <input style="width: 95%; height: 20px;" type="text"/>
3 Wastewater Disposal System Type <input style="width: 95%; height: 20px;" type="text" value="In-ground"/>	4 Type of Change to System <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)			(g) Total	(h) Rule or Meter Based Flows
				(d) Existing	(e) Change	(f) Infiltration		
X	1	1	Connection to New System	490	0	0	490	Rule-based
X	4	1	Connection to New System	0	490	0	490	Rule-based

Add Another Lot/Building Served by this System

6	7	8	9
490	490	0	980

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

11 Is this wastewater disposal system shared? Yes No
If the wastewater disposal system is located off-lot or shared, submit a copy of the agreement to provide an easement prior to initiation of construction.

12 Is a variance being requested for this wastewater disposal system? Yes No
If Yes, please submit additional details related to the variance request.

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

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

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

16 For soil-based systems, please check all that apply (Note: Store and dose does not apply to standard pump/pump chamber systems).
 Storage and Dose Filtrate Constructed Wetlands

17 If this is an Innovative/Alternative soil-based system, please select the system use type.
 Innovative/Alternative System Use Type

18 If this is an Innovative/Alternative soil-based system, please select the Innovative/Alternative system or product.
 Innovative/Alternative System or Product

Remove This Wastewater System

Add Another Wastewater System

Section D - Wastewater Disposal Systems Design Flows Summary Table

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

	Design Flows (Gallons Per Day)				
	(a) Wastewater Disposal System Name/Identifier	(b) Existing	(c) Change	(d) Infiltration	(e) Total
X	Lot 1/Lot 4 Shared System	490	490	0	980
	Add Another Wastewater System	2	3	4	5
		490	490	0	980

Part VII Application Fees

1 Fee Amount

2 Fee Calculation Details

Part VIII Designer Certification & Copyright License

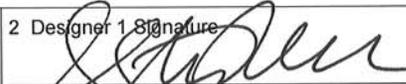
Section A - Certifying Designer 1 Certification & Copyright License

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

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

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

- Water Supply Designer
- Wastewater Disposal System Designer

1 Designer 1 Name Stephen Revell	2 Designer 1 Signature 	3 Signature Date 12/5/13
-------------------------------------	--	-----------------------------

Section B - Certifying Designer 2 Certification & Copyright License

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

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

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

- Water Supply Designer
- Wastewater Disposal System Designer

1 Designer 2 Name	2 Designer 2 Signature	3 Signature Date

Part IX Applicant(s) Signature & Acknowledgements

In order to insure compliance with the requirements of the regulations administered by the Department of Environmental Conservation, Drinking Water & Groundwater Protection Division, it may be necessary to visit the property. As this would involve a Department employee entering private property, we request your approval to do so.

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

"As landowner of the property for which I am requesting a permit from the Department of Environmental Conservation, I understand that by signing this application I am granting permission for the Department employees to enter the property, during normal working hours, to insure compliance of the property with the applicable rules of the Department.

I also understand that I am not allowed to commence any site work or construction on this project without written approval from the Department of Environmental Conservation.

If my project utilizes an Innovative/Alternative System or Product, I have received a copy of the Drinking Water & Groundwater Protection Division's approval letter and agree to abide by the conditions of the approval.

I also certify that to the best of my knowledge and belief the information submitted above is true, accurate and complete."

<input checked="" type="checkbox"/> 2 Print Applicant Name Peter Trono	3 Applicant Signature	4 Signature Date
---	-----------------------	------------------

Add Applicant Signature Block

SIG
HE

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) Peter Trono

Property Address or Property Tax ID # 800 Bingham Brook Rd

Date of this certification _____

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



**Trono Property
Bingham Brook Road
Soil Profile Descriptions
By: Stephen Revell, LCBD #178 and Senior Hydrogeologist
October 22, 2010 and January 18, 2011**

Test Pit #100 (TP-100)

- 0-6" Dark brown sandy loam, loose, strong granular structure, well drained
- 6-20" Red-brown to orange-brown slightly stony loamy medium sand to medium sandy loam, loose, strong granular to fine blocky structure, well drained
- 20-36" Red-brown gravelly, slightly loamy sand, loose, strong granular structure, well drained
- 36-90" Salt and pepper mixed sand and gravel with medium to coarse sand and fine to medium gravel, loose, strong granular to single grain, well drained, no mottles, water or ledge to depth

Test Pit #101 (TP-101)

- 0-10" Dark brown sandy loam, loose, strong granular structure, well drained
- 10-30" Red-brown to orange-brown slightly stony loamy medium sand to medium sandy loam, loose, strong granular to fine blocky structure, well drained
- 30-50" Tan to yellow-brown fine to medium sand to loamy medium sand, loose to friable, strong granular structure, well drained
- 50-66" Brown-tan fine to medium sand, loose, strong granular structure, well drained
- 66-96" Salt and pepper mixed sand and gravel with medium to coarse sand and fine to medium gravel, loose, strong granular to single grain, well drained, no mottles, water or ledge to depth

Test Pit #102 (TP-102)

- 0-12" Dark brown sandy loam, loose, strong granular structure, well drained
- 12-30" Red-brown to orange-brown slightly stony loamy medium sand to medium sandy loam, loose, strong granular to fine blocky structure, well drained



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30-48" Tan to yellow-brown fine to medium sand to loamy medium sand, loose to friable, strong granular structure, well drained

48-96" Salt and pepper mixed sand and gravel with medium to coarse sand and fine to medium gravel, loose, strong granular to single grain, well drained, no mottles, water or ledge to depth

Test Pit #103 (TP-103)

0-10" Dark brown sandy loam, loose, strong granular structure, well drained

10-42" Tan slightly gravelly loamy sand, loose, strong granular structure, well drained

42-86" Salt and pepper mixed sand and gravel with medium to coarse sand and fine to medium gravel, loose, strong granular to single grain, well drained, no mottles, water or ledge to depth

Test Pit #104 (TP-104)

0-8" Dark brown sandy loam, loose, strong granular structure, well drained

8-40" Orange-brown stony, loamy fine to medium sand, loose, strong granular structure, well drained

40-60" Brown to gray gravelly loamy fine sand, friable, strong fine blocky structure, well drained

60-100" Salt and pepper mixed sand and gravel with medium to coarse sand and fine to medium gravel, loose, strong granular to single grain, well drained, no mottles, water or ledge to depth

Test Pit #105 (TP-105)

0-8" Dark brown sandy loam, loose, strong granular structure, well drained

8-30" Orange-brown gravelly sandy loam, loose, strong granular, well drained

30-48" Tan medium sand, loose, strong granular, well drained

48-90" Salt and pepper bouldery mixed sand and gravel with medium to coarse sand and fine to medium gravel, loose, strong granular to single grain, well drained, no mottles, water or ledge to depth



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Test Pit #106 (TP-106)

- 0-8" Dark brown sandy loam, loose, strong granular structure, well drained
- 8-36" Orange-brown stony, loamy medium sand, loose, strongly developed granular structure, well drained
- 36-84" Salt and pepper mixed sand and gravel with medium to coarse sand and fine to medium gravel, loose, strong granular to single grain, well drained, no mottles, water or ledge to depth

Test Pit #107 (TP-107) *Not Applicable (Lot 2/3 Area)*

- 0-12" Dark brown sandy loam, loose, strong granular structure, well drained
- 12-42" Orange-brown gravelly sandy loam, some boulders, loose, granular, well drained
- 42-84" Salt and pepper mixed sand and gravel with medium to coarse sand and fine to medium gravel, loose, strong granular to single grain, well drained, no mottles, water or ledge to depth

Test Pit #108 (TP-108) *Not Applicable (Lot 2/3 Area)*

- 0-8" Dark brown sandy loam, loose, strong granular structure, well drained
- 8-42" Orange-brown gravelly medium to coarse sandy loam, loose, strong granular to fine blocky structure, well drained
- 42-72" Salt and pepper mixed sand and gravel with medium to coarse sand and fine to medium gravel, loose, strong granular to single grain, well drained, no mottles, water or ledge to depth

Test Pit #109 (TP-109) *Not Applicable (Lot 2/3 Area)*

- 0-16 Dark brown sandy loam, loose, strong granular structure, well drained
- 12-54" Orange-brown gravelly medium to coarse sandy loam, loose, strong granular to fine blocky structure, well drained
- 54-72" Tan slightly gravelly medium sand, loose, strong granular, well drained, no mottles, water or ledge

Test Pit #200 (TP-200)

- 0-6" Dark brown sandy loam, strongly developed crumb structure, loose, well drained



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- 6-36" Orange-brown stony, loamy medium sand, loose, strongly developed granular structure, well drained
- 36-84" Brown-gray to salt and pepper mixed sand and gravel with medium to coarse gravel, minor cobbles, medium to coarse sand, loose, strong granular structure, well drained, no mottles, water or ledge to depth

Test Pit #201 (TP-201)

- 0-8" Dark brown sandy loam, strong crumb to granular structure, loose, well drained
- 8-42" Orange-brown stony, loamy medium sand, loose, strongly developed granular structure, well drained
- 42-84" Brown-gray to salt and pepper mixed sand and gravel, some cobbles, minor boulders, mostly medium sand, well drained, no mottles, water or ledge to depth

Test Pit #202 (TP-202)

- 0-6" Dark brown sandy loam, strongly developed, crumb structure, loose, well drained
- 8-42" Orange-brown stony, loamy medium sand, loose, strongly developed granular structure, well drained
- 42-84" Brown-gray mixed sand and gravel, medium to coarse sand and fine to medium gravel, loose, strong granular, well drained, no mottles, water or ledge to depth

Test Pit #203 (TP-203)

- 0-6" Dark brown sandy loam, strongly developed, crumb structure, loose, well drained
- 6-36" Orange-brown stony, loamy medium sand, loose, strongly developed granular structure, well drained
- 36-60" Brown-gray silty loam, moderate fine blocky structure, friable, mottled, no water or ledge to depth



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Test Pit #204 (TP-204)

- 0-6" Dark brown sandy loam, strongly developed, crumb structure, loose, well drained
- 6-36" Orange-brown stony, loamy medium sand, loose, strongly developed granular structure, well drained
- 24-84" Tan to yellow-brown medium sand, loose, strong granular, well drained, no mottles, water or ledge to depth

Test Pit #205 (TP-205) *NOT APPLICABLE (LOT 2 & 3 AREA)*

- 0-8" Dark brown sandy loam, loose, strong granular, well drained
- 8-36" Orange-brown to red-brown somewhat stony medium sand to loamy, medium sand, loose, strong granular to crumb structure, well drained, no mottles, or ledge
- 36-60" Brown-gray silt loam, friable, moderate to weak structure, mottled, no water or ledge to depth

Test Pit #206 (TP-206) *NOT APPLICABLE (LOT 2 & 3 AREA)*

- 0-8" Dark brown sandy loam, loose, strong granular, well drained
- 8-36" Orange-brown to red-brown somewhat stony medium sand to loamy, medium sand, loose, strong granular to crumb structure, well drained, no mottles, or ledge
- 30-36" Tan loamy fine to medium sand, loose, strong granular to fine blocky, well drained, no mottles, water or ledge to 36"
- +36" Quartzite type ledge

Test Pit #207 (TP-207) *NOT APPLICABLE (LOT 2 & 3 AREA)*

- 0-8" Dark brown sandy loam, loose, strong granular, well drained
- 8-36" Orange-brown to red-brown somewhat stony medium sand to loamy, medium sand, loose, strong granular to crumb structure, well drained, no mottles, or ledge
- 30-40" Tan loamy fine to medium sand, loose, strong granular to fine blocky, well drained, no mottles, water or ledge to 40"
- +40" Ledge – Quartzite



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Trono Property - Lot 1
 Bingham Brook Road
 Charlotte, Vermont

Percolation Test Results

All tests were performed on January 18, 2011 at a depth of 18" - 24"

PT-1	Drop Time (min)	Total Drop Time (min)	Total Drop (inches)	Drop Rate (min/inch)
	4.6	4.6	1	4.6
	5.8	10.4	2	5.2
	6.3	16.7	3	5.6
	6.6	23.2	4	5.8
	6.8	30.0	5	6.0
	6.9	36.9	6	6.2
	7.1	44.0	7	6.3
	---	1440.0	---	9.0

PT-2	Drop Time (min)	Total Drop Time (min)	Total Drop (inches)	Drop Rate (min/inch)
	3.8	3.8	1	3.8
	5.1	8.9	2	4.4
	5.5	14.4	3	4.8
	5.9	20.3	4	5.1
	6.1	26.4	5	5.3
	6.3	32.6	6	5.4
	6.4	39.1	7	5.6
	---	1440.0	---	8.5

*NOTE:

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

Trono Property - Lot 1

Bingham Brook Road

Charlotte, Vermont

Percolation Test Results

All tests were performed on October 22, 2010 and January 18, 2011 at a depth of 18" - 24"

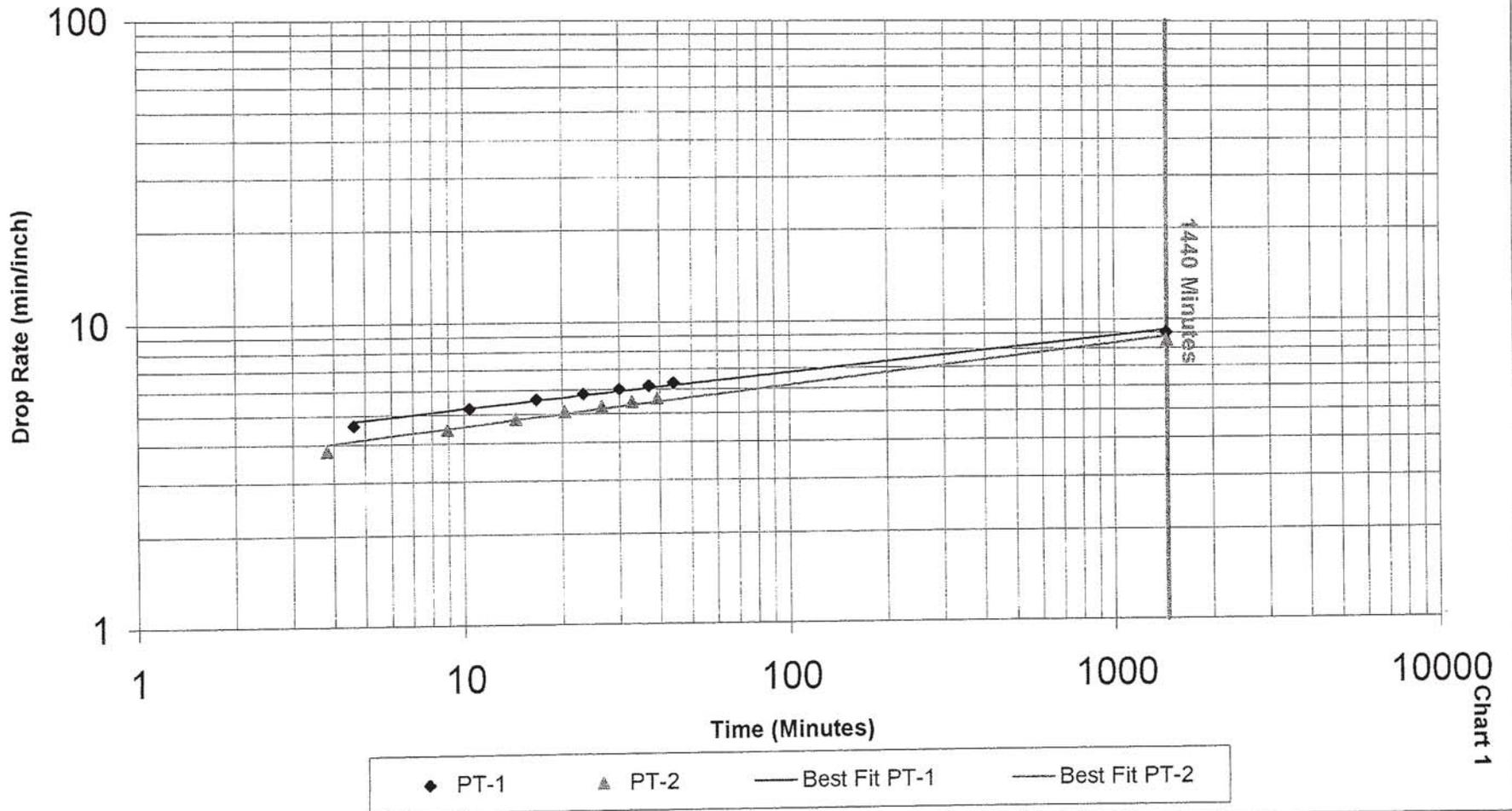


Chart 1

HYDROMATIC®

SHEF50/100

Submersible High Head Effluent Pumps

Applications:

- Septic Tank Effluent
- High Head Sump
- Dewatering



SHEF100 Features:

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

SHEF50 Features:

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



 **HYDROMATIC®**
Pentair Pump Group

SHEF100 Shown

SHEF50/100 Submersible Effluent Pumps

Details

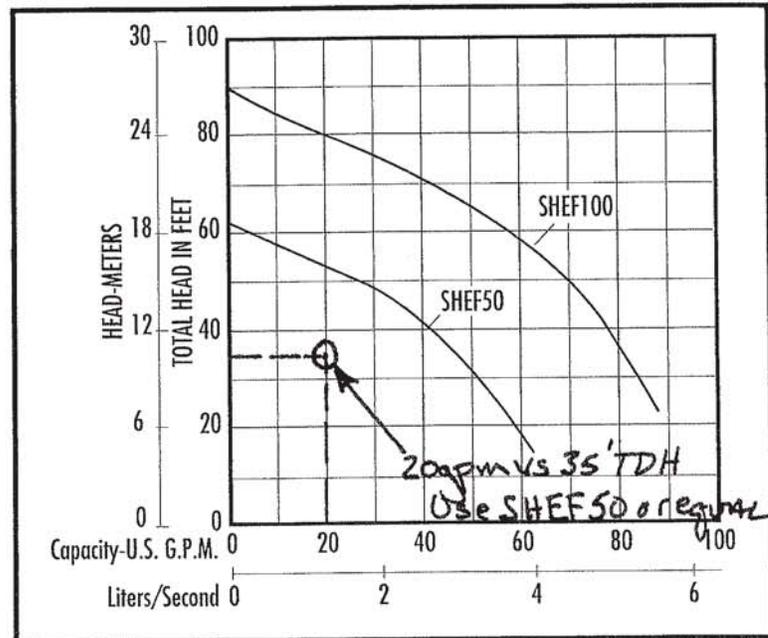
Pump Characteristics

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

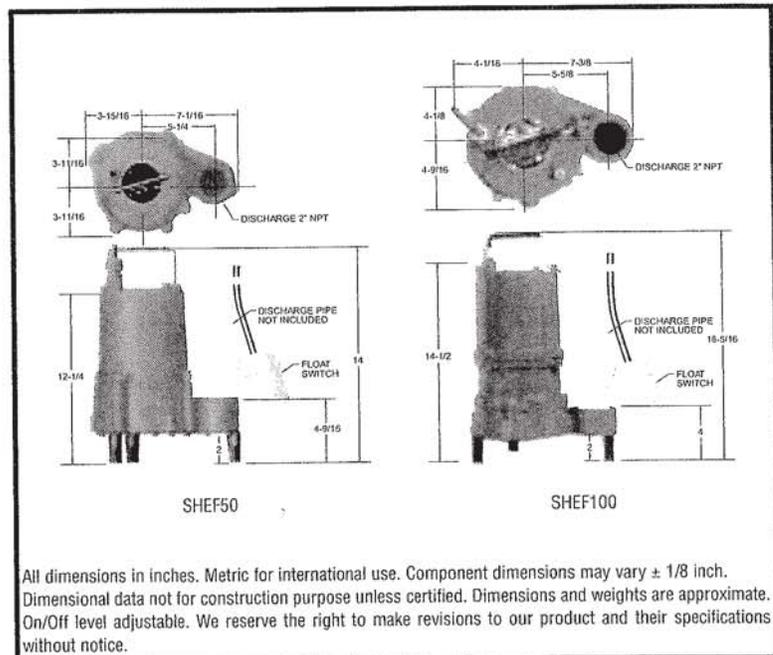
Materials of Construction

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

Performance Data



Dimensional Data



All dimensions in inches. Metric for international use. Component dimensions may vary $\pm 1/8$ inch. Dimensional data not for construction purpose unless certified. Dimensions and weights are approximate. On/Off level adjustable. We reserve the right to make revisions to our product and their specifications without notice.

HP HYDROMATIC®
Pentair Pump Group

USA

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