

HEALTH DEPT. APPROVAL REQUIRED FOR THE ISSUANCE OF CERTIFICATE OF OCCUPANCY

Applicant Palomas Block: 50 lot: 44.08

location Hunter's Bridge Drive

Sewage Disposal Systems

Installation approved 7-18-97

Pump and alarm approved 7-9-97

Grading Approved 7-18-97

As-built approved 7-18-97

Application to operate system NA

Sand Certification 7-14-97

This office has performed inspections or received the necessary certification required for issuance of a certificate of occupancy

Temporary CO

Date \_\_\_\_\_

Inspector \_\_\_\_\_

Onsite Water Supply

Well Casing Inspection 11-13-96

Pump Installation Report 7-22-97

Well Construction Report 7-22-97

Water Availability test 11-14-96

Primary Water Quality (bacterial, nitrate) 7-24-97

Secondary Water Quality (Iron, manganese, ph) 7-24-97

Final Grade Inspection 7-22-97  
(casing must extend 12 inches above grade)

Final CO

Date 7-24-97

Inspector [Signature]

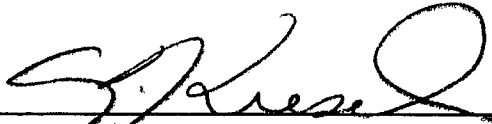
Permit No. 00110

**HOPEWELL TOWNSHIP HEALTH DEPARTMENT**  
201 Washington Crossing - Pennington Road  
Titusville, New Jersey 08560  
(609) 737-0132 (609) 737-0120

**PERMIT**

Applicant Palomar Associates Block 50 Lot 44.08  
To Construction of New Water Supply: y  
Location 22 Hunter's Ridge Road  
Fee \$ 100.00

24 Hour Inspection Notification Required  
This Permit is NOT Transferable

  
\_\_\_\_\_  
Authorized by  
Hopewell Township Health Department

Permit is not transferable

**HOPEWELL TOWNSHIP HEALTH DEPARTMENT**

201 Washington Crossing - Pennington Road

Titusville, New Jersey 08560

(609) 737-0132 (609) 737-0120

**PERMIT**

Applicant Palomar Associates Block 50 Lot 44.08  
To Construction of Individual Sewage Disposal System: y  
Location 22 Hunter's Ridge Road  
Fee \$ 100.00

24 Hour Inspection Notification Required

This Permit is NOT Transferable

  
\_\_\_\_\_  
Authorized by  
Hopewell Township Health Department

Permit is not transferable

Permit valid for 2 years from issue date



# TOWNSHIP of HOPEWELL

MERCER COUNTY

## DEPARTMENT OF HEALTH

201 Washington Crossing Pennington Road Titusville, New Jersey 08560-1410

Phone: 609.737.0120 Fax: 609-737-6836

December 2, 2015

Revised from 11-3-2015

### Letter of Review

John & Billie Jo Shelmet  
22 Hunters Ridge Drive  
Pennington, NJ 08534

RE: Block 50, Lot 44.08 (22 Hunters Ridge Drive)

Dear Mr. & Mrs. Shelmet,

This office has received the applications for letter of review for well water and septic for the sale of the above referenced property. A review of the material submitted with the application revealed the following:

- 1. WELL WATER** – A well water analysis report dated 8-27-2015 from New Jersey Analytical Laboratories indicated the well water was compliant for primary New Jersey Safe Drinking Water Act parameters at the time of analysis, with the exception of arsenic. A post treatment water analysis report dated 11-25-2015 from New Jersey Analytical Laboratories indicated the water, after treatment, was compliant with New Jersey Safe Drinking Water Act limit for arsenic.

**NOTE:** It is a homeowner's responsibility to assure all required maintenance and monitoring are conducted on the water treatment system to assure safe, potable water are consistently delivered to the home. Failure to maintain and monitor the system may result in water that fails to meet New Jersey Safe Drinking Water Act being used by the occupants. Please contact the system installer or a qualified water treatment professional to advice on the proper maintenance and monitoring intervals for the system installed.



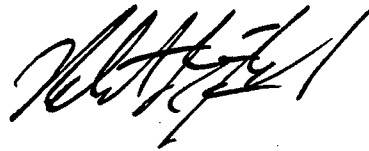
2. **SEPTIC SYSTEM** – A septic system inspection report dated 8-4-2015 from Classic Home Inspections indicated the system was functioning satisfactorily at the time of inspection.

**NOTE:** After an investigation into the septic system sizing, including a third party inspection of the septic tank by New Jersey Septic Management Group on 10-30-2015, this office has determined the septic system is adequately sized to accommodate a total of five (5) bedrooms. If, in the future, an additional bedroom was desired, this office would permit the home to be altered from the present four (4) bedroom layout to a five (5) bedroom floor plan.

Based on the information provided to this office, a full, unconditional, letter of review is hereby issued.

You may contact this office at (609) 737-0120 with any questions you may have regarding this matter. Our office hours are Monday through Friday, 8:30 - 4:30

Sincerely,

A handwritten signature in black ink, appearing to read 'R. English', written in a cursive style.

Robert B. English  
Health Officer

**CERTIFICATE OF ANALYSIS**

**NJDEP Certified Lab 11005**

|               |                     |            |         |
|---------------|---------------------|------------|---------|
| Project Name: | 22 Hunters Ridge Dr | Workorder: | N031100 |
|---------------|---------------------|------------|---------|

Billie Jo Shelmet

Potable Analysis

22 Hunters Ridge Drive

Pennington, NJ 08534

Project Name and Number: **22 Hunters Ridge Dr**

November 25, 2015

Dear Billie Jo Shelmet,

This report relates only to the sample(s) as received by the laboratory. Laboratory reports may not be reproduced, except in full, without the written approval of the laboratory.

The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report. Caution is advised for the utilization of preliminary data included in reports labeled as "Preliminary Report" and should not be used for regulatory purposes. A laboratory signature is provided on final reports only.

If you have any questions in reference to this laboratory report, please contact your NJAL project coordinator or laboratory manager listed at the bottom of this report at (609) 737-3477.

Note: This coverage is included as part of the Analytical Report and must be retained as a permanent record thereof.



Laboratory Manager

New Jersey Analytical Laboratories



Susan McGrady, Quality Assurance Officer

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Billie Jo Shelmet  
 22 Hunters Ridge  
 Pennington, NJ 08534  
 Lot 44.08, Block 50  
 Hopewell Township  
 Mercer County, NJ

NJAL received the samples associated with this batch in compliance with NJDEP guidelines. The requested analysis methods and results are detailed in the following data summary report. Any exception to method procedures are listed in the comments section below. Further information and QA/QC details will be provided in the NJDEP reduced deliverables package if required.

**Metals:**

This sample meets the NJDEP MCL criteria for Manganese and Arsenic.

**Metals Comments:**

None-SM

**Lab ID:** N031100-01 **Date Collected:** 11/24/15 09:25 **Matrix:** Drinking Water  
**Sample ID:** Bathroom Tap Treated **Date Received:** 11/24/15 11:30

**Total Metals by EPA 200.8**

| <u>Analyte</u> | <u>Results</u> | <u>Flag</u> | <u>Units</u> | <u>MDL</u> | <u>RDL</u> | <u>Method</u> | <u>Analyzed</u> | <u>Prepared</u> | <u>MCL</u> |
|----------------|----------------|-------------|--------------|------------|------------|---------------|-----------------|-----------------|------------|
| Manganese      | 9.2            |             | ug/L         | 0.02       | 0.5        | EPA 200.8     | 11/25/15 09:35  | 11/25/15        | 50         |
| Arsenic        | ND             | U           | ug/L         | 0.1        | 0.5        | EPA 200.8     | 11/25/15 09:35  | 11/25/15        | 5          |

New Jersey Analytical Laboratories

*Susan McGrady*

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Susan McGrady, Quality Assurance Officer

### Notes and Definitions

|           |                                                                      |
|-----------|----------------------------------------------------------------------|
| U         | Compound not detected                                                |
| DET       | Analyte DETECTED                                                     |
| ND        | Analyte NOT DETECTED at or above the Reporting Detection Limit (RDL) |
| NR        | Not Reported                                                         |
| dry       | Sample results reported on a dry weight basis                        |
| RPD       | Relative Percent Difference                                          |
| <         | Less than reporting limit                                            |
| ≤         | Less than or equal to reporting limit                                |
| >         | Greater than reporting limit                                         |
| ≥         | Greater than or equal to reporting limit                             |
| MDL       | Method Detection Limit                                               |
| RDL       | Reporting Detection Limit                                            |
| MCL/AL    | Maximum Contaminant Level/Action Level                               |
| mg/kg wet | Results reported as wet weight                                       |
| TTL       | Total Threshold Limit Concentration                                  |
| STLC      | Soluble Threshold Limit Concentration                                |
| TCLP      | Toxicity Characteristic Leachate Procedure                           |

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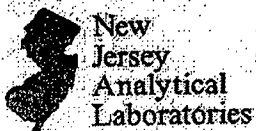
New Jersey Analytical Laboratories

*Susan McGrady*

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Susan McGrady, Quality Assurance Officer



Refest  
**RUSH**

24  
HR

Chain Of Custody  
Residential/PWT

31100

Page 1 of 1

Page 4 of 4

| Property Information                                                                     |                    |          |      | Client Information                                                                        |                |                    |                                                     |
|------------------------------------------------------------------------------------------|--------------------|----------|------|-------------------------------------------------------------------------------------------|----------------|--------------------|-----------------------------------------------------|
| Address: 22 Hunters Ridge Dr.                                                            |                    |          |      | Name: Billie Jo Shelmet                                                                   |                |                    |                                                     |
| Municipality: Hopewell                                                                   |                    |          |      | Street: 22 Hunters Ridge                                                                  |                |                    |                                                     |
| Muni Code:                                                                               |                    |          |      | City, State: Pennington, NJ                                                               |                |                    |                                                     |
| County: Mercer                                                                           |                    |          |      | Zip: 08534                                                                                |                |                    |                                                     |
| Lot: Block:                                                                              |                    |          |      | Agent/Alternate Contact:                                                                  |                |                    |                                                     |
| Sample Technician (Print/Sign): Vinnie Lombay / Vinnie Lombay                            |                    |          |      | Phone: 609-273-1264 Fax:                                                                  |                |                    |                                                     |
| Laboratory ID No.                                                                        | Sample ID/Location | DATE     | TIME | Sample Matrix                                                                             | R Chlorine=    | mg/L               | Analysis Time=                                      |
|                                                                                          | Bathroom Tap (Tx)  | 11/24/15 | 9:05 | Aqueous                                                                                   | pH=            | (S.U.)             | Temperature = °C Analysis Time= Purge Time = 20 min |
|                                                                                          |                    | DATE     | TIME | Sample Matrix                                                                             | Number Bottles | Volume Bottles     | Preservative                                        |
|                                                                                          |                    |          |      | Aqueous                                                                                   | 2              | 40ml               | HCl                                                 |
|                                                                                          |                    |          |      | Aqueous                                                                                   | 1              | 120ml              | Unpres                                              |
|                                                                                          |                    |          |      | Aqueous                                                                                   | 1              | 120ml              | Sterile                                             |
| A                                                                                        | Bathroom Tap (Tx)  | 11/24/15 | 9:25 | Aqueous                                                                                   | 1              | 250ml              | HNO <sub>3</sub>                                    |
|                                                                                          |                    |          |      | Aqueous                                                                                   | 1              | 300 ml             | HNO <sub>3</sub>                                    |
|                                                                                          |                    |          |      | Aqueous                                                                                   | 1              |                    |                                                     |
|                                                                                          |                    |          |      | Aqueous                                                                                   |                |                    |                                                     |
|                                                                                          |                    |          |      | Aqueous                                                                                   |                |                    |                                                     |
| GPS Coordinate Location (circle one): Well Head/Front Door/Sample Collection Point/Other |                    |          |      | Treatment System(s):                                                                      | Neutralizer    | Carbon             | R/O                                                 |
| Relinquished by: Vinnie Lombay                                                           |                    |          |      | Date: 11/24/15                                                                            | Time: 11:30    | GPS raw data:      | corrected:                                          |
| New Jersey Analytical Laboratories, LLC                                                  |                    |          |      | Tel: 609-737-3477                                                                         |                | Fax: 609-737-3052  |                                                     |
| 380 Scotch Road, Suite 1B, Building 2                                                    |                    |          |      | Ewing, New Jersey 08628                                                                   |                | Method of Shipment |                                                     |
|                                                                                          |                    |          |      | All bottles received for Laboratory (NJAL) by: (Signature) Claudia Melby 11/24/15 @ 11:30 |                |                    |                                                     |

AS rem  
c/11/15  
0.6



# PLUMBING SUBCODE TECHNICAL SECTION



Date Received  
Control #  
38304  
Date Issued  
Permit #

A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 50 Lot 44.08 Qualification Code 08534  
Work Site Location 22 Hunters Ridge Dr Pennington, NJ

Owner in Fee: John & Billie Jo Shelmet

Tel. (609) 273-1264 e-mail \_\_\_\_\_

Address 22 Hunters Ridge Dr. Hopewell Twp 08534

Contractor: PETE IMMORDINO Tel. (609) 890-1270

Address 12 HAMILTON LAKES e-mail NONE

HAMILTON NJ 08619

Contractor License No. 9047 Exp. Date 6-30-2017

Home Improvement Contractor Registration No. or Exemption Reason (if applicable): 13VH00947700

Federal Emp. ID No. 146-38-1316 FAX: (609) 882-5157

## B. PLUMBING CHARACTERISTICS

Use Group Present X Proposed \_\_\_\_\_

Building Sewer Size \_\_\_\_\_ Public Sewer \_\_\_\_\_ Private Septic X

Water Service Size \_\_\_\_\_ Public Water \_\_\_\_\_ Private Well X

Est. Cost of Plumbing Work \$ 3,845.00

JOB SUMMARY (Office Use Only)

PLAN REVIEW

[ ] No Plans Required

[ ] Partial Under-slab Utilities Approved

Date: \_\_\_\_\_ Approved by: \_\_\_\_\_

[ ] Plumbing Plans Approved

Date: \_\_\_\_\_ Approved by: \_\_\_\_\_

Joint Plan Review Required:

[ ] Bldg. [ ] Elec. [ ] Fire [ ] Elev.

SUBCODE APPROVAL for PERMIT

Date: \_\_\_\_\_ Approved by: \_\_\_\_\_

SUBCODE APPROVAL for CERTIFICATE

[ ] CO [ ] CCO [ ] CA

Date: \_\_\_\_\_ Approved by: \_\_\_\_\_

INSPECTIONS

Type: \_\_\_\_\_

Slab \_\_\_\_\_

Rough \_\_\_\_\_

Water \_\_\_\_\_

Sewer \_\_\_\_\_

Fixtures \_\_\_\_\_

Gas Equipment \_\_\_\_\_

Gas Piping \_\_\_\_\_

LPGas Tank \_\_\_\_\_

Fuel Oil Piping \_\_\_\_\_

Solar \_\_\_\_\_

TCO \_\_\_\_\_

Final \_\_\_\_\_

## C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent of) owner of record and am authorized to make this application and perform the work listed on this application.

Applicant sign/Contractor sign and seal here: Peter E. Immordino

Print name here: Peter E. Immordino

[X] Licensed Plumbing Contractor [ ] Exempt Applicant

## D. TECHNICAL SITE DATA

DESCRIPTION OF WORK Installation of

Arsenic Removal Units

QTY. FIXTURE/EQUIPMENT FEE (Office Use Only)

Water Closet

Urinal/Bidet

Bath Tub

Lavatory

Shower

Floor Drain

Sink

Dishwasher

Drinking Fountain

Washing Machine

Hose Bibb

Water Heater

Fuel Oil Piping

Gas Piping

LPGas Tank

Steam Boiler

Hot Water Boiler

Sewer Pump

Interceptor/Separator

Backflow Preventer

Greasetrap

Sewer Connection

Water Service Connection

Stacks

Other Arsenic Units

Administrative Surcharge \$

Minimum Fee \$

State Permit Surcharge Fee \$

TOTAL FEE \$

# DWC

## PRODUCTS FOR QUALITY WATER DWC ARSENIC REMOVAL SYSTEM

### PROTECT YOUR FAMILY'S HEALTH... ELIMINATE ARSENIC FROM YOUR WATER SUPPLY.

**You protect your family takes in many ways — healthy food, a solid house, well-maintained vehicles but, have you thought about your drinking water?**

#### ARSENIC — WHAT IS IT?

Arsenic is a naturally occurring mineral that has been used since the time of the ancient Persians and Greeks. Perhaps best known as a poison in old movies, Arsenic has been used to strengthen metal alloys, as a medicine and as an ingredient in cosmetics. More recently, arsenic has been found to be a carcinogen.

**What are the dangers?**

Arsenic poses a very serious health risk. Remember the movie, *Arsenic and Old Lace*?

It has been used as a poison since the time of the ancient Greeks. Because symptoms of arsenic poisoning were similar to other diseases and illnesses, it became a very popular poison. Well into the late 20<sup>th</sup> Century, Arsenic was used to eliminate vermin such as insects, mice, rats and other pest.

In addition to acting as a poison, prolonged exposure to low levels of Arsenic has been found to attack the digestive system. In vapor form, exposure can lead to neurological damage.

**How does it get into water supplies?**

Arsenic enters the water supply in one of two ways. First, it does occur naturally. A common mineral, arsenic is usually found in combination with deposits of silver, cobalt, nickel, iron, antimony or sulfur.

Arsenic also enters the water supply as run-off or leachate. The wide variety of uses, many over a period of centuries, has resulted in the non-naturally occurring presence of Arsenic. Used in insecticide on fruit trees, wood preservatives (CCA pressure-treated lumber), semiconductor components, paint pigments, medicine, even food coloring and cosmetics. While the use of Arsenic in many of these applications has been discontinued, it has accumulated in drinking water supplies.

#### EPA RECOMMENDATIONS

The EPA standard for acceptable levels of Arsenic in drinking water is now 10 ppb (parts per billion). In January 2006, the EPA began to enforce this new, reduced level, down from 50ppb. Water systems are required to meet this standard and EPA recommends that homes and facilities on wells or non-municipal systems to steps to meet the 10ppb level.

The New Jersey Department of Environmental Protection has taken an additional step and set the limit in New Jersey at 5ppb. The DWC Arsenic Removal System not only meets the federal standard, but using ASM-10-FR, it meets the New Jersey standard as well.

CONTINUED ON OTHER SIDE



# DWC

## PRODUCTS FOR QUALITY WATER DWC ARSENIC REMOVAL SYTEM

### DWC Arsenic Removal System

#### A Twin Tank System to Protect Your Family

Using a twin-tank system with a state-of-the-art arsenic selective media (ASM), Duff Water Conditioning provides your family a steady supply of safe water for drinking, bathing, even laundry. The two tanks insure effective removal of arsenic by passing water through the ASM twice.

The DWC Arsenic Removal System utilizes the ResinTech ASM-10-HP arsenic selective media. Recognized as the best ASM on the market, this is a resin-encapsulated granular ferric oxide (GFO). A chemically modified strong base anion exchange resin, it offers the highest binding power for arsenic of any competitive media. ASM-10-HP does not bleed iron or leach other hazardous materials. It is reusable over hundreds of cycles and is fully regenerable. ASM-10-HP meets ANSI/NSF Standard 44 & 61 and has been awarded the Water Quality Association Gold Seal of Approval.

### SYSTEM FEATURES

- Twin-tank system
- State-of-the-art ASM-10-HP arsenic selective resin
- Low-voltage functions to remind homeowners when to schedule service
- Auto backwash (optional): a timer/control enables the system to automatically backwash every 90 days
- NSF/ANSI validated anion exchange resin

### ASM-10-HP

ResinTech's arsenic selective media is the best available in the market, today. A strongly basic hybrid anion exchange resin, it is specially formulated to selectively remove Arsenic. It is supplied in the salt form as clean, moist, tough, uniform, spherical beads.

Its performance is virtually unaffected by common anions such as chlorides, bicarbonates, or sulfates. And, ASM-10-HP is effective over the entire pH range of potable water.

### DISPOSAL

It is recommended that users review local regulations and consult with local authorities on the best method of disposal.

### YOUR DWC DEALER:

| PHYSICAL PROPERTIES (CI form) |                         |
|-------------------------------|-------------------------|
| Polymer Structure             | Styrene with DVB        |
| Functional Group              | R-N-R+Cl-               |
| Ionic Form, as shipped        | Chloride                |
| Physical Form                 | Tough, Spherical Beads  |
| Screen Size Distribution      | 16 to 50 Nominal        |
| - 50 mesh (U.S. Std)          | Less than 1 Percent     |
| pH Range                      | 4 to 10                 |
| Water Retention               | 35 to 55 Percent        |
| Solubility                    | Insoluble               |
| Approx. Shipping Weight       | 43 lbs./ft <sup>3</sup> |
| Total Capacity                | >1.0 meq / mL           |
| Sphericity                    | > 93 Percent            |

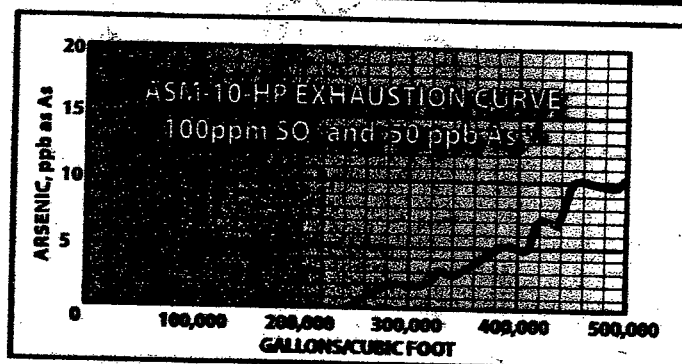
### WATER QUALITY GUIDELINES

Feedwater quality (aside from arsenic) should generally be of potable quality. Please consult your Duff technical salesman for recommendations outside the following guidelines:

|              |                   |
|--------------|-------------------|
| Conductivity | 1000 micromhos/cm |
| Chloride     | 250 ppm           |
| Sulfate      | 250 ppm           |
| pH           | 5.5 to 9.5        |
| Phosphate    | 5 ppm             |
| Silica       | 10 ppm            |
| Turbidity    | 5 NTU             |
| Chlorine     | 0.3 ppm           |

### SUGGESTED OPERATING CONDITIONS

|               |                 |
|---------------|-----------------|
| Flow Rate     | 2 to 10 gpm/cu. |
|               | 1 to 20 gpm/sq. |
| Pressure Loss | 25 psi max.     |
| Temperature   | 170°F max.      |



RESINTech



DUFF WATER CONDITIONING  
Products for Quality Water  
A Division of the Duff Company





# TOWNSHIP of HOPEWELL

MERCER COUNTY

## DEPARTMENT OF HEALTH

201 Washington Crossing Pennington Road Titusville, New Jersey 08560-1410

Phone: 609.737.0120 Fax: 609-737-6836

November 3, 2015

Revised from 9-17-2015

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John & Billie Jo Shelmet  
22 Hunters Ridge Drive  
Pennington, NJ 08534

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Sincerely,

A handwritten signature in black ink, appearing to read 'R. English', written in a cursive style.

Robert B. English  
Health Officer



Work Order/Invoice # \_\_\_\_\_

Date 10/30/15 Tech \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out \_\_\_\_\_

Notes: \_\_\_\_\_

Customer Name: Billie Joe Shelmat

Address: 22 Hunters Ridge Dr.  
Pennington

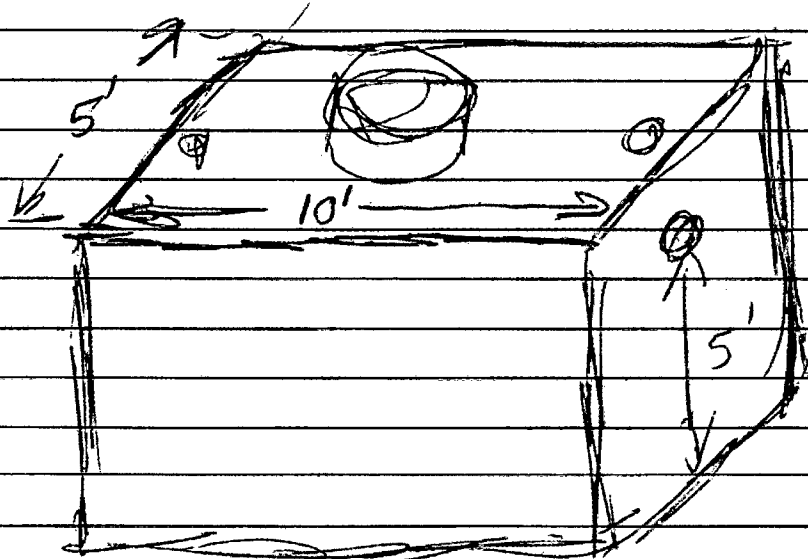
Contact Number: 609-213-1264

Contact Alternate Number: \_\_\_\_\_

Alternate Contact Name/Number: \_\_\_\_\_

**Description of Work:**

Measure Tank. 5 Bedrooms



200 cu ft.

1,500 GMS \*

Tom Caldwell  
REHS

Job Completion/Customer Approval Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Authorized Tech Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Payment received: ☐ Yes ☐ No Comments: \_\_\_\_\_

Office Use Only: Check # \_\_\_\_\_ Amount: \$ \_\_\_\_\_ Date: \_\_\_\_\_

GEN-350 rev



**TOWNSHIP of HOPEWELL**  
**MERCER COUNTY**  
**DEPARTMENT OF HEALTH**

201 Washington Crossing Pennington Road Titusville,  
New Jersey 08560-1410  
Phone: 609.737.0120 Fax: 609-737-6836 www.hopewelltp.org

**APPLICATION FOR LETTERS OF REVIEW**

Block 50 Lot 44.08 Street Address 22 Hunters Ridge Dr. 08534

Check One: ☒ Sale of Property ☐ Rental of Property ☐ Change in Use Settlement Date \_\_\_\_\_

**Property Owner Information:**

Name John & Billie Jo Shelmet Phone: 609-737-7482  
Address: 22 Hunters Ridge Dr. Fax: 609-896-3053  
City Pennington State NJ Zip 08534 Email: bjsdiabetes@aol.com  
Attorney Nancy F. Goldstein Phone 609-921-9400  
Fax 609-921-8998 E-mail ngoldstein@ghlaw.biz

**Purchaser/Tenant Information**

~~Name Louis & Carly Ferraro Phone: \_\_\_\_\_~~  
~~Address: 65 Yard Rd. Fax: \_\_\_\_\_~~  
~~City Pennington State NJ Zip 08534 Email: \_\_\_\_\_~~  
~~Attorney Alisandra B. Carnevale Dumont Phone 609-737-3683~~  
~~Fax 609-737-3687 E-mail alisandra.carnevale@gmail.com~~

Applying for: ☒ Septic System Review - \$75.00 ☒ Well Water Quality Review - \$75.00 Total Fee \$150.00  
Date 9/11/15

To be completed by Health Department

| Septic System Review                          | Date           | Well Water Quality Review                                              | Date           |
|-----------------------------------------------|----------------|------------------------------------------------------------------------|----------------|
| Report Received                               |                | Report Received                                                        |                |
| Rejected                                      |                | Rejected                                                               |                |
| Temporary Approval Granted                    |                | Temporary Approval Granted                                             |                |
| Final Approval Granted                        | <u>9/17/15</u> | Final Approval Granted                                                 | <u>9/17/15</u> |
| Comments: <u>CSI - 8/14/15</u><br><u>- OK</u> |                | <u>NAL 8/27/15 - Arsenic</u><br><u>9/10/15 - Treated - Arsenic OK.</u> |                |

## New Jersey Private Well Water Test Reporting Form

New Jersey Analytical Laboratories



Raw water

The New Jersey Well Test Reporting Form is a standardized form to be used exclusively by laboratories reporting well test results to their client in accordance with the Private Well Testing Act Regulations N.J.A.C. 7:9E.

These laboratory analyses were completed for the purposes of complying with the Private Well Testing Act. In accordance with the Private Well Testing Act Regulations all analytical results except for coliform (total, fecal, or e.coli) shall remain valid for a period of one year from the date of sample collection. All coliform (total, fecal, or e.coli) analytical results shall remain valid for a period of six months from the date of sample collection.

- ☐ Analytical results meet primary and secondary contaminant standards for drinking water.
- ☒ One or more of the analytical results do not meet primary\* contaminant standards for drinking water.
- ☒ One or more of the analytical results do not meet secondary\*\* contaminant standards for drinking water.

**Client Information**

Name: Billie Jo Shelmet  
Mailing Address: 22 Hunters Ridge Drive  
Pennington, NJ 08534

Date Test Requested: 8/18/2015

**Property Information**

Property Address: 22 Hunters Ridge Drive  
Muni Code (4 digit): 1106 County: Mercer  
GPS Location-State Plane coordinates (feet):  
GPS Coordinate Location (circle one):  
NJ Well Permit or Well Record Number (if known):

Municipality: Hopewell Township  
Lot: 44.08 Block: 50

X: Well Head / Front Door / Sample Collection Point / Other  
Y:

**Laboratory Information**

Reporting Laboratory Name & ID #:  
Reporting Laboratory Address & Phone #:

New Jersey Analytical Laboratories, LLC #11005  
380 Scotch Road, Building 2, Suite 1B, Ewing, NJ 08628  
Tel: 609-737-3477

**Sample Information:**

Sample Collector Name: Kevin M McMullen

Authorized Representative/Certified Laboratory Employee Lab Certification ID #: 11005

Sample Type: **NOTE: Only raw or untreated water samples meet the requirements of the PWTA regulations N.J.A.C. 7:9E.**

a.) Indicate Specific Location of Sample collected:

Well Tap

b.) Type of Treatment Device(s) Installed (if known):

Carbon, Softener, Chlorinator

(\*) Primary Drinking Water contaminants are those contaminants that have Maximum Contaminant Levels or Action Levels established to protect health. The Primary Drinking Water contaminants are coliform bacteria, nitrate (total), lead, the volatile organic compounds, arsenic, mercury and gross alpha. The standards for primary contaminants are the maximum permissible levels allowed in drinking water based on ingesting the drinking water over the course of a lifetime.

(\*\*) Secondary Drinking Water contaminants are those contaminants that have Recommended Upper Limits or Optimum Ranges established to protect against those properties that adversely effect the taste, odor, or appearance of drinking water. The Secondary Drinking Water contaminants are iron, manganese and pH.

NJDEP Certified Lab No. 11005  
380 Scotch Road, Suite 1B, Bldg 2, Ewing, NJ 08628  
Main: 609-737-3477 Fax: 609-737-3052

*The New Jersey Well Test Reporting Form is a standardized form to be used exclusively by laboratories reporting well test results to their client in accordance with the Private Well Testing Act Regulations N.J.A.C. 7:9E.*

*These laboratory analyses were completed for the purposes of complying with the Private Well Testing Act.*

**SUMMARY OF WELL WATER TEST RESULTS:**

| Required Test<br>Required      | Result | Units    | Applicable Standard<br>Maximum Contaminant Level<br>Action Level or Limit | Standard<br>Exceeded<br>(Y/N) | Laboratory<br>Certification<br>ID # | Analytical<br>Method |
|--------------------------------|--------|----------|---------------------------------------------------------------------------|-------------------------------|-------------------------------------|----------------------|
| <b>Microbial Parameters</b>    |        |          |                                                                           |                               |                                     |                      |
| Total Coliform                 | Abs    | Pres/Abs | 0 (not present)                                                           | N                             | 11005                               | SM9223B              |
| E. coli*                       | Abs    | Pres/Abs | 0 (not present)                                                           | N                             | 11005                               | SM9223B              |
| <b>Metals</b>                  |        |          |                                                                           |                               |                                     |                      |
| Arsenic *                      | 8.5    | ug/l     | 5 ug/l                                                                    | Y                             | 11005                               | EPA 200.8            |
| Mercury                        | NA     | ug/l     | 2 ug/l                                                                    | NA                            | NA                                  | NA                   |
| Lead**                         | 2.4    | ug/l     | 5 ug/l **                                                                 | N                             | 11005                               | EPA 200.8            |
| Iron                           | <0.10  | mg/l     | 0.3 mg/l                                                                  | N                             | 11005                               | SM 3111B             |
| Manganese                      | 0.23   | mg/l     | 0.05 mg/l                                                                 | Y                             | 11005                               | EPA 200.8            |
| <b>General Chemistry</b>       |        |          |                                                                           |                               |                                     |                      |
| pH                             | 7.17   | su       | 6.5-8.5 (optimum range)                                                   | N                             | 11005                               | SM4500 H-B           |
| Nitrate (total)                | <500   | ug/l     | 10,000 ug/l                                                               | N                             | 11005                               | EPA 300              |
| <b>Volatile Organics</b>       |        |          |                                                                           |                               |                                     |                      |
| Benzene                        | <0.1   | ug/l     | 1 ug/l                                                                    | N                             | 11005                               | EPA 524.2            |
| Carbon Tetrachloride           | <0.1   | ug/l     | 2 ug/l                                                                    | N                             | 11005                               | EPA 524.2            |
| meta-Dichlorobenzene           | <0.2   | ug/l     | 600 ug/l                                                                  | N                             | 11005                               | EPA 524.2            |
| ortho-Dichlorobenzene          | <0.3   | ug/l     | 600 ug/l                                                                  | N                             | 11005                               | EPA 524.2            |
| para-Dichlorobenzene           | <0.3   | ug/l     | 75 ug/l                                                                   | N                             | 11005                               | EPA 524.2            |
| 1,1-Dichloroethane             | <0.1   | ug/l     | 50 ug/l                                                                   | N                             | 11005                               | EPA 524.2            |
| 1,2-Dichloroethane             | <0.1   | ug/l     | 2 ug/l                                                                    | N                             | 11005                               | EPA 524.2            |
| 1,1-Dichloroethylene           | <0.1   | ug/l     | 2 ug/l                                                                    | N                             | 11005                               | EPA 524.2            |
| cis-1,2-Dichloroethylene       | <0.2   | ug/l     | 70 ug/l                                                                   | N                             | 11005                               | EPA 524.2            |
| trans-1,2-Dichloroethylene     | <0.1   | ug/l     | 100 ug/l                                                                  | N                             | 11005                               | EPA 524.2            |
| 1,2-Dichloropropane            | <0.1   | ug/l     | 5 ug/l                                                                    | N                             | 11005                               | EPA 524.2            |
| Ethylbenzene                   | <0.1   | ug/l     | 700 ug/l                                                                  | N                             | 11005                               | EPA 524.2            |
| Methyl tertiary-butyl ether    | <0.1   | ug/l     | 70 ug/l                                                                   | N                             | 11005                               | EPA 524.2            |
| Methylene Chloride             | <0.1   | ug/l     | 3 ug/l                                                                    | N                             | 11005                               | EPA 524.2            |
| Monochlorobenzene              | <0.1   | ug/l     | 50 ug/l                                                                   | N                             | 11005                               | EPA 524.2            |
| Naphthalene                    | <0.5   | ug/l     | 300 ug/l                                                                  | N                             | 11005                               | EPA 524.2            |
| Styrene                        | <0.1   | ug/l     | 100 ug/l                                                                  | N                             | 11005                               | EPA 524.2            |
| 1,1,2,2-Tetrachloroethane      | <0.5   | ug/l     | 1 ug/l                                                                    | N                             | 11005                               | EPA 524.2            |
| Tetrachloroethylene            | <0.2   | ug/l     | 1 ug/l                                                                    | N                             | 11005                               | EPA 524.2            |
| Toluene                        | <0.1   | ug/l     | 1,000 ug/l                                                                | N                             | 11005                               | EPA 524.2            |
| 1,2,4-Trichlorobenzene         | <0.3   | ug/l     | 9 ug/l                                                                    | N                             | 11005                               | EPA 524.2            |
| 1,1,1-Trichloroethane          | <0.1   | ug/l     | 30 ug/l                                                                   | N                             | 11005                               | EPA 524.2            |
| 1,1,2-Trichloroethane          | <0.2   | ug/l     | 3 ug/l                                                                    | N                             | 11005                               | EPA 524.2            |
| Trichloroethylene              | <0.1   | ug/l     | 1 ug/l                                                                    | N                             | 11005                               | EPA 524.2            |
| Vinyl Chloride                 | <0.2   | ug/l     | 2 ug/l                                                                    | N                             | 11005                               | EPA 524.2            |
| Xylenes (total)                | <0.1   | ug/l     | 1,000 ug/l                                                                | N                             | 11005                               | EPA 524.2            |
| <b>Radiological Parameters</b> |        |          |                                                                           |                               |                                     |                      |
| Gross Alpha (initial)~         | 10.9   | pCi/L    | 5 pCi/L                                                                   | Y                             | FL008                               | ECLS-R-GA R8         |
| Gross Alpha (final)~           | 10.5   | pCi/L    | 15 pCi/L                                                                  | N                             | FL008                               | ECLS-R-GA R8         |

UNITS: Pres/Abs=presence or absence; ug/l= micrograms per liter (also known as parts per billion); mg/l=milligrams per liter (also known as parts per million); pCi/L=picocuries per liter; su=standard units.

\* If total coliform bacteria are detected then additional analyses are required to determine the specific type (fecal or E. coli) present. Fecal coliform or E. coli analysis are not required if total coliform sample results indicate the absence of total coliform bacteria.

\*\* The results of a "flushed" raw (untreated) water sample, which is required by the Private Well Testing Act regulations, should be compared to the Ground Water Quality Standard of 5 ug/l found at N.J.A.C.7: 9-6 et seq. The Lead Action Level of 15 ug/l applies to a one liter first-draw tap sample collected from a cold water kitchen or bathroom tap/sink in which the water has remained motionless in the plumbing system for at least six hours [40 CFR 141.86(b)(2)]. This type of standing-water sample is NOT required by the Private Well Testing Act regulations.

# Arsenic analysis is required in Bergen, Essex, Hudson, Hunterdon, Mercer, Middlesex, Morris, Passaic, Somerset and Union counties. A new MCL of 5 ug/l took effect 1/23/06. Mercury analysis is required only in Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Monmouth, Ocean, and Salem counties.

~ Gross alpha particle activity testing will be required in Cumberland and Gloucester counties starting March 15, 2003; Atlantic, Burlington, Camden and Salem counties starting September 16, 2003; Cape May, Hunterdon, Mercer, Middlesex, Monmouth and Ocean counties starting March 16, 2004. If the initial Gross alpha particle count exceeds 5 pCi/L a second count is required according to the Method. The MCL for Gross alpha particle activity is 15 pCi/L.

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|                                                                                        |                                           |                           |
|----------------------------------------------------------------------------------------|-------------------------------------------|---------------------------|
| <b>ADDITIONAL SAMPLE INFORMATION:</b>                                                  |                                           |                           |
| <b>Coliform Analyses:</b>                                                              |                                           |                           |
| Date/Time Sample Collected: 08/18/15, 0818                                             | Date/Time Sample Analyzed: 08/18/15, 1719 | Sample ID Number: N028666 |
| Date/Time Sample Collected                                                             | Date/Time Sample Analyzed:                | Sample ID Number:         |
| <b>Volatile Organics:</b>                                                              |                                           |                           |
| Date/Time Sample Collected: 08/18/15, 0818                                             | Date/Time Sample Analyzed: 08/19/15, 1524 | Sample ID Number: N028666 |
| <b>Inorganics:</b>                                                                     |                                           |                           |
| Date/Time Sample Collected: 08/18/15, 0818                                             | Date/Time Sample Analyzed: 08/19/15, 2138 | Sample ID Number: N028666 |
| Date/Time Sample Collected                                                             | Date/Time Sample Analyzed:                | Sample ID Number:         |
| <b>pH Analysis:</b>                                                                    |                                           |                           |
| Date/Time Sample Collected: 08/18/15, 0819                                             | Date/Time Sample Analyzed: 08/18/15, 0821 | Sample ID Number: N028666 |
| <b>Gross Alpha Analyses:</b>                                                           |                                           |                           |
| Date/Time Sample Collected: 08/24/15, 0910                                             | Date/Time Sample Analyzed: 08/27/15, 0720 | Sample ID Number: N028791 |
| Date(s) All Analyses Received by Reporting Lab from Subcontracted Lab (if applicable): |                                           |                           |

**CERTIFICATION OF RESULTS:**

I certify in writing that all sampling, analyses, and reporting performed herein, comply with all requirements set forth in N.J.A.C. 7:9E and N.J.A.C. 7:18, and hereby certify that this laboratory is in compliance with all laboratory certification and quality control procedures and requirements as set forth in N.J.A.C. 7:18.

Laboratory Manager or Designee

Date

**ADDITIONAL INFORMATION:**

**I. Treatment Options**

Listed below are the common treatments available to homeowners having well contamination above a Maximum Contaminant Level, Action Level or Recommended Limit. The goal of water treatment is the removal of contaminants to levels below the Maximum Contaminant Level, Action Level or Recommended Limit. For additional information on home treatment devices contact you local/county health department or the NJDEP Private Well Testing Act Hotline at 1-866-4PW-TEST or visit the Private Well Testing Act webpage at [www.state.nj.us/dep/pwta](http://www.state.nj.us/dep/pwta) for links to other appropriate websites, such as National Sanitation Foundation [www.nsf.org](http://www.nsf.org) or USEPA's drinking water website [www.epa.gov/safewater](http://www.epa.gov/safewater). You may also call the USEPA Drinking Water Hotline at (800) 426-4791 to obtain a copy of USEPA's pamphlet entitled "Home Water Treatment Units" (WH-550A). All treatment devices must be properly maintained in accordance with manufacturer recommendations to ensure operating efficiency in removing contaminants. As noted below, not all treatment devices remove every contaminant; there may be more than one device installed if multiple contaminants exist in the drinking water. Water treatment companies may be found by consulting the yellow pages of your local area phone book.



Conditioned Water

## Sample Information

|                          |                                                                                                                                                               |                                                                                                    |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| NJAL Lab ID # N028666-02 | Billie Jo Shelmet<br>22 Hunters Ridge Road<br>Pennington, NJ 08534<br>Lot 44.08, Block 50<br>Hopewell Township<br>Mercer County, NJ<br>Bathroom Tap : Treated | Date Sampled: 08/18/15<br>Time Sampled: 8:05 AM<br>Sampled by: KMM/NJAL<br>Date Received: 08/18/15 |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|

| Parameter | Result | Reporting Limit | Units | Maximum Contaminant Level | Method Code |
|-----------|--------|-----------------|-------|---------------------------|-------------|
| pH        | 7.10   | 0-14            | SU    | 6.50-8.50                 | SM 4500-H B |
| Iron      | ND     | 0.10            | mg/L  | 0.30                      | SM 3111B    |
| Manganese | ND     | 0.001           | mg/L  | 0.05                      | EPA 200.8   |
| Lead      | ND     | 0.5             | ug/L  | 5.0                       | EPA 200.8   |

ND-Not Detected

SU-Standard Units

mg/L-milligrams per liter (parts per million)

ug/L-micrograms per liter (parts per billion)

This sample meets the NJDEP MCL criteria for pH, Iron, Manganese and Lead.

NJDEP Laboratory, ID # 11005

  
Laboratory Manager/Designee8/26/15  
Date

NJDEP Certified Lab No. 11005  
380 Scotch Road, Suite 1B, Bldg 2, Ewing, NJ 08628  
Main: 609-737-3477 Fax: 609-737-3052



Telephone (609) 588-0011  
**LECO LABORATORY**  
3123 Klockner Road  
Trenton, New Jersey 08690  
Laboratory LD. # 11106

**Billy Joe Shelmet**  
**22 Hunters Ridge Drive**  
**Pennington, NJ 08534**

*Conditioned  
water*

**Date Collected: 9-8-15**  
**Time Collected: 12:05pm**

Matrix: **Water**  
Source: **Well - Residence**  
Sampled by: **Lab**  
Collection Point: **Kitchen Sink - Treated Water**  
Analysis by: **Lab ID # 03886**  
LECO Sample #: **L251151**

| Parameter/Method      | MCL        | Result      |
|-----------------------|------------|-------------|
| Arsenic<br>(SM 3113B) | 0.005 mg/L | <0.002 mg/L |

> = greater than      < = less than      MCL = Maximum Contaminant Level

Remarks:

**Arsenic** meets the requirements established by the **NJDEP**.

Report Date: **September 10, 2015**

*Donald B. Lilley*  
By: \_\_\_\_\_  
**Donald B. Lilley/Director**



## Classic Septic Inspections Inc.

August 4, 2015

Mr. and Mrs. Louis Ferraro  
65 Yard Road  
Pennington, NJ

Re: Septic System Inspection  
22 Hunter Ridge Road – Block 50, Lot 44.08  
Pennington, NJ

Dear Mr. and Mrs. Ferraro:

Thank you for choosing **Classic Septic Inspections** to conduct your septic system inspection. Per your request a representative of this group has inspected the individual on-site waste disposal system at the above referenced property. The following report summarizes that effort and also provides some important information that may impact your decisions regarding the system and future maintenance or repair issues.

CSI Inspectors are “**guided**” by information presented in the “Technical Guidance for Inspections of Onsite Wastewater Treatment and Disposal Systems” prepared by the New Jersey Department of Environmental Protection. Although certain conditions found during these inspections are clear malfunctions, other may merely be indications of operating conditions that are not in conformance with either accepted standards or the intents of the original design.

In any case, **Classic Septic Inspections** strictly adheres to ‘any concern or unsatisfactory conclusion reached regarding an onsite system that requires further action must be resolved or negotiated between the buyer and the seller.’ (Technical Guidance for Inspection of Onsite Wastewater Treatment and Disposal Systems)

Throughout the report you will find a number of terms in **bold**. These terms are defined in detail elsewhere in the document and you are encouraged to read these definitions and understand the language used. In addition you have received a copy of a Homeowner’s Manual for Septic Systems provided by the New Jersey Department of Environmental Protection. If this manual was not provided at the inspection, please contact our office to receive your copy.

127 Highland Avenue, Midland Park, New Jersey 07432  
201-857-3011 • 201-857-2886 • 973-900-1330  
F: 201-857-3631  
[classicseptic@optonline.net](mailto:classicseptic@optonline.net)

On the date of the inspection, August 1st, the weather was clear. During the immediate antecedent days similar weather was found throughout the area. While the function of septic systems is not generally impacted by the weather, severe conditions may inhibit the access to the individual system elements.

At the time of inspection our representative, Joe, was advised that the house is currently occupied by two residents. **When a house has been vacant or minimally used, Classic Septic Inspections, Inc. suggests a hydraulic load test may be performed to better evaluate the disposal area. A hydraulic load test was explained and discussed with the buyer at the time of the inspection. A hydraulic load test determines the amount of clean water an absorption area can absorb in a 24-hour period. The designated flow rate for a five-bedroom home is 800 gallons.**

While at the site we inspected a combined septic system. Our inspector was informed that the septic system serves a five-bedroom house that was built in 1997. Although there may appear to be five bedrooms in the dwelling, the size of the septic system is a function of the number of **permitted** bedrooms. Additional rooms may have been added without the knowledge or approval of the local administrative authority. **No Board of Health records were available at the time of the inspection to confirm the number of permitted bedrooms; therefore, we recommend direct conversations may be held between the purchaser and health department official.**

A 1,000-1,500 gallon concrete anaerobic septic tank and a 1,000-1,500 gallon pump tank\*\* were exposed, opened and inspected. The manhole covers, inlet and outlet baffles and the integrity of the tanks appear to be satisfactory. Going forward, the septic tank must be pumped at regular intervals, usually every two to three years, to properly maintain the system. Although the guidelines state that "no inspection is complete until every tank is pumped and its condition evaluated", CSI explained why they do not require pumping at every inspection unless the inspector has reason to believe that pumping will expose defects that cannot be identified through other means. Under no condition will the tanks be pumped during an inspection if the disposal area is determined to be unsatisfactory.

A flow test was conducted whereby water from the exterior faucet was discharged into the system for a period of twenty-five (25) minutes. The effluent level remained unchanged for the duration; this would be considered the operating level of this septic tank. The pump in the pump tank was run through two cycles during the flow test.

The aerobic portion of the system consists of a disposal field, which was located and probed from the surface. The top of the distribution system material (gravel) was encountered approximately 14" below the surface. The disposal field was probed to a depth of 50" from the surface and found to be clean and dry before and after the flow test. No evidence of partially treated waste or ground water was encountered. As stated in the guidance, "if there are six or more inches dry aggregate below the invert of the laterals, the absorption area is satisfactory." Four inspection ports were located and found to be in satisfactory condition.

### **Conclusions**

**Based on today's findings, this septic system is operating in an acceptable manner and therefore receives an inspection certification of SATISFACTORY.**

**\*\*The components of the pump tank were inspected and tested. The alarm box for the pump is located in the basement.**

**Disclaimer:** Based on today's observations and the information provided by the owner(s) or their agent, CSI submits this sub-surface sewage disposal system inspection report. The inspection is based on the current condition of the onsite sewage disposal system. CSI makes no representation that the system was designed, installed or meets N.J.A.C. 7:9A-1.1 et seq. CSI has not been retained to warrant, guarantee, or certify the proper functioning of the system for any period of time. Because of numerous factors (usage, soil type, installation, maintenance, etc.) which affect the proper operation of a sub-surface disposal system, as well as the inability of CSI to supervise or monitor the use and maintenance of the system, this report shall not be construed as a warranty by CSI that the system will function properly for any prospective buyer. CSI disclaims any warranty, either expressed or implied, arising from the inspection of the septic system.

## **Cautions**

### **Septic Systems Have A Limited Life**

This inspection does not specify the length of life remaining nor can that life expectancy be certified since many conditions which impact the system can change over short periods of time.

### **Age of the System**

Like other components of a home, the older the septic system the less useful life it may have. Systems more than fifteen years old probably do not meet current standards, yet may function normally. Systems older than twenty years are generally beyond their peak operating efficiency and are likely to require repair or replacement soon, even if they are functioning at the time of the inspection.

### **System Design and Installation**

The inspector may not be able to identify the location, size or configuration of all system components, depth of the system or alteration made without permits. As a result, this report will not confirm if the design or installation of the septic system conforms to State or local health department standards for size or setback requirements.

### **Number of Occupants**

If the number of current occupants is less than the proposed number of new occupants moving into the home, or if higher water use is anticipated, it is not possible to predict how the system will function.

### **System Location**

Septic Systems are buried below ground, sometimes in excess of five feet. Homeowner and municipal records are often unavailable or inaccurate. It is impossible for our company to locate and identify all system components at every inspection. Furthermore, it may not be possible for our company to determine if there have been alterations made to the system, or if the alterations meet current standards.

### **Supplemental Information**

#### **What kind of system do I have?**

In this geographical area, gray water is usually water from a laundry system or kitchens. Perhaps the effluent from a sump pump, the foundation footing drains, roof runoff, and sometimes shower drains also enters the system. In New Jersey and New York this type of discharge is frowned upon and usually these types of discharge are recommended for removal from the septic system.

**Black water** usually refers to any flow containing human waste products. Although shower and bath flow generally does not contain human waste it is almost always mixed with toilet waste in the plumbing system. Subsequently all bathroom waste is usually referred to as black water.

In general gray water usually does not contain human waste products and does not need to be digested like human waste. Nonetheless the disposal requirements for this type of water are the same as black water.

For this reason most septic systems are built to receive combined waste. In addition to the obvious size reduction, there is also some treatment benefits realized from mixing the waste flows in the septic tank.

## **Why Do Septic Systems Fail?**

A failing septic system is one that has sewage on the surface, in the house or in the well. This inspection, however, probably involves the sale of a costly piece of property. And the intent of the inspection is to determine whether or not the system is 'Operating As Designed'.

The following additional information concerning **Failing Septic Systems** can help you make an informed judgment concerning the likelihood of future failure should some cautions be raised by the inspector during the evaluation.

If the liquid effluent cannot soak into the soil surrounding the leach field, sewage may back up into the system and overflow into the house or puddle on the surface of the ground. This is a **Failing Septic System**. There are several possible causes for this problem.

### **1. Poor Soil Conditions; Faulty Design or Installation of Septic Systems**

A leaching system placed in unsuitable soil, a system that is too small for the house it serves, or an improperly constructed system may lead to early failure.

### **2. Soil Clogging and Septic Systems**

If sludge or scum is allowed to escape into the distribution box and from there into the leach field, the soil will quickly become clogged. If this happens, the liquid will no longer soak, or percolate, into the soil. Broken baffles in the septic tank that allow sludge or scum to escape can cause this condition. Failure to have the tank pumped can also lead to a situation where the sludge and scum overwhelm the baffles. Other causes of soil clogging can be as simple as an aging system. When a system ages, the naturally occurring biology found in the disposal area and surrounding soil can accumulate to a level that eventually clogs the soil.

### **3. High Water Table and Septic Systems**

During wet, or abnormally wet, season's groundwater may rise into the leach field and force sewage upward to the ground surface. The presence of water in the disposal bed will dramatically shorten the life of the system. Since the water displaces the air normally found in the leaching area, the aerobic conditions no longer exist and the bed goes immediately into failure. This condition may mean the system has to be re-installed at a higher level. It may also be possible to intercept the high groundwater with a series of drains around the system called "curtain drains".

### **4. Roots and Clogging of Septic Systems**

The roots of trees and bushes planted too close to the system can sometimes enter and block the pipes of the system. Removal of the plants and clearing the pipes of the roots is usually required.

### **5. Physical Damage to Septic System Components**

Trucks or heavy equipment passing over the system can damage pipes and joints to the point of rendering the system inoperable. You should be aware of the location of the system and direct traffic to avoid such damage.

## **When Is a system Operating As Designed?**

After conducting the inspection the inspector will generally indicate one of four options.

1. **Satisfactory (Operating as Designed)**
2. **Satisfactory with Concerns**
3. **Unsatisfactory (Not Operating As Designed)**
4. **Needs More Investigation**

In general the inspector is looking for two distinct treatment areas in the septic system. He must find a water tight, functioning anaerobic vessel and a dry operating aerobic area. The later may be in the form of a disposal bed, trenches or seepage pit. Or it may be in the form of an aerobic treatment system, sand filter or even a conventional sewage treatment facility.

If each of these elements is located and no physical defects are identified, the system will be found to operate as designed and a finding of Satisfactory is given. If the system is working but the aerobic area is partially flooded or a similar symptom is observed, then the system may be operating as designed but specific concerns will be outlined in the report suggesting a limited life remains.

If either treatment area is not functioning either because it has reached the end of its life or because of physical damage, a finding of Unsatisfactory will be reached. In rare cases, some physical constraint such as overly deep system elements or limited access (i.e. under structures or paved areas), additional investigation using more sophisticated equipment will be required.

If you have any questions regarding this report or require additional information, please contact our office at 973 900-1330.

Sincerely,  
CLASSIC SEPTIC INSPECTIONS

A handwritten signature in cursive script, reading "Michael Acito".

Michael Acito

# ON SITE SYSTEM INSPECTION FORM

## Inspection Overview

- Preliminary system information
- Inspection of treatment tanks
- Absorption system inspection
- Disposal/conveyance system assessment
- Identification of any alternative technology approved components
  - Requires additional inspection

## INTERNAL USE ONLY:

Classic Septic Inspections Inc.  
127 Highland Ave.  
Midland Park, NJ 07432  
201-857-2686

|                    |                                                                                                                                              |                               |                                                                                                   |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------------------|
| <b>CLIENT INFO</b> | <b>Client Name:</b><br><u>Carly + Louis Ferraro</u>                                                                                          | <b>ONSITE SYSTEM LOCATION</b> | <b>Inspector Name:</b> <u>Joe</u>                                                                 |
|                    | <b>Client Address: - Seller <input type="checkbox"/> Buyer <input checked="" type="checkbox"/></b><br><u>65 York Rd</u><br><u>Pennington</u> |                               | <b>Date:</b> <u>8/1/15</u>                                                                        |
|                    | <b>Contact Method:</b><br>home tel. _____<br>cell tel. _____<br>e-mail <u>Carly.ferraro@gmail.com</u>                                        |                               | <b>ISSDS Address (including municipality):</b><br><u>22 Hunters Ridge Dr</u><br><u>Pennington</u> |
|                    | <b>New Jersey Coordinate: Block: <u>50</u> Lot: <u>44.08</u></b><br>Was GPS used? <input type="checkbox"/> yes <input type="checkbox"/> no   |                               |                                                                                                   |

| Preliminary Information:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Yes | No |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| Weather: <u>Clear</u> Last Precipitation: <u>30+</u><br>Age of structure: <u>1997</u><br>Age of system: <u>↓</u><br>Type of dwelling?<br><input checked="" type="checkbox"/> Residential      Number of Bedrooms: <u>4</u><br><input type="checkbox"/> Non residential      Describe: _____<br>How many systems are being inspected? <u>1</u><br>List any commercial activities or high impact hobbies:<br><u>None</u><br>Describe prior problems and/or history including soil fracturing or use of chemical additives. Include dates and explain why the remedial measures have been applied to the system (if available):<br><u>None</u> | Is there a site plan or septic map available? <input type="checkbox"/><br>Is the dwelling currently being occupied? <input checked="" type="checkbox"/><br>If so, how many occupants <u>2</u> / vacant? _____<br># occupants of prospective buyer _____<br>If there is a washing machine, is it connected to a Separate gray water disposal system? <input type="checkbox"/><br>Is the dwelling free of additional gray water systems? <input checked="" type="checkbox"/><br>Is the dwelling free of garbage disposal systems? <input checked="" type="checkbox"/><br>Is the dwelling free of sump pump discharges to the system? <input checked="" type="checkbox"/><br>Is the dwelling free of any historical sewage back ups into the structure? <input checked="" type="checkbox"/><br>Does all sewage enter the septic system and no type of sewage bypass exists? <input checked="" type="checkbox"/><br>Septic Tank Pumping:<br>Is the septic tank pumped regularly? <u>N/A</u><br>Frequency: _____<br>Date of last pumping: <u>March 2015</u><br>Date file review requested with administrative authority: _____<br>Was file review completed prior to inspection: <input type="checkbox"/><br>If no, explain why <u>closed today. will follow-up mon-tues. - picked up records. (ATTACHED)</u> |     |    |

Comments: Visual check done on lines in basement - all lines tied into main septic

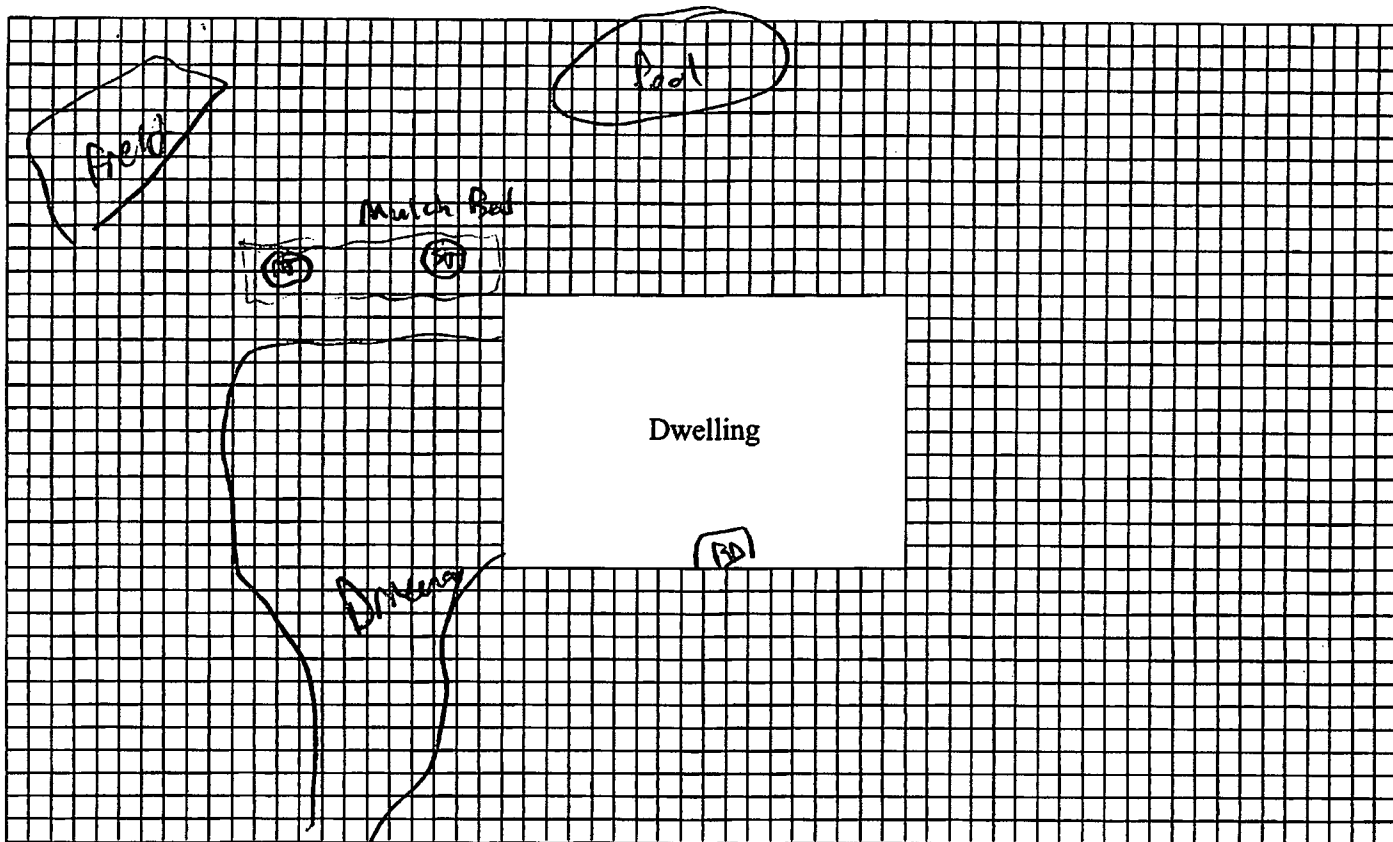
Hydraulic loading test discussed and explained. Yes ☒ No ☐ N/A ☐  
 Tracing dye used to confirm black and gray systems. Yes ☐ No ☒ N/A ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Treatment Tank:</b><br>Type of system being inspected:<br><input checked="" type="checkbox"/> Septic Tank <input type="checkbox"/> Cesspool <input type="checkbox"/> 2nd Tank<br>Other _____ <input type="checkbox"/> Pump Tank<br><input type="checkbox"/> Gray water <input type="checkbox"/> Multi-compartment: # _____<br>Approximate Treatment Tank Volume T1 <u>1250+</u> gal.<br><input checked="" type="checkbox"/> Concrete <input type="checkbox"/> Plastic    T-2 _____<br><input type="checkbox"/> Block    PT <u>1250+</u><br><input type="checkbox"/> Steel    Satisfactory    Unsatisfactory    N/A<br><div style="display: flex; justify-content: space-around;"> <div>T1 T2</div> <div>T1 T2</div> </div>                                                                                                                                                                                                                                                                                                                                      |  |  |  | Main tank lid opened for inspection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Liquid level below the tank's inlet invert? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Liquid level below the tank's outlet invert? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Treatment tank pumped for this inspection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Are all portions of the tank(s) clear of structures like a deck or a driveway? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Is the area clear of evidence that sewage has surfaced above the treatment tank? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Does water flow unimpeded from the treatment tank? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Is an effluent filter a part of the system? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>If yes, does it appear properly maintained? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Are there any other types of accessory units present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Depth to top of tank: _____ inches<br>Depth to top of tank access: <u>ST: grade PT: 2"</u> inches<br>Concrete <input type="checkbox"/> Manhole <input checked="" type="checkbox"/> Other <input type="checkbox"/> Plastic <input type="checkbox"/><br>Comments: _____ |  |
| Top and Lids <input checked="" type="checkbox"/> T1 <input type="checkbox"/> T2 <input type="checkbox"/> T1 <input type="checkbox"/> T2 <input type="checkbox"/> N/A<br>Inspection Ports <input checked="" type="checkbox"/> T1 <input type="checkbox"/> T2 <input type="checkbox"/> T1 <input type="checkbox"/> T2 <input type="checkbox"/> N/A<br>Inlet baffle <input checked="" type="checkbox"/> T1 <input type="checkbox"/> T2 <input type="checkbox"/> T1 <input type="checkbox"/> T2 <input type="checkbox"/> N/A<br>Outlet baffle <input checked="" type="checkbox"/> T1 <input type="checkbox"/> T2 <input type="checkbox"/> T1 <input type="checkbox"/> T2 <input type="checkbox"/> N/A<br>Cracks or Leaks <input checked="" type="checkbox"/> T1 <input type="checkbox"/> T2 <input type="checkbox"/> T1 <input type="checkbox"/> T2 <input type="checkbox"/> N/A<br>Sewage Flow from structure <input checked="" type="checkbox"/> T1 <input type="checkbox"/> T2 <input type="checkbox"/> T1 <input type="checkbox"/> T2 <input type="checkbox"/> N/A |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Absorption Area:</b><br>Name the type of the absorption system?<br><input checked="" type="checkbox"/> disposal bed <input type="checkbox"/> disposal trench - # _____<br><input type="checkbox"/> seepage pit <input checked="" type="checkbox"/> mounded<br><input type="checkbox"/> cesspool <input type="checkbox"/> other _____<br>Was the absorption system located? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no    If no, explain below.<br>Are inspection ports present? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no    Port 1 <u>30"</u> Port 2 <u>29"</u> Port 3 <u>154"</u> Port 4 <u>20"</u><br>If yes, how many? <u>4</u><br>Were the inspection ports checked <input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> N/A    *All levels observed must be included in report.<br>Was a separate probe dug in the absorption area to confirm the observations in the inspection ports? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> N/A<br>Is the area of the absorption system free of sewage odors? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no<br>Does sewage flow from the treatment tank to the absorption system without flowing back? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> N/A<br>Is the area above or near any of the system components free from visible signs of effluent or sewage? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no<br>Are the areas at or near the inlet invert of any absorption area component free of visible signs of sewage or effluent? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no<br>Are areas above or near system components free of lush vegetation? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no<br>If exposed, is the distribution box in satisfactory condition? <input type="checkbox"/> yes <input type="checkbox"/> no <input checked="" type="checkbox"/> N/A<br>If not exposed, explain why not: <u>Exposed - Camera</u><br>Is the area directly over any part of the absorption system free of any evidence of large objects (cars, pools, etc.)? <input type="checkbox"/> yes <input type="checkbox"/> no |  | Flow Test - Yes <input checked="" type="checkbox"/> No _____<br># of minutes <u>25</u><br>From: House <input checked="" type="checkbox"/> _____<br>Exterior Faucet _____ |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                               |           |                       |           |                                                                                    |           |          |           |
|-----------------------------------------------|-----------|-----------------------|-----------|------------------------------------------------------------------------------------|-----------|----------|-----------|
| Disposal Bed Top of Stone <u>14"</u>          |           | Probed to: <u>50"</u> |           | Effluent noted <input checked="" type="checkbox"/> no <input type="checkbox"/> yes |           | At _____ |           |
| Top:                                          | Probe to: | Top:                  | Probe to: | Top:                                                                               | Probe to: | Top:     | Probe to: |
| Trenches: T1                                  | T2        | T3                    | T4        | T5                                                                                 |           |          |           |
| Seepage Pit Capacity under inlet Pit #1 _____ |           | Pit #2 _____          |           | Pit #3 _____                                                                       |           |          |           |
| Comments: _____                               |           |                       |           |                                                                                    |           |          |           |
|                                               |           |                       |           |                                                                                    |           |          |           |
|                                               |           |                       |           |                                                                                    |           |          |           |
|                                               |           |                       |           |                                                                                    |           |          |           |
|                                               |           |                       |           |                                                                                    |           |          |           |





#### Dosing or Pump Tank:

Does the system contain a pump tank?

Yes

No

N/A

Is the pump operating?

Floats?

Do the alarm(s) on the pump work?

Is the pump elevated above the tank floor?

Is the lid in satisfactory condition?

Is the tank in satisfactory condition?

Is the tank free of accumulated solids?

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Location of alarm box basement

Number of cycles run during flow test 2

#### Summary:

Condition of the treatment tank(s)

Condition of the conveyance and pump system(s)

Condition of the absorption area(s)

Condition of any accessory components

Satisfactory

Satisfactory  
with Concerns

Unsatisfactory

Requires Additional  
Investigation

N/A

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Overall comments & recommended corrective measures: Septic Tank: OK

Conveyance System: OK

Absorption System: OK

**Health Department Reporting:**

Note if any of the following conditions were observed during the inspection:

- ( ) 1. Ponding or breakout of sewage or effluent onto the surface of the ground
- ( ) 2. Seepage of sewage or effluent into portions of buildings below ground
- ( ) 3. Backup of sewage into the building served which is not caused by a physical blockage of the internal plumbing
- ( ) 4. Any manner of leakage observed from or into septic tanks, connecting pipes, distribution boxes and other components that are not designed to emit sewage or effluent.

Pursuant to N.J.A.C. 7:9A-3.4 notification of any observation that is consistent with a condition noted above should be reported to the local administrative authority within 24 hours of the observation. Regardless of observations made, a copy of this report should be provided to the local administrative authority within 10 days of the issuance of this report.

If encountered, describe all observed noncompliant conditions encountered during this inspection:

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**Customer authorization:**

I authorize CSI to enter the above listed property for the purpose of performing a sub-surface sewage disposal system inspection. I authorize CSI to expose parts of the system if required, to determine location and condition. I understand that CSI relies on information supplied by the owner(s) of the listed property or their agent and the local administrative authority in the evaluation of the sub-surface disposal system. I authorize CSI to provide this form to all parties as required.

Customer signature: \_\_\_\_\_

Printed name: \_\_\_\_\_

Inspector's signature: \_\_\_\_\_

Printed name: \_\_\_\_\_

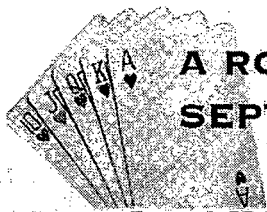
Date: \_\_\_\_\_

8/1/15

**Disclaimer:**

Based on today's observations and the information provided by the owner(s) or their agent, CSI submits this sub-surface sewage disposal system inspection form. The inspection is based on the current condition of the onsite sewage disposal system. CSI makes no representation that the system was designed, installed or meets N.J.A.C. 7:9A-1.1 et seq.. CSI has not been retained to warrant, guarantee, or certify the proper functioning of the system for any period of time. Because of numerous factors (usage, soil type, installation, maintenance, etc.) which affect the proper operation of a sub-surface disposal system as well as the inability of CSI to supervise or monitor the use and maintenance of the system, this form shall not be construed as a warranty by CSI that the system will function properly for any prospective buyer. CSI disclaims any warranty, either expressed or implied, arising from the inspection of the septic system.

This form was developed as a cooperative effort of:  
Pennsylvania/New Jersey Sewage Management Association;  
Rutgers Cooperative Extension New Jersey Agricultural Experiment Station; and  
The New Jersey Department of Environmental Protection Septic System Inspection Protocol Subcommittee



**A ROYAL FLUSH  
SEPTIC SERVICE, LLC.**

*Residential Septic Pumping*

4 Sebring Round, Hillsborough, NJ 08844 • 908-295-2392

**INVOICE**

#                     

DATE: 8/3/15

**BILL TO:** *Classic Septic Inspection*

Name: Mike Acito  
Address: 127 Highland Ave  
City/State: Midland Park, N.J.  
Zip: 07432  
Phone: 973-900-1330  
Fax:                       
Email:                     

ATTENTION: Sam  
JOB SITE: 22 Hunters Ridge Rd  
Pennington, N.J.

| Job Site                               | Servicemen & Equip | Terms | PO Number |
|----------------------------------------|--------------------|-------|-----------|
| <u>22 Hunters Ridge Rd, Pennington</u> |                    |       |           |

| Date                                                                                                                                                                                                                                                                 | Description        | Parts | Rate      | Amount          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------|-----------|-----------------|
| <u>8/3/15</u>                                                                                                                                                                                                                                                        | <u>Pump Septic</u> |       |           | <u>\$220.00</u> |
| A Royal Flush Septic Service, LLC. is not responsible or liable for any damages to structures seen or unseen, known or unknown, nor A Royal Flush Septic Service, LLC. employees, agents or representatives.                                                         |                    |       | Sub-Total | <u>\$220.00</u> |
| <b>**NOTE:</b> Cost of recovery or debts, attorneys fees, interest and other costs incurred in such action or proceeding, are customer paid. If any payment is more than 30 days late, a late fee of 1.5% (18% per year) will be incurred, in addition to principal. |                    |       | State Tax | <u>\$15.40</u>  |
|                                                                                                                                                                                                                                                                      |                    |       | Total     | <u>\$235.40</u> |

24/7 Emergency Service • Competitive Pricing • Fully Insured • Visa & Mastercard Accepted

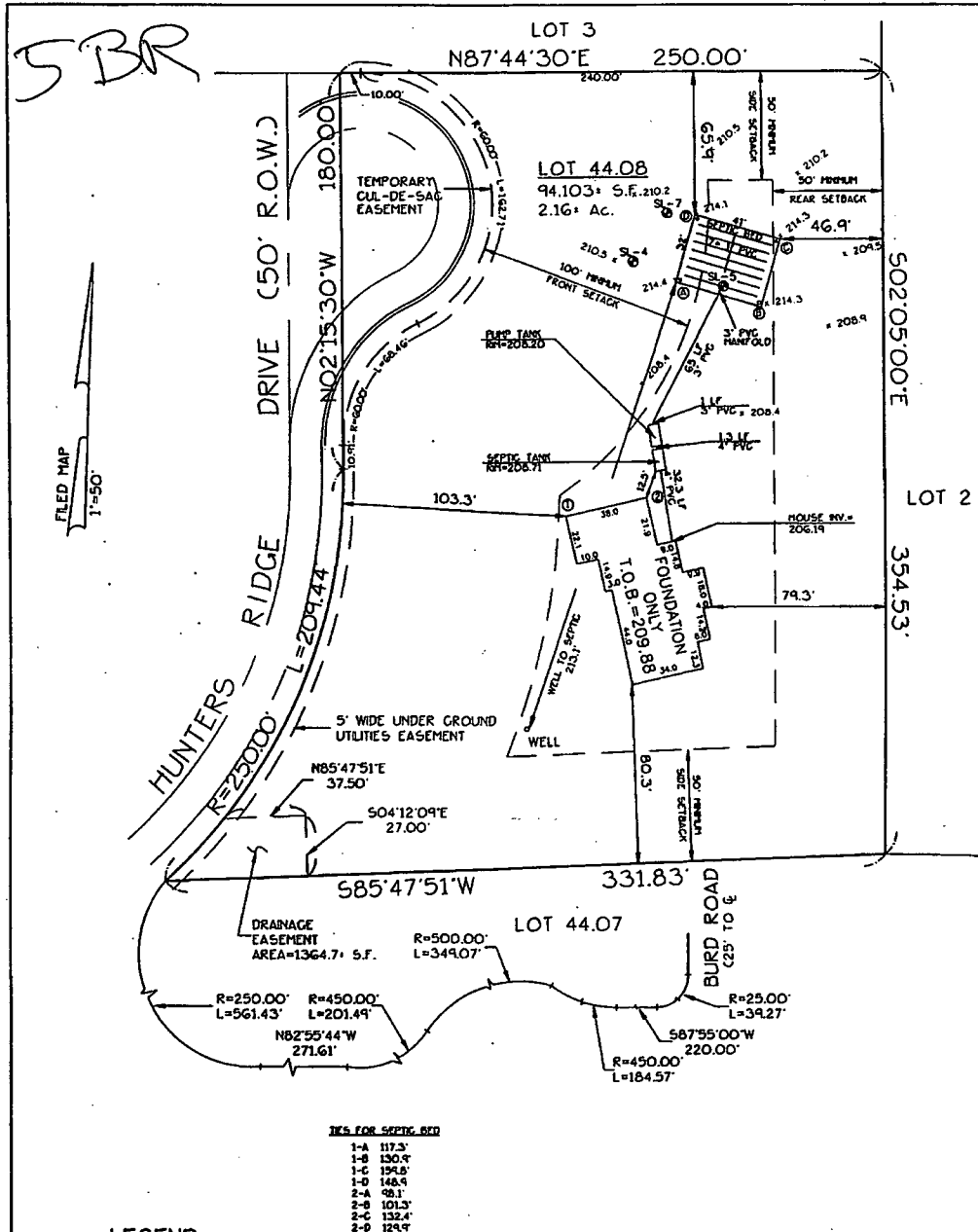
\$235.40

22 Hunter Ridge Rd  
Hopewell

RECEIVED

JUL 11 1997

Hopewell Township Health Dept.



|                                                           |      |                                      |    |
|-----------------------------------------------------------|------|--------------------------------------|----|
| 1. 7/3/97 REVISED AS PER REVIEW LETTER DATED 6/19/97 M.A. |      | "THE FIELDS AT PENNINGTON"           |    |
| NO.                                                       | DATE | REVISION DESCRIPTION                 | BY |
| BETTIGOLE ANDREWS & CLARK, Inc.                           |      | SEPTIC ASBUILT PLAN                  |    |
| CONSULTING ENGINEERS                                      |      | PREPARED FOR                         |    |
| (908) 349-3446                                            |      | BLOCK 50 LOT 44.08                   |    |
| 310 MAIN STREET TOMS RIVER, N.J. 08753                    |      | HOPEWELL TOWNSHIP                    |    |
| MICHAEL T. ARMSTRONG, P.L.S.                              |      | MERCER COUNTY NEW JERSEY             |    |
| PROFESSIONAL LAND SURVEYOR N.J. LIC. NO. 35820            |      | DR. BY J.M. CHK. BY M.Mc DATE 6-2-97 |    |
| DATE 7/7/97                                               |      | JOB NO. 096058.00 DWG. NO. 1 OF 1    |    |

APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR  
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

960111

SEP 25 1996

Township Health Dept.

## FORM 1 - General Information

Type of Permit Needed (check applicable categories):

- ☒ New Construction  
☐ Alteration/No Expansion or Change of Use  
☐ Alteration/Expansion or Change in Use  
☐ Alteration/Malfunctioning System  
☐ Deviation from Standards  
☐ Repairs to Existing System

## Location of Project:

Municipality HOPEWELL TOWNSHIP Block No. 50 Lot No. 44.08  
Street Address HUNTERS RIDGE DRIVE, PENNINGTON Zip 08534

Name of Applicant (print) PALOMAR ASSOCIATES, INC.Applicant's Present Address 51 LOWER KINGTOWN ROAD, PITTSTOWN NJApplicant's Phone Number 908-730-9772 08867

## Type of Facility:

- ☒ Residential  
☐ Commercial/Institutional  
Specify Type of Establishment \_\_\_\_\_

## Type of Wastes to be Discharged:

- ☒ Sanitary Sewage  
☐ Industrial Wastes  
☐ Other (specify type) \_\_\_\_\_

## Other Approvals/Certification/Waivers/Exemptions (attach to application):

- ☐ Pinelands Commission  
☐ U. S. Army Corps of Engineers  
☐ NJDEP-Bureau of Flood Plain Management  
☐ Other (specify) \_\_\_\_\_

I hereby certify that the information furnished on Form 1 of this application is true.  
I am aware that false swearing is a crime in this State and subject to prosecution.

Signature of Applicant [Signature] Date \_\_\_\_\_

## FOR AGENCY USE ONLY

Application Denied. Reason for Denial/Citation of Rules Violated: \_\_\_\_\_

Application Approved

Application Approved Subject to Approval by NJDEP

Date of Action 11-13-96 Signature of Authorized Agent [Signature]

and Title \_\_\_\_\_

APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR  
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 2b - Soil Log and Interpretation

Block No. 50 Lot No. 44.08

1. Log Number SL-1

Method (check one): ☒ Profile Pit ☐ Boring

2. Soil Log

| Depth<br>(Inches) | Munsell Color Name and Symbol; Estimated Textural Class; Estimated<br>Volume % Coarse Fragment, If Present; Structure; Moist or Dry |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Top-Bottom        | Consistence; Mottling - Abundance, Size and Contrast, If Present                                                                    |

0-18" 2.5YR 4/4 Reddish Brown silty clay loam, subangular blocky, friable  
18"-48" 7.5YR 8/2 pinkish white mottles, many, coarse, prominent  
18"-48" (NONSOIL) 1/2 to 1" fractured shale, platy

Refusal @ 48"  
mottling @ 18"

3. Ground Water Observations:

         Seepage - Indicate Depth                                   
         Pit/Boring Flooded - Depth After          Hours

4. Soil Limiting Zones (check appropriate categories):

☒ Fractured Rock Substratum - Depth to Top 18"  
☒ Massive Rock Substratum - Depth to Top 48"  
☐ Excessively Coarse Horizon - Depth Top to Bottom                                   
☐ Excessively Coarse Substratum - Depth to Top                                   
☐ Hydraulically Restrictive Horizon - Depth Top to Bottom                                   
☐ Hydraulically Restrictive Substratum - Depth to Top                                   
☐ Perched Zone of Saturation - Depth Top to Bottom                                   
☒ Regional Zone of Saturation - Depth to Top 18"

5. Soil Suitability Classification:

III W<sub>n</sub>, II (S<sub>c</sub>, S<sub>r</sub>)

6. I hereby certify that the information furnished on Form 2b of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator Charles Dilbas Date 8/20/96

Signature of Professional Engineer Robert C. Bruner License # 25130

APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR  
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 2b - Soil Log and Interpretation

Block No. 50 Lot No. 44.081. Log Number SL-2Method (check one): ☒ Profile Pit ☐ Boring

2. Soil Log

| Depth<br>(Inches)<br>Top-Bottom | Munsell Color Name and Symbol; Estimated Textural Class; Estimated<br>Volume % Coarse Fragment, If Present; Structure; Moist or Dry<br>Consistence; Mottling - Abundance, Size and Contrast, If Present |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

0-18" 2.5 YR 4/4 Reddish Brown silty clay loam, subangular blocky, friable  
18"+ 7.5 YR 8/2 pinkish white mottles, many-coarse-prominent  
18"-84" (nonsoil) 1/2" to 1" fractured shale, platy

Refusal @ 84"

mottling @ 18"

Infiltration @ 66"

3. Ground Water Observations:

☒ Seepage - Indicate Depth 66"  
☐ Pit/Boring Flooded - Depth After          Hours

4. Soil Limiting Zones (check appropriate categories):

☒ Fractured Rock Substratum - Depth to Top 18"  
☒ Massive Rock Substratum - Depth to Top 84"  
☐ Excessively Coarse Horizon - Depth Top to Bottom           
☐ Excessively Coarse Substratum - Depth to Top           
☐ Hydraulically Restrictive Horizon - Depth Top to Bottom           
☐ Hydraulically Restrictive Substratum - Depth to Top           
☐ Perched Zone of Saturation - Depth Top to Bottom           
☒ Regional Zone of Saturation - Depth to Top 18"

5. Soil Suitability Classification:

III Wr, II (Sc, Sr)

6. I hereby certify that the information furnished on Form 2b of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator Charles Dilkes Date 8/20/96Signature of Professional Engineer Robert C. Bushe License # 25130

APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR  
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 2b - Soil Log and Interpretation

Block No. 50 Lot No. 44.081. Log Number 54-3Method (check one): ☒ Profile Pit ☐ Boring

2. Soil Log

| Depth<br>(Inches)<br>Top-Bottom | Munsell Color Name and Symbol; Estimated Textural Class; Estimated<br>Volume % Coarse Fragment, If Present; Structure; Moist or Dry<br>Consistence; Mottling - Abundance, Size and Contrast, If Present |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

0-18" 2.5 YR 4/4 Reddish Brown silty clay loam, subangular blocky, friable  
18"+ 7.5 YR 8/2 pinkish white mottles, many-coarse-prominent  
18"-72" (nonsoil) 1/2" to 1" fractured shale, platy

Refusal @ 72"

mottling @ 18"

Infiltration @ 70"

3. Ground Water Observations:

☒ Seepage - Indicate Depth 70"☐ Pit/Boring Flooded - Depth After        Hours

4. Soil Limiting Zones (check appropriate categories):

☒ Fractured Rock Substratum - Depth to Top 18"☒ Massive Rock Substratum - Depth to Top 72"☐ Excessively Coarse Horizon - Depth Top to Bottom       ☐ Excessively Coarse Substratum - Depth to Top       ☐ Hydraulically Restrictive Horizon - Depth Top to Bottom       ☐ Hydraulically Restrictive Substratum - Depth to Top       ☐ Perched Zone of Saturation - Depth Top to Bottom       ☒ Regional Zone of Saturation - Depth to Top 18"

5. Soil Suitability Classification:

III Wr, II (Sc, Sr)

6. I hereby certify that the information furnished on Form 2b of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator Charles D'Alles Date 8/20/96Signature of Professional Engineer Robert C. Bush License # 25130



APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR  
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 2b - Soil Log and Interpretation

Block No. 50 Lot No. 44.081. Log Number SL-4Method (check one): ☒ Profile Pit ☐ Boring

2. Soil Log

| Depth<br>(Inches)<br>Top-Bottom | Munsell Color Name and Symbol; Estimated Textural Class; Estimated<br>Volume % Coarse Fragment, If Present; Structure; Moist or Dry<br>Consistence; Mottling - Abundance, Size and Contrast, If Present |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

0-24" 2.5 YR 4/4 Reddish Brown silty clay loam, subangular blocky, friable  
24" + 7.5 YR 8/2 Pinkish white mottles, many-coarse-prominent  
24"-72" (NONSOIL) 1/2" to 1" fractured shale, platy  
72"-96" (NONSOIL) 1" Tight shale, platy  
Refusal @ 96"  
mottling @ 24"  
No Infiltration observed

3. Ground Water Observations:

Seepage - Indicate Depth \_\_\_\_\_  
Pit/Boring Flooded - Depth After \_\_\_\_\_ Hours

4. Soil Limiting Zones (check appropriate categories):

☒ Fractured Rock Substratum - Depth to Top 24"  
☒ Massive Rock Substratum - Depth to Top 96"  
☐ Excessively Coarse Horizon - Depth Top to Bottom \_\_\_\_\_  
☐ Excessively Coarse Substratum - Depth to Top \_\_\_\_\_  
☐ Hydraulically Restrictive Horizon - Depth Top to Bottom \_\_\_\_\_  
☐ Hydraulically Restrictive Substratum - Depth to Top \_\_\_\_\_  
☐ Perched Zone of Saturation - Depth Top to Bottom \_\_\_\_\_  
☒ Regional Zone of Saturation - Depth to Top 24"

5. Soil Suitability Classification:

 $II(W_r, S_c, S_n)$ 

6. I hereby certify that the information furnished on Form 2b of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator Charles Dubois Date 8/20/96Signature of Professional Engineer Robert P. Bush License # 25130

APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR  
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 2b - Soil Log and Interpretation

Block No. 50 Lot No. 44,081. Log Number SL-5Method (check one): ☒ Profile Pit ☐ Boring

2. Soil Log

| Depth<br>(Inches) | Munsell Color Name and Symbol; Estimated Textural Class; Estimated<br>Volume % Coarse Fragment, If Present; Structure; Moist or Dry |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Top-Bottom        | Consistence; Mottling - Abundance, Size and Contrast, If Present                                                                    |

0-24" 2.5 YR 4/4 Reddish Brown silty clay loam, subangular blocky, friable  
24"+ 7.5 YR 8/2 pinkish white mottles, many-coarse-prominent  
24"-75" (NONSOIL) 1/2" to 1" fractured shale, platy

Refusal @ 75"

mottling @ 24"

Infiltration @ 72"

3. Ground Water Observations:

☒ Seepage - Indicate Depth 72"  
☐ Pit/Boring Flooded - Depth After        Hours

4. Soil Limiting Zones (check appropriate categories):

|                                                                                  |               |
|----------------------------------------------------------------------------------|---------------|
| <input checked="" type="checkbox"/> Fractured Rock Substratum - Depth to Top     | <u>24"</u>    |
| <input checked="" type="checkbox"/> Massive Rock Substratum - Depth to Top       | <u>75"</u>    |
| <input type="checkbox"/> Excessively Coarse Horizon - Depth Top to Bottom        | <u>      </u> |
| <input type="checkbox"/> Excessively Coarse Substratum - Depth to Top            | <u>      </u> |
| <input type="checkbox"/> Hydraulically Restrictive Horizon - Depth Top to Bottom | <u>      </u> |
| <input type="checkbox"/> Hydraulically Restrictive Substratum - Depth to Top     | <u>      </u> |
| <input type="checkbox"/> Perched Zone of Saturation - Depth Top to Bottom        | <u>      </u> |
| <input checked="" type="checkbox"/> Regional Zone of Saturation - Depth to Top   | <u>24"</u>    |

5. Soil Suitability Classification:

II (w<sub>r</sub>, s<sub>c</sub>, s<sub>r</sub>)

6. I hereby certify that the information furnished on Form 2b of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator Charles Dilbes Date 8/20/96Signature of Professional Engineer Robert C. Bueker License # 25130

APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR  
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 2b - Soil Log and Interpretation

Block No. 50 Lot No. 44.081. Log Number SL-6Method (check one): ☒ Profile Pic ☐ Boring

2. Soil Log

| Depth<br>(Inches)<br>Top-Bottom | Munsell Color Name and Symbol; Estimated Textural Class; Estimated<br>Volume % Coarse Fragment, If Present; Structure; Moist or Dry<br>Consistence; Mottling - Abundance, Size and Contrast, If Present |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

0-12" 2.5 YR 4/4 Reddish Brown Silty Clay Loam, subangular blocky, friable

12"-108" (Nonsoil) 1/2" to 1" Fractured shale, platy

24"+ 7.5 YR 8/2 Pinkish white mottles, many-coarse-prominent  
Refusal @ 108"  
mottling @ 24"  
Infiltration @ 87"

3. Ground Water Observations:

☒ Seepage - Indicate Depth 87"  
☐ Pic/Boring Flooded - Depth After        Hours

4. Soil Limiting Zones (check appropriate categories):

|                                                                                                |
|------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Fractured Rock Substratum - Depth to Top <u>12"</u>        |
| <input checked="" type="checkbox"/> Massive Rock Substratum - Depth to Top <u>108"</u>         |
| <input type="checkbox"/> Excessively Coarse Horizon - Depth Top to Bottom <u>      </u>        |
| <input type="checkbox"/> Excessively Coarse Substratum - Depth to Top <u>      </u>            |
| <input type="checkbox"/> Hydraulically Restrictive Horizon - Depth Top to Bottom <u>      </u> |
| <input type="checkbox"/> Hydraulically Restrictive Substratum - Depth to Top <u>      </u>     |
| <input type="checkbox"/> Perched Zone of Saturation - Depth Top to Bottom <u>      </u>        |
| <input checked="" type="checkbox"/> Regional Zone of Saturation - Depth to Top <u>24"</u>      |

5. Soil Suitability Classification:

II ( $w_r, s_c, s_r$ )

6. I hereby certify that the information furnished on Form 2b of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator Charles Dilkes Date 8/20/96Signature of Professional Engineer Robert C. Bush License # 25130

APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR  
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 2b - Soil Log and Interpretation

Block No. 50 Lot No. 44.081. Log Number SL-7Method (check one): ☒ Profile Pit ☐ Boring

2. Soil Log

| Depth<br>(Inches) | Munsell Color Name and Symbol; Estimated Textural Class; Estimated<br>Volume % Coarse Fragment, If Present; Structure; Moist or Dry |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Top-Bottom        | Consistence; Mottling - Abundance, Size and Contrast, If Present                                                                    |

0-12" 2.5 YR 4/4 Reddish Brown Silty Clay Loam, subangular blocky, friable

12"-108" (Nonsoil) 1/2" to 1" fractured shale, platy

24"+ 7.5 YR 8/2 Pinkish white mottles, many-coarse-prominent  
refusal @ 108"

mottling @ 24"

Infiltration @ 87"

3. Ground Water Observations:

☒ Seepage - Indicate Depth 87"  
☐ Pit/Boring Flooded - Depth After        Hours

4. Soil Limiting Zones (check appropriate categories):

|                                                                                                |
|------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Fractured Rock Substratum - Depth to Top <u>12"</u>        |
| <input checked="" type="checkbox"/> Massive Rock Substratum - Depth to Top <u>108"</u>         |
| <input type="checkbox"/> Excessively Coarse Horizon - Depth Top to Bottom <u>      </u>        |
| <input type="checkbox"/> Excessively Coarse Substratum - Depth to Top <u>      </u>            |
| <input type="checkbox"/> Hydraulically Restrictive Horizon - Depth Top to Bottom <u>      </u> |
| <input type="checkbox"/> Hydraulically Restrictive Substratum - Depth to Top <u>      </u>     |
| <input type="checkbox"/> Perched Zone of Saturation - Depth Top to Bottom <u>      </u>        |
| <input checked="" type="checkbox"/> Regional Zone of Saturation - Depth to Top <u>24"</u>      |

5. Soil Suitability Classification:

 $II(W_r, S_c, S_r)$ 

6. I hereby certify that the information furnished on Form 2b of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator Charles Dilbes Date 8/20/96Signature of Professional Engineer Robert C. Bunker License # 25130

APPLICATION AND PERMIT TO CONSTRUCT/ALTER/REPAIR  
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 3g - Basin Flooding Test Data

Block No. 50 Lot No. 44.08

1. Test Number BF-1 Reference Soil Log SL-4 Date Tested 8/19/96
2. Depth of Pit, ft 6
3. Area of Pit, ft<sup>2</sup> 50
4. Description of Rock Substratum Within Test Zone:  
Type of Rock Shale  
Name of Formation Brunswick  
Average Fracture Spacing 0  
Type of Fractures (check appropriate category):  
☐ Open (Wide), Clean - Width of Openings, mm \_\_\_\_\_  
☐ Open (Wide), Infilled with Fines - Width of Openings, mm \_\_\_\_\_  
☒ Tight (Closed)  
Orientation of Fractures:  
☒ Horizontal (parallel to pit bottom) Or Nearly So  
☐ Inclined \_\_\_\_\_  
☐ Vertical (parallel to sides of pit) Or Nearly So  
Hardness of Rock:  
☐ Rippable with Hand Tools  
☒ Not Rippable with Hand Tools, Rippable by Machine  
☐ Not Rippable by Machine, Explosives Used
5. Time of First Basin Flooding 12:10<sup>PM</sup> on 8/19/96  
Volume of Water Added, Gal 375
6. Result of First Basin Flooding:  
☐ Basin Drained Within 24 Hours - Indicate Time \_\_\_\_\_  
☒ Basin Not Drained Within 24 Hours
7. Time of Second Basin Flooding \_\_\_\_\_  
Volume of Water Added, Gal \_\_\_\_\_
8. Result of Second Basin Flooding:  
☐ Basin Drained Within 24 Hours - Indicate Time \_\_\_\_\_  
☐ Basin Not Drained Within 24 Hours
9. I hereby certify that the information furnished on Form 3g of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator Charles Dilbar Date 8/19/96Signature of Professional Engineer Robert C. Busha License # 25130

APPLICATION AND PERMIT TO CONSTRUCT/ALTER/REPAIR  
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 3g - Basin Flooding Test Data

Block No. 50 Lot No. 44.081. Test Number BF-2 Reference Soil Log SL-5 Date Tested 8/19/962. Depth of Pit, ft 43. Area of Pit, ft<sup>2</sup> 50

4. Description of Rock Substratum Within Test Zone:

Type of Rock ShaleName of Formation BrunswickAverage Fracture Spacing 3mm

Type of Fractures (check appropriate category):

☐ Open (Wide), Clean - Width of Openings, mm \_\_\_\_\_☒ Open (Wide), Infilled with Fines - Width of Openings, mm 3☐ Tight (Closed)

Orientation of Fractures:

☒ Horizontal (parallel to pit bottom) Or Nearly So☐ Inclined☐ Vertical (parallel to sides of pit) Or Nearly So

Hardness of Rock:

☐ Rippable with Hand Tools☒ Not Rippable with Hand Tools, Rippable by Machine☐ Not Rippable by Machine, Explosives Used5. Time of First Basin Flooding 12:45<sup>PM</sup> on 8/19/96  
Volume of Water Added, Gal 3756. Result of First Basin Flooding:  
☒ Basin Drained Within 24 Hours - Indicate Time 2:40<sup>PM</sup> on 8/19/96  
☐ Basin Not Drained Within 24 Hours7. Time of Second Basin Flooding 2:50<sup>PM</sup> on 8/19/96  
Volume of Water Added, Gal 3758. Result of Second Basin Flooding:  
☒ Basin Drained Within 24 Hours - Indicate Time 7:30<sup>AM</sup> on 8/20/96  
☐ Basin Not Drained Within 24 Hours

9. I hereby certify that the information furnished on Form 3g of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator Charles Dilkes Date 8/20/96Signature of Professional Engineer Robert C. Bush License # 25130

APPLICATION AND PERMIT TO CONSTRUCT/ALTER/REPAIR  
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 3g - Basin Flooding Test Data

Block No. 50 Lot No. 44.081. Test Number BF-3 Reference Soil Log SL-4 Date Tested 8/19/962. Depth of Pit, ft 53. Area of Pit, ft<sup>2</sup> 50

4. Description of Rock Substratum Within Test Zone:

Type of Rock ShaleName of Formation BrunswickAverage Fracture Spacing 0

Type of Fractures (check appropriate category):

☐ Open (Wide), Clean - Width of Openings, mm \_\_\_\_\_☐ Open (Wide), Infilled with Fines - Width of Openings, mm \_\_\_\_\_☒ Tight (Closed)

Orientation of Fractures:

☒ Horizontal (parallel to pit bottom) Or Nearly So☐ Inclined \_\_\_\_\_☐ Vertical (parallel to sides of pit) Or Nearly So

Hardness of Rock:

☐ Rippable with Hand Tools☒ Not Rippable with Hand Tools, Rippable by Machine☐ Not Rippable by Machine, Explosives Used5. Time of First Basin Flooding 2:15 PM on 8/19/96  
Volume of Water Added, Gal 375

6. Result of First Basin Flooding:

☐ Basin Drained Within 24 Hours - Indicate Time \_\_\_\_\_☒ Basin Not Drained Within 24 Hours7. Time of Second Basin Flooding \_\_\_\_\_  
Volume of Water Added, Gal \_\_\_\_\_

8. Result of Second Basin Flooding:

☐ Basin Drained Within 24 Hours - Indicate Time \_\_\_\_\_☐ Basin Not Drained Within 24 Hours

9. I hereby certify that the information furnished on Form 3g of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator Charles Dillies Date 8/19/96Signature of Professional Engineer Robert C. Busha License # 25130

APPLICATION AND PERMIT TO CONSTRUCT/ALTER/REPAIR  
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 3g - Basin Flooding Test Data

Block No. 50 Lot No. 44,081. Test Number BF-4 Reference Soil Log SL-6 Date Tested 8/20/962. Depth of Pit, ft 53. Area of Pit, ft<sup>2</sup> 50

4. Description of Rock Substratum Within Test Zone:

Type of Rock ShaleName of Formation BrunswickAverage Fracture Spacing 2 mm

Type of Fractures (check appropriate category):

☐ Open (Wide), Clean - Width of Openings, mm \_\_\_\_\_☒ Open (Wide), Infilled with Fines - Width of Openings, mm 2☐ Tight (Closed)

Orientation of Fractures:

☒ Horizontal (parallel to pit bottom) Or Nearly So☐ Inclined☐ Vertical (parallel to sides of pit) Or Nearly So

Hardness of Rock:

☐ Rippable with Hand Tools☒ Not Rippable with Hand Tools, Rippable by Machine☐ Not Rippable by Machine, Explosives Used5. Time of First Basin Flooding 9:15 AM on 8/20/96  
Volume of Water Added, Gal 3756. Result of First Basin Flooding:  
☒ Basin Drained Within 24 Hours - Indicate Time 12:00 noon on 8/20/96  
☐ Basin Not Drained Within 24 Hours7. Time of Second Basin Flooding 12:10 PM on 8/20/96  
Volume of Water Added, Gal 3758. Result of Second Basin Flooding:  
☒ Basin Drained Within 24 Hours - Indicate Time 8:00 AM on 8/21/96  
☐ Basin Not Drained Within 24 Hours

9. I hereby certify that the information furnished on Form 3g of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator Charles Dilkes Date 8/20/96Signature of Professional Engineer Robert C. Bush License # 25130



PRINCETON JUNCTION ENGINEERING, P.C.  
53 NORTH POST ROAD  
PRINCETON JUNCTION, NEW JERSEY 08550  
ph. (609) 799-1906 fax. (609) 799-1524

BASIN FLOODING TEST DATA RESULTS

Municipality HOPEWELL TOWNSHIP Lot 44.08 Block 50

1. Test Number 82493/41-1 Reference Soil Log 82493-41 Date Test 8-24-93

2. Depth of Pit, ft. 4.16

3. Area of Pit, ft.<sup>2</sup> 60

4. Description of Rock Substratum Within Test Zone:

Type of Rock: SHALE  
Name of Formation: BRUNSWICK  
Average Fracture Spacing: 2-3mm

Type of Fractures (Check Appropriate Category):

       Open (Wide), Clean - Width of Opening, mm         
  X   Open (Wide), Infilled with Fines - Width of Openings, mm 2-3  
       Tight (Closed)

Orientation of Fractures:

  X   Horizontal (Parallel to Pit Bottom) or Nearly So  
       Inclined  
       Vertical (Parallel to Side of Pit) or Nearly So

Hardness of Rock:

       Rippable with Hand Tools  
  X   Not Rippable with Hand Tools, Rippable by Machine  
       Not Rippable by Machine, Explosive Used

5. Time of First Basin Flooding 4:35PM  
Volume of Water Added, Gal. 450

6. Result of First Flooding:  
  X   Basin Drained within 24 Hrs. - Indicate Time 9:05AM  
       Basin Not Drained within 24 Hrs.

7. Time of Second Basin Flooding 2:18PM  
Volume of Water Added, Gal. 450

8. Result of Second Basin Flooding:  
  X   Basin Drained within 24 Hrs. - Indicate Time 3:30PM  
       Basin Not Drained within 24 Hrs.

9. I hereby certify that the information furnished on Form 3G of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A.58: 10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator Scott Stebbins Date 8-24-93  
SCOTT STEBBINS

Signature of Prof. Engineer D. Geoffrey Brown License # 24327  
D. GEOFFREY BROWN

AFFIX SEAL

PRINCETON JUNCTION ENGINEERING, P.C.  
53 NORTH POST ROAD  
PRINCETON JUNCTION, NEW JERSEY 08550  
ph. (609) 799-1906 fax. (609) 799-1524

BASIN FLOODING TEST DATA RESULTS

Municipality HOPEWELL TOWNSHIP Lot 44.08 Block 50

1. Test Number 82493/40-1 Reference Soil Log 82493-40 Date Test 8-24-93

2. Depth of Pit, ft. 3.16

3. Area of Pit, ft.<sup>2</sup> 66

4. Description of Rock Substratum Within Test Zone:

Type of Rock: SHALE  
Name of Formation: BRUNSWICK  
Average Fracture Spacing: 2-3mm

Type of Fractures (Check Appropriate Category):

       Open (Wide), Clean - Width of Opening, mm         
  X   Open (Wide), Infilled with Fines - Width of Openings, mm 2-3  
       Tight (Closed)

Orientation of Fractures:

  X   Horizontal (Parallel to Pit Bottom) or Nearly So  
       Inclined  
       Vertical (Parallel to Side of Pit) or Nearly So

Hardness of Rock:

       Rippable with Hand Tools  
  X   Not Rippable with Hand Tools, Rippable by Machine  
       Not Rippable by Machine, Explosive Used

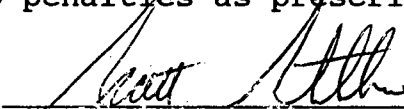
5. Time of First Basin Flooding 4:30PM  
Volume of Water Added, Gal. 495

6. Result of First Flooding:  
  X   Basin Drained within 24 Hrs. - Indicate Time 9:00AM  
       Basin Not Drained within 24 Hrs.

7. Time of Second Basin Flooding 2:15PM  
Volume of Water Added, Gal. 495

8. Result of Second Basin Flooding:  
  X   Basin Drained within 24 Hrs. - Indicate Time 3:30PM  
       Basin Not Drained within 24 Hrs.

9. I hereby certify that the information furnished on Form 3G of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A.58: 10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator  Date 8-24-93  
SCOTT STEBBINS

Signature of Prof. Engineer  License # 24327  
D. GEOFFREY BROWN

AFFIX SEAL

PRINCETON JUNCTION ENGINEERING COMPANY  
53 NORTH POST ROAD  
P.O. BOX 223  
PRINCETON JUNCTION, NEW JERSEY 08550  
ph. (609) 799-1906 fax. (609) 799-1524

SOILS TESTING DATA SHEET

FOR ALEX PIATKOWSKI DATE TESTED 8-24-93  
111 SOUTHWEST 52nd TERRACE LOT 44.08  
CAPE CORAL, FL 33914 BLOCK 50  
MUNICIPALITY HOPEWELL TOWNSHIP WEATHER 90° SUNNY  
TEST NO. 82493-40 INSPECTOR GEORGE KIESEL

| <u>DEPTH</u> | <u>MUNSELL COLOR</u> | <u>DESCRIPTION</u>                                                                                         |
|--------------|----------------------|------------------------------------------------------------------------------------------------------------|
| 0-12"        | 7.5YR/4-3            | SILT LOAM, NO GRAVEL, NO MOTTLES,<br>SUBANGULAR BLOCKY, DRY LOOSE, MANY ROOTS,<br>GRADUAL SMOOTH BOUNDARY. |
| 12-34"       | 2.5YR/4-4            | FRACTURED SHALE (2"x0.5") WITH SILTY CLAY<br>LOAM, PLATY, FEW ROOTS, DRY SLIGHTLY HARD,                    |
| 30"+         |                      | FEW, FINE-MEDIUM,<br>FAINT-DISTINCT MOTTLES (7.5YR/8-2,<br>DIFFUSE IRREGULAR BOUNDARY.                     |
| 34-78"       | 2.5YR/4-4            | FRACTURED SHALE (6"x2") WITH SILTY CLAY<br>LOAM, PLATY, DRY HARD, NO ROOTS.                                |

NO WATER.  
MACHINE REFUSAL @ 78".

SOILS EVALUATOR:

  
KEVIN BRAKEL

PROFESSIONAL ENGINEER:

  
D. GEOFFREY BROWN, P.E. & L.S. #24327

PRINCETON JUNCTION ENGINEERING COMPANY  
53 NORTH POST ROAD  
P.O. BOX 223  
PRINCETON JUNCTION, NEW JERSEY 08550  
ph. (609) 799-1906 fax. (609) 799-1524

SOILS TESTING DATA SHEET

FOR ALEX PIATKOWSKI DATE TESTED 8-24-93  
111 SOUTHWEST 52nd TERRACE LOT 44.08  
CAPE CORAL, FL 33914 BLOCK 50  
MUNICIPALITY HOPEWELL TOWNSHIP WEATHER 90° SUNNY  
TEST NO. 82493-41 INSPECTOR GEORGE KIESEL

| <u>DEPTH</u> | <u>MUNSELL COLOR</u> | <u>DESCRIPTION</u>                                                                                                                          |
|--------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| 0-10"        | 7.5YR/4-3            | SILT LOAM, NO GRAVEL, NO MOTTLES,<br>SUBANGULAR BLOCKY, DRY LOOSE, MANY ROOTS,<br>GRADUAL SMOOTH BOUNDARY.                                  |
| 10-24"       | 2.5YR/4-4            | FRACTURED SHALE (2"x0.5") WITH SILTY CLAY<br>LOAM, PLATY, FEW ROOTS, DRY LOOSE,<br>NO MOTTLES, DIFFUSE WAVY BOUNDARY.                       |
| 24-66"       | 2.5YR/4-4            | FRACTURED SHALE (6"x2") WITH SILTY CLAY<br>LOAM, PLATY, MOIST VERY FIRM, NO ROOTS,<br>28"+ COMMON, MEDIUM, DISTINCT MOTTLES<br>(7.5YR/8-2). |

NO WATER, MACHINE REFUSAL @ 66".

SOILS EVALUATOR: 

KEVIN BRAKEL

PROFESSIONAL ENGINEER: 

D. GEOFFREY BROWN, P.E. & L.S. #24327



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 53 NORTH POST ROAD  
 PRINCETON JUNCTION, NEW JERSEY 08550  
 ph. (609) 799-1906 fax. (609) 799-1524

BASIN FLOODING TEST DATA RESULTS

Municipality HOPEWELL TOWNSHIP Lot 44.08 Block 50

1. Test Number 82493/41-1 Reference Soil Log 82493-41 Date Test 8-24-93

2. Depth of Pit, ft. 4.16

3. Area of Pit, ft.<sup>2</sup> 60

4. Description of Rock Substratum Within Test Zone:

Type of Rock: SHALE  
 Name of Formation: BRUNSWICK  
 Average Fracture Spacing: 2-3mm

Type of Fractures (Check Appropriate Category):

       Open (Wide), Clean - Width of Opening, mm         
X Open (Wide), Infilled with Fines - Width of Openings, mm 2-3  
       Tight (Closed)

Orientation of Fractures:

X Horizontal (Parallel to Pit Bottom) or Nearly So  
       Inclined  
       Vertical (Parallel to Side of Pit) or Nearly So

Hardness of Rock:

       Rippable with Hand Tools  
X Not Rippable with Hand Tools, Rippable by Machine  
       Not Rippable by Machine, Explosive Used

5. Time of First Basin Flooding 4:35PM  
 Volume of Water Added, Gal. 450

6. Result of First Flooding:  
X Basin Drained within 24 Hrs. - Indicate Time 9:05AM  
       Basin Not Drained within 24 Hrs.

7. Time of Second Basin Flooding 2:18PM  
 Volume of Water Added, Gal. 450

8. Result of Second Basin Flooding:  
X Basin Drained within 24 Hrs. - Indicate Time 3:30PM  
       Basin Not Drained within 24 Hrs.

9. I hereby certify that the information furnished on Form 3G of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A.58: 10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator Scott Stebbins Date 8-24-93  
 SCOTT STEBBINS

Signature of Prof. Engineer D. Geoffrey Brown License # 24327  
 D. GEOFFREY BROWN

AFFIX SEAL

PRINCETON JUNCTION ENGINEERING, P.C.  
 53 NORTH POST ROAD  
 PRINCETON JUNCTION, NEW JERSEY 08550  
 ph. (609) 799-1906 fax. (609) 799-1524

BASIN FLOODING TEST DATA RESULTS

Municipality HOPEWELL TOWNSHIP Lot 44.08 Block 50

1. Test Number 82493/40-1 Reference Soil Log 82493-40 Date Test 8-24-93

2. Depth of Pit, ft. 3.16

3. Area of Pit, ft.<sup>2</sup> 66

4. Description of Rock Substratum Within Test Zone:

Type of Rock: SHALE  
 Name of Formation: BRUNSWICK  
 Average Fracture Spacing: 2-3mm

Type of Fractures (Check Appropriate Category):  
☐ Open (Wide), Clean - Width of Opening, mm \_\_\_\_\_  
☒ Open (Wide), Infilled with Fines - Width of Openings, mm 2-3  
☐ Tight (Closed)

Orientation of Fractures:  
☒ Horizontal (Parallel to Pit Bottom) or Nearly So  
☐ Inclined  
☐ Vertical (Parallel to Side of Pit) or Nearly So

Hardness of Rock:  
☐ Rippable with Hand Tools  
☒ Not Rippable with Hand Tools, Rippable by Machine  
☐ Not Rippable by Machine, Explosive Used

5. Time of First Basin Flooding 4:30PM  
 Volume of Water Added, Gal. 495

6. Result of First Flooding:  
☒ Basin Drained within 24 Hrs. - Indicate Time 9:00AM  
☐ Basin Not Drained within 24 Hrs.

7. Time of Second Basin Flooding 2:15PM  
 Volume of Water Added, Gal. 495

8. Result of Second Basin Flooding:  
☒ Basin Drained within 24 Hrs. - Indicate Time 3:30PM  
☐ Basin Not Drained within 24 Hrs.

9. I hereby certify that the information furnished on Form 3G of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A.58: 10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator Scott Stebbins Date 8-24-93  
 SCOTT STEBBINS

Signature of Prof. Engineer D. Geoffrey Brown License # 24327  
 D. GEOFFREY BROWN

AFFIX SEAL

15 of 19

PRINCETON JUNCTION ENGINEERING COMPANY  
53 NORTH POST ROAD  
P.O. BOX 223  
PRINCETON JUNCTION, NEW JERSEY 08550  
ph. (609) 799-1906 fax. (609) 799-1524

SOILS TESTING DATA SHEET

FOR ALEX PIATKOWSKI DATE TESTED 8-24-93  
111 SOUTHWEST 52nd TERRACE LOT 44.08  
CAPE CORAL, FL 33914 BLOCK 50  
MUNICIPALITY HOPEWELL TOWNSHIP WEATHER 90° SUNNY  
TEST NO. 82493-40 INSPECTOR GEORGE KIESEL

| <u>DEPTH</u> | <u>MUNSELL COLOR</u> | <u>DESCRIPTION</u>                                                                                         |
|--------------|----------------------|------------------------------------------------------------------------------------------------------------|
| 0-12"        | 7.5YR/4-3            | SILT LOAM, NO GRAVEL, NO MOTTLES,<br>SUBANGULAR BLOCKY, DRY LOOSE, MANY ROOTS,<br>GRADUAL SMOOTH BOUNDARY. |
| 12-34"       | 2.5YR/4-4            | FRACTURED SHALE (2"x0.5") WITH SILTY CLAY<br>LOAM, PLATY, FEW ROOTS, DRY SLIGHTLY HARD,                    |
| 30"+         |                      | FEW, FINE-MEDIUM,<br>FAINT-DISTINCT MOTTLES (7.5YR/8-2,<br>DIFFUSE IRREGULAR BOUNDARY.                     |
| 34-78"       | 2.5YR/4-4            | FRACTURED SHALE (6"x2") WITH SILTY CLAY<br>LOAM, PLATY, DRY HARD, NO ROOTS.                                |

NO WATER.  
MACHINE REFUSAL @ 78".

SOILS EVALUATOR:   
KEVIN BRAKEL

PROFESSIONAL ENGINEER:   
D. GEOFFREY BROWN, P.E. & L.S. #24327

16 of 19

PRINCETON JUNCTION ENGINEERING COMPANY  
53 NORTH POST ROAD  
P.O. BOX 223  
PRINCETON JUNCTION, NEW JERSEY 08550  
ph. (609) 799-1906 fax. (609) 799-1524

SOILS TESTING DATA SHEET

FOR ALEX PIATKOWSKI DATE TESTED 8-24-93  
111 SOUTHWEST 52nd TERRACE LOT 44.08  
CAPE CORAL, FL 33914 BLOCK 50  
MUNICIPALITY HOPEWELL TOWNSHIP WEATHER 90° SUNNY  
TEST NO. 82493-41 INSPECTOR GEORGE KIESEL

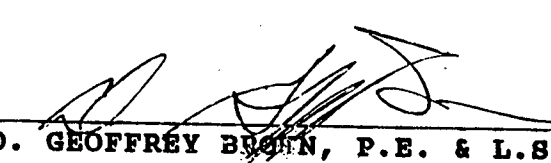
| <u>DEPTH</u> | <u>MUNSELL COLOR</u> | <u>DESCRIPTION</u>                                                                                                                 |
|--------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 0-10"        | 7.5YR/4-3            | SILT LOAM, NO GRAVEL, NO MOTTLES, SUBANGULAR BLOCKY, DRY LOOSE, MANY ROOTS, GRADUAL SMOOTH BOUNDARY.                               |
| 10-24"       | 2.5YR/4-4            | FRACTURED SHALE (2"x0.5") WITH SILTY CLAY LOAM, PLATY, FEW ROOTS, DRY-LOOSE, NO MOTTLES, DIFFUSE WAVY BOUNDARY.                    |
| 24-66"       | 2.5YR/4-4            | FRACTURED SHALE (6"x2") WITH SILTY CLAY LOAM, PLATY, MOIST VERY FIRM, NO ROOTS, 28"+ COMMON, MEDIUM, DISTINCT MOTTLES (7.5YR/8-2). |

NO WATER, MACHINE REFUSAL @ 66".

SOILS EVALUATOR:

  
KEVIN BRAKEL

PROFESSIONAL ENGINEER:

  
D. GEOFFREY BROWN, P.E. & L.S. #24327



APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR  
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 4 - General Design Data

Block No. 50 Lot No. 44,081. Volume of Sanitary Sewage, gal 650

☒ Residential: No. of Dwelling Units 1 Total No. of Bedrooms 4  
Commercial/Institutional - Indicate type of establishment and show method of calculation. If estimate is based on water meter data, indicate source of data, frequency of readings, average daily flow, and maximum recorded daily reading \_\_\_\_\_

2. Alteration or Repairs

a) Reason for Alteration or Repair (check appropriate categories):

\_\_\_\_ Expansion or Change in Use  
\_\_\_\_ Upgrade Existing Facilities  
\_\_\_\_ Correct Malfunctioning System  
\_\_\_\_ Other (specify) \_\_\_\_\_

b) Describe Nature of Alteration or Repairs: \_\_\_\_\_

3. System Components:

a) Grease Trap Capacity, gals \_\_\_\_\_  
Show Calculation Used \_\_\_\_\_b) Septic Tank Capacities, gals:  
☒ (Single) Compartment 1000  
\_\_\_\_ Second Compartment \_\_\_\_\_  
\_\_\_\_ Third Compartment \_\_\_\_\_c) Effluent Distribution  
Method: \_\_\_\_ Gravity Flow \_\_\_\_ Gravity Dosing \_\_\_\_ Pressure Dosing  
Dosing Device: ☒ Pump \_\_\_\_ Siphond) Dosing Tank Capacities, gals:  
Total Capacity 1500 Dose Volume 162.5 Reserve Capacity 67.1e) Laterals: Number 14 Total Length \_\_\_\_\_ Pipe Size 1" Spacing 3.75'f) Connecting Pipe: Size 3" Length 65g) Manifold: Size 3" Length 22.5'h) Disposal Field: Type of Installation MSR  
Design Permeability (percolation rate) 3-15 min/in  
Trenches: Width \_\_\_\_\_ Total Length \_\_\_\_\_ Bed: Area 1054 SFi) Seepage Pits: Design Percolation Rate \_\_\_\_\_  
Number of Pits \_\_\_\_\_ Total Percolating Area Provided \_\_\_\_\_

Attachments (check items included):

☒ General Plan of System Showing Location of All System Components  
☒ X-Sections of Each System Component Including Grease Trap, Septic Tank,  
Dosing Tank, Disposal Field, Seepage Pits and Interceptor Drains  
☒ Pump Performance Curve  
\_\_\_\_ Other (specify) \_\_\_\_\_

I hereby certify that the information furnished on Form 4 of this application (and attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Professional Engineer Robert C. Bunker Date 9/3/96

MUNICIPALITY Hopewell BLOCK 50 LOT 44.08

I. Configuration of Distribution Network:

Type of Manifold: End ☒ Central ☐  
 Distribution Laterals: Number 14 Length, ft 18.5 Spacing, ft 3.75 Volume: 10.6 GAL.  
 Hole Diameter, ins. 1/4 Hole Spacing, ins. 36  
 Diameter of Laterals, ins. 1

II. Lateral Discharge Rate:

Design Pressure Head at Supply End of Laterals, ft, ft. 2.5  
 Hole Discharge Rate, Q, gpm 1.18  
 Number of Holes per Lateral, n 6  
 Lateral Discharge Rate, (Q x n) gpm 7.08

III. Manifold Length, ft. 22.5 Manifold Diameter, ins. 3 Volume: 8.3 GAL.

IV. System Discharge Rate, gpm 99.2

V. a Pump Selection:

Pump displacement volume: 5  
 Diameter of Delivery Pipe 3 Length of Delivery Pipe 65 Volume: 23.9 GAL.  
 Friction Loss in Delivery Pipe, ft, ft. 1.51  
 Elevation of Dosing Tank Low Water Level 202.67  
 Elevation of Lateral Invert 213.4  
 Elevation Head, ft, ft. 10.73  
 Total Operating Head, H<sub>t</sub> (H<sub>f</sub> + H<sub>p</sub> + H<sub>s</sub>), ft. 14.74  
 Goulds Pump Model 3887 Rated Horsepower 3/4 HP  
 Pump Discharge Rate at Total Operating Head, gpm 125

b Siphon Elevation:

Diameter of Delivery Pipe \_\_\_\_\_ Length of Delivery Pipe \_\_\_\_\_ Volume: \_\_\_\_\_  
 Friction Loss in Delivery Pipe, ft, ft. \_\_\_\_\_  
 Velocity Head, H<sub>v</sub>, ft. \_\_\_\_\_  
 Total Operating Head, H<sub>t</sub> (H<sub>f</sub> + H<sub>p</sub> + H<sub>s</sub>), ft. \_\_\_\_\_  
 Elevation of Lateral Invert \_\_\_\_\_  
 Elevation of Siphon Invert \_\_\_\_\_  
 Internal horizontal area of dosing tank in (ft<sup>2</sup>) \_\_\_\_\_

VI. Dose Volume:

(Q) Design Volume of Sewage, gal/day 650  $\frac{\text{Pump off}}{(162.5 + 5 + 47.3) / (59.4 \times 7.48)} = 0.47'$   
 Design Permeability, in/hr \_\_\_\_\_ or Percolation Rate, min/in 3-15  
 Internal Volume of Distribution Network 428  
 (0.25Q) Dose Volume 162.5 Reserve Capacity \_\_\_\_\_  
 Pump tank size in (ft<sup>3</sup>) 59.4  $(204.98 - 203.41) \times (59.4 \times 7.48) = 67.1 \text{ GAL}$

I. I hereby certify that the information furnished on Form 5 of this application (and attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Professional Engineer Robert C. Busher  
 N.J. License No. 25130

Date 9/3/96

Seal

hchs5.doc

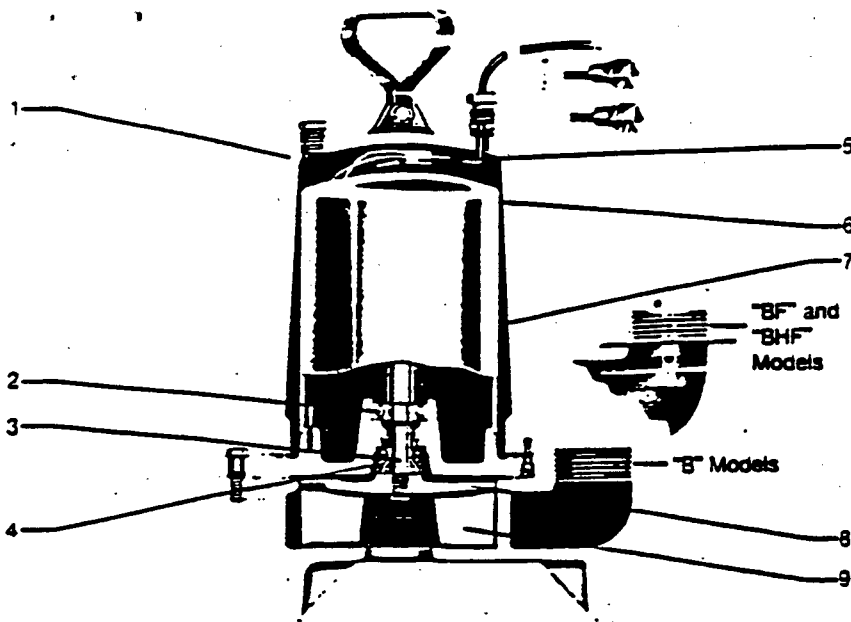
19 of 19

# Goulds Submersible Sewage Pumps

MODEL 

## 3887

Modern Concrete Septic Tank Co.  
P.O. Box 339, Dumas Rd.  
Cottsville, Pa. 18942-0239  
(215) 847-5112



### FEATURES

- 1 All Iron Construction
- 2 All Ball Bearing Heavy Duty Design
- 3 Stainless Steel Shaft
- 4 Mechanical Seal
- 5 Epoxy Sealed Cable
- 6 High Grade Turbine Oil
- 7 Electrocoat Paint Outside & Inside
- 8 Ejector Vanes
- 9 Multi-Vane Non-Clog Cast Iron Impeller

### MODELS

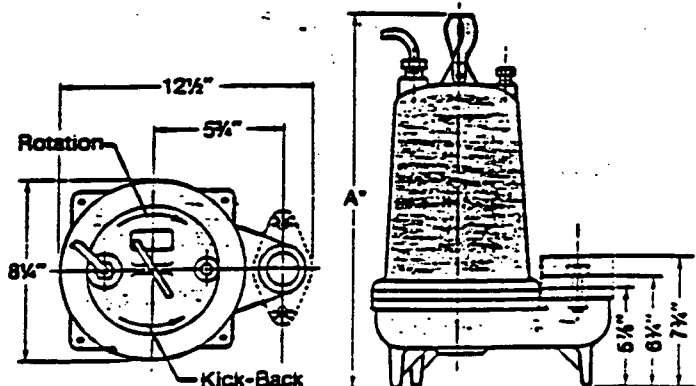
| Series       | HP  | Volts   | Phase | Max. Amps | RPM  | Solids | WL |
|--------------|-----|---------|-------|-----------|------|--------|----|
| WS03118.BF   | 1/2 | 115     | 1     | 9.8       |      |        |    |
| WS03128.BF   |     | 230     |       | 4.9       |      |        |    |
| WS05118.BF   |     | 115     | 1     | 13.0      |      |        |    |
| WS05128.BF   |     | 230     |       | 6.5       |      |        |    |
| WS05328.BF   | 1/2 | 208/230 | 3     | 13        |      |        |    |
| WS05348.BF   |     | 460     |       | 1.65      | 1750 |        |    |
| WS07128.BF   |     | 230     | 1     | 6.0       |      | 2"     |    |
| WS07328.BF   | 3/4 | 208/230 | 3     | 3.6       |      |        |    |
| WS07348.BF   |     | 460     |       | 1.8       |      |        |    |
| WS10128.BF   |     | 230     | 1     | 9.0       |      |        |    |
| WS10328.BF   |     | 208/230 | 3     | 5.8       |      |        |    |
| WS10348.BF   |     | 460     |       | 2.9       |      |        |    |
| WS10128H.BHF | 1   | 230     | 1     | 11.0      |      |        |    |
| WS10328H.BHF |     | 208/230 | 3     | 7.0       | 3500 |        |    |
| WS10348H.BHF |     | 460     |       | 3.5       |      |        |    |

### PERFORMANCE RATINGS

In Gallons Per Minute

| Series No.                | WS03118.BF | WS03128.BF | WS05118.BF | WS05128.BF | WS05328.BF | WS05348.BF | WS07128.BF | WS07328.BF | WS07348.BF | WS10128.BF | WS10328.BF | WS10348.BF | WS10128H.BHF | WS10328H.BHF | WS10348H.BHF |
|---------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|--------------|--------------|--------------|
| HP                        | 1/2        | 1/2        | 1/2        | 1/2        | 1/2        | 1/2        | 3/4        | 3/4        | 3/4        | 1          | 1          | 1          | 1            | 1            | 1            |
| RPM                       | 1750       | 1750       | 1750       | 1750       | 1750       | 1750       | 1750       | 1750       | 1750       | 1750       | 1750       | 1750       | 3500         | 3500         | 3500         |
| Total Head (ft. of Water) | 108        | 82         | 150        | 126        | 170        | 150        | 170        | 150        | 121        | 170        | 150        | 121        | 168          | 150          | 128          |
|                           | 30         | 30         | 94         | 56         | 125        | 90         | 125        | 90         | 81         | 121        | 90         | 81         | 107          | 90           | 81           |
|                           |            |            | 17         | 17         | 14         | 14         | 14         | 14         | 10         | 10         | 10         | 10         | 43           | 43           | 43           |
|                           |            |            |            |            |            |            |            |            |            |            |            |            | 24           | 24           | 24           |

### DIMENSIONS (IN INCHES)



A\* — All models are 17 1/4" except 1/2 HP 1φ and 1 HP 1φ = 20"

Dimensions are approximate. Do not use for construction purposes.

Available Certifications:

 Canadian Standards Association.

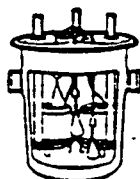
Pennsylvania Bureau of Mines for non-face applications — BOTE 91.

### SIMPLEX & DUPLEX SYSTEMS

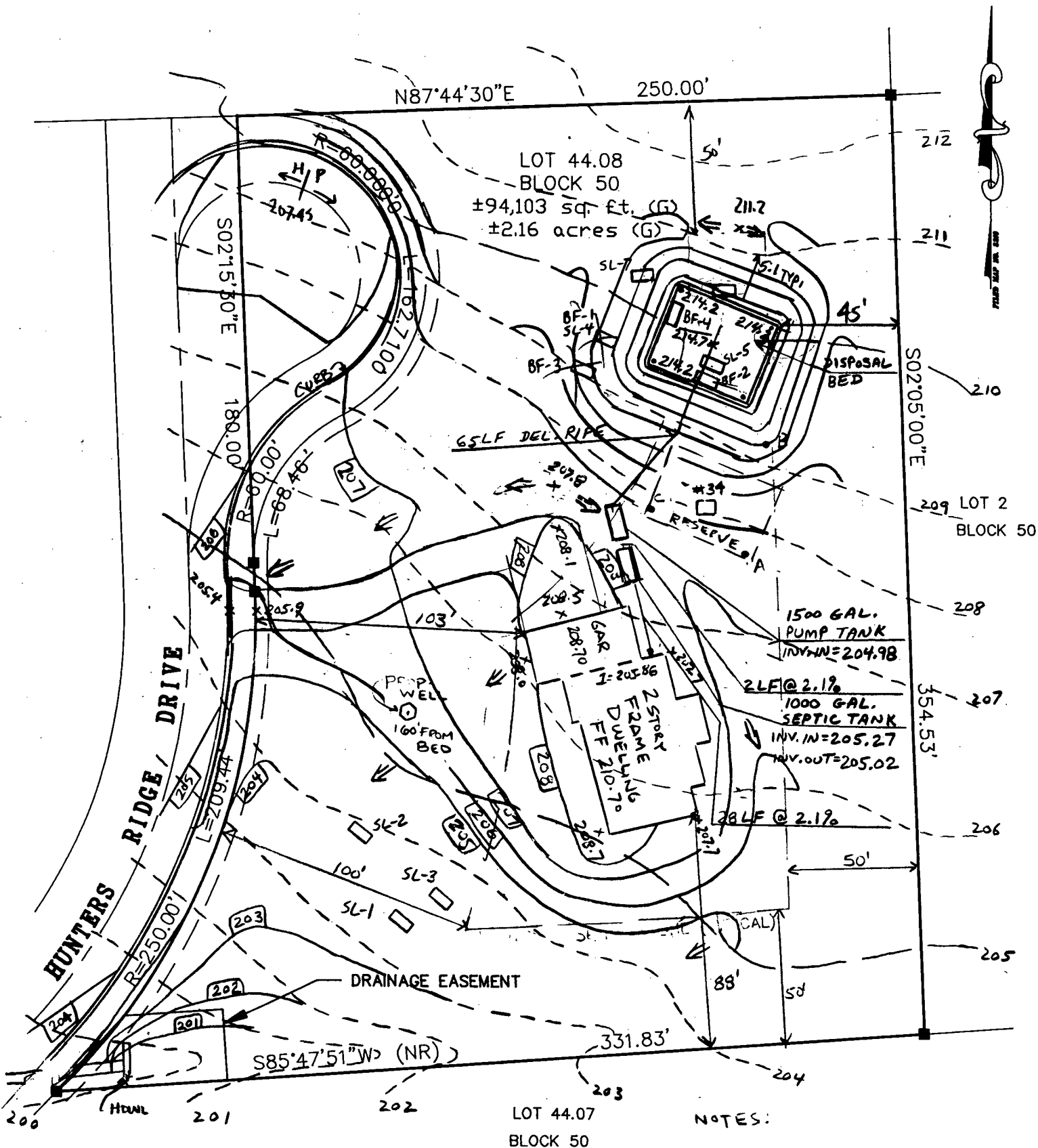
**Simplex Ejector Systems:** are used where drain facilities are below existing sewer lines. Also can be used for septic tank applications where effluent must be pumped away from tank for disposal.



**Duplex Ejector Systems:** offer the necessary safety required by institutions which cannot afford an interruption in their sewage disposal systems.



LOT 3  
BLOCK 50



- NOTES:
1. BOY. INFO TAKEN FROM FILE MAP NO 3219 RECORDED 10-4-95.
  2. TOPO TAKEN FROM SITE DEVELOPMENT PLANS.

LEGEND

- MONUMENT TO BE SET
- IRON PIN TO BE SET
- PROFILE PIT - BASIN FLOOD
- PERC TEST
- WELL

THE FIELDS  
AT  
PENNINGTON

**ROBERT C. BUSHAR, P.E.**  
Professional Engineer N.J. Lic. No. 25130  
*Robert C. Bushar*  
DATE: 9/3/96

**Bettigole Andrews & Clark, Inc.**  
CONSULTING ENGINEERS  
PO Box 3541  
Princeton, NJ 08543-3541  
(608) 936-0030  
**SEPTIC PLAN**  
PREPARED FOR  
**LOT 44.08 BLOCK 50**  
MERCER CO. HOPEWELL TWP. NEW JERSEY

|                     |                                      |
|---------------------|--------------------------------------|
| DESIGNED<br>R.C.B.  | PROJECT No.                          |
| DRAWN<br>ACAD.(JBT) |                                      |
| CHECKED(PM)         |                                      |
| CHECKED(PE)         | DRAWING No.<br>P:\DWG\FIELDS\LOT4408 |
| SCALE<br>1"=50'     | SHEET<br>1/6                         |
| DATE                |                                      |

# SEPTIC SYSTEM NOTES

Number of bedrooms = 4 (no garbage disposal)

Septic tank capacity required = 1000 GAL.

Design criteria:

Based on perc rate of 3-15 min./in.

4 bedrooms @ 650 gal./day (Q)

Disposal field bottom area table 10.2 (C) = 1.61

A/Q x Q = 1.61 x 650 = 1046.5 SF

Area of disposal bed =  $28.5 \times 37 = 1054$  SF prop.

**Acceptable material for connection pipe and distribution laterals:** Connecting Pipe: solid pipe. Plastic - PVC (ASTM D 2665) - schedule 40, SDR-21 or SRD-26; or ABS (ASTM 2661) - cast iron. Joints to be water tight and have root protection. Slope to be 2' in 100' min., 4" dia. min. **Distribution laterals:** Perforated pipe - plastic - acrylonitrile - butadiene - styrene (ABS) (ASTM D-2751); polyvinyl chloride (PVC) (ASTM D-2729, D-3034); styrene - rubber (ASTM D-2852, D-3298) or polyethylene, straight wall (ASTM D-1248); clay pipe standard and extra strength perforated (ASTM C-211) slope to be 2" per 100' max., 4" dia. min. and capped at the end.

**Inspection Ports:** Inspection ports shall be provided at each corner of the disposal field (see detail).

**Select Fill:** Fill to be 85 - 90% sand, 5 - 15% silt clay, 2% minimum clay. Shall have a percolation rate between 3 and 30 min./inch percolation test within the select fill shall be performed prior to the placement of filter material. Compaction may be accomplished manually, mechanically, tamping, rolling or by driving over the filled area in a controlled pattern using tracked or rubber-tied vehicle. Excavating equipment shall not be driven directly on the exposed bottom of excavation. A minimum of one foot of fill material shall be maintained below tracks at all times. Fill material shall be spread and compacted in layers of maximum of one foot. Compaction test to be performed under the direction of a professional engineer.

**Filter Material:** Filter material to cover distribution lines to a depth of 2" above the top of the pipe and a minimum of 12" deep beneath the bottom of the distribution lines. Material to be washed gravel or crushed stone, and free of fines, dust, ashes or clay, refer to N.J. Dept. of Transportation standard sizes for coarse aggregate. Filter material shall conform in size and gradation to size number 24, number three or number four. Filter material to be covered with drainage fabric. Drainage fabric shall have adequate tensile strength to prevent ripping during installation and prevent downward migration of soil particles. Sheets to be overlapped by a minimum of 6 inches.

**Distribution Box:** To be set perfectly level. The invert of the inlet shall be 1" above the invert or outlet. Boxes shall have a means of access of adequate size for maintenance and inspection of outlet ports. Access openings shall extend to within 12" to 18" of finish grade and prevent the entrance of surface water. A permanent marker shall be placed over distribution box.

**Septic Tanks:** Water test to be performed and witnessed by authorized agent prior to back filling. Tank shall meet the specifications of 7:9A-B.2 chapter 199 standards for individual subsurface disposal systems. Manholes must be extended to within six inches of finished grade and be permanently marked. Manhole covers that are not extended to finished grade may be constructed of reinforced concrete or other suitable materials.

**As-built Location Plan:** As-built location and grades of septic system shall be provided to health departments. A minimum of one percolation test shall be performed in select fill prior to the installation of filter material. Contractor to notify consulting Eng. 2 days in advance of construction of disposal system to coordinate testing

Type of limiting zone

Fractured Rock

Type of installation permitted table 10.1 MSR

Soil suitability classifications: boring 1 II ( $w_p, S_c, S_r$ ) boring 2 II ( $w_p, S_c, S_r$ )

Soil survey showing soil to be RA and septic suitability as

Type of system: MSR

Benchmark to be set by SURVEYOR prior to construction.

Robert C. Bushar, P.E.  
Professional Engineer N.J. Lic. No. 25130

Robert C. Bushar

DATE 2/3/96

Bettigole Andrews & Clark, Inc.

CONSULTING ENGINEERS

PO Box 3541  
Princeton, NJ 08543-3541  
(609) 936-0030

SEPTIC NOTES

PREPARED FOR

LOT 44.08 BLOCK 50

MERCER CO. HOPEWELL TWP. NEW JERSEY

DESIGNED

R.C.B.

DRAWN

ACAO

CHECKED (PM)

CHECKED (PE)

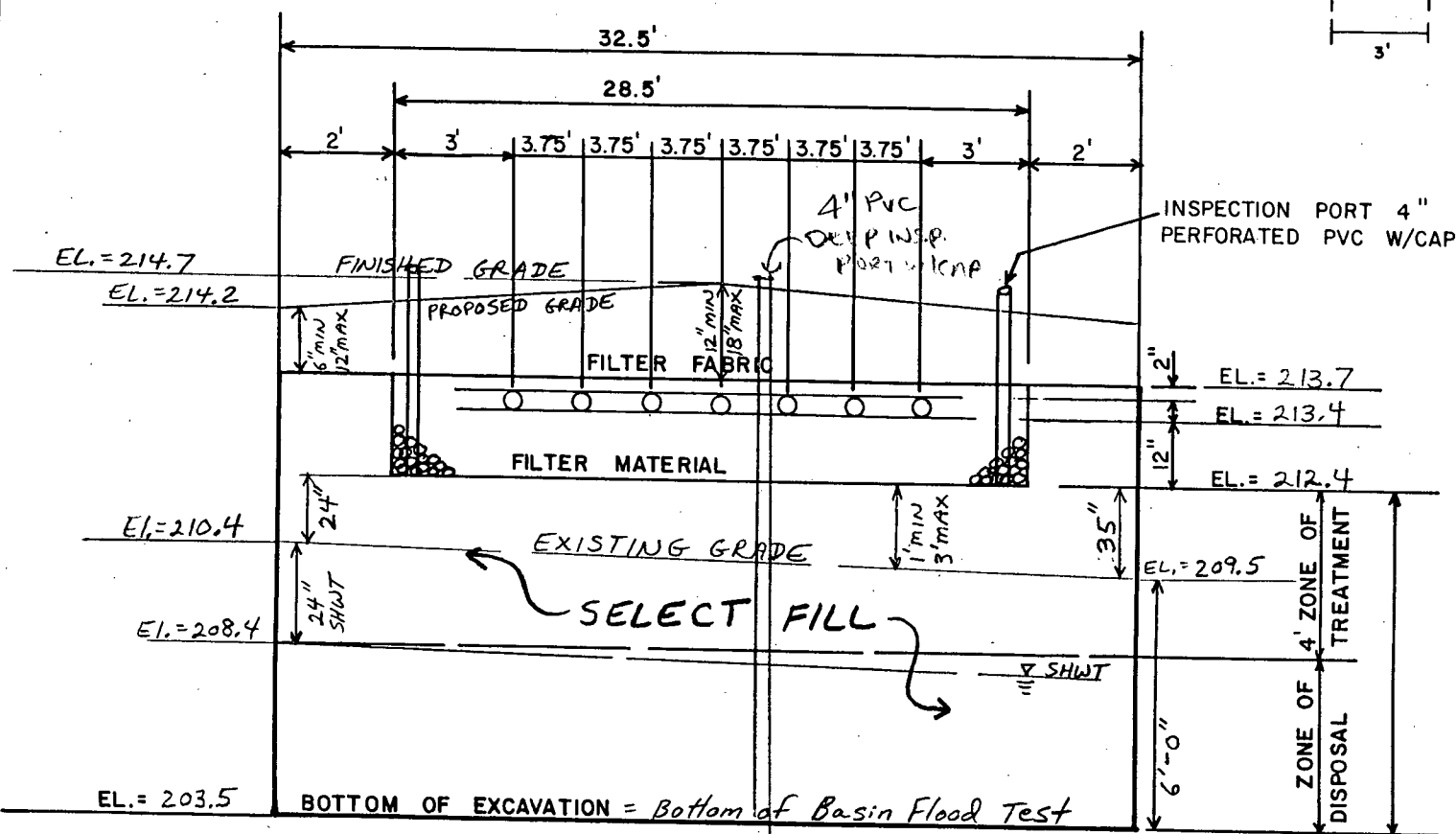
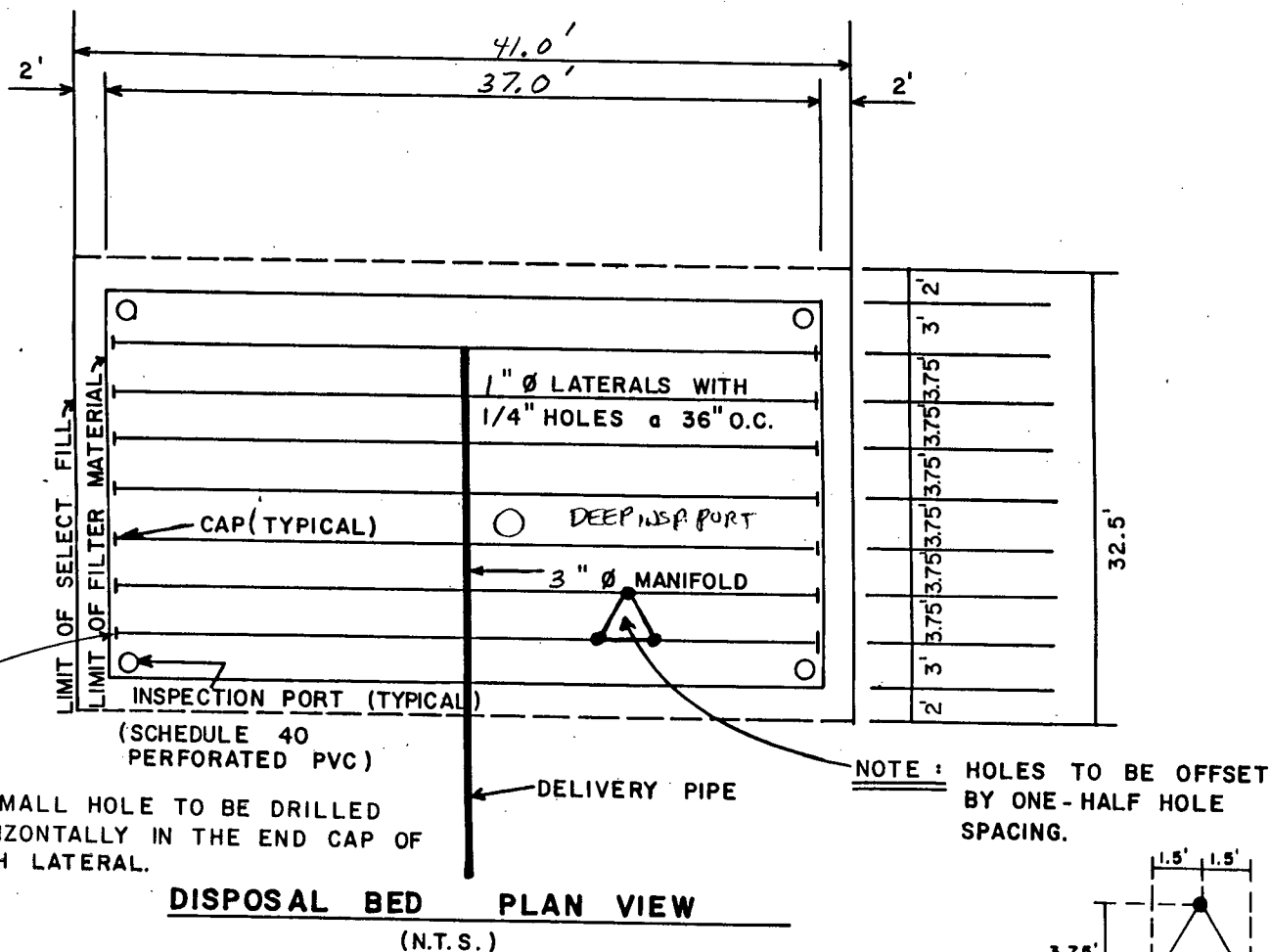
SCALE

DATE

PROJECT No.

DRAWING No.

2/6



### DISPOSAL BED CROSS-SECTION

(N.T.S.)

**Robert C. Bushar, P.E.**  
Professional Engineer N.J. Lic. No. 25130

DATE 9/13/96

**Bettigole Andrews & Clark, Inc.**  
CONSULTING ENGINEERS

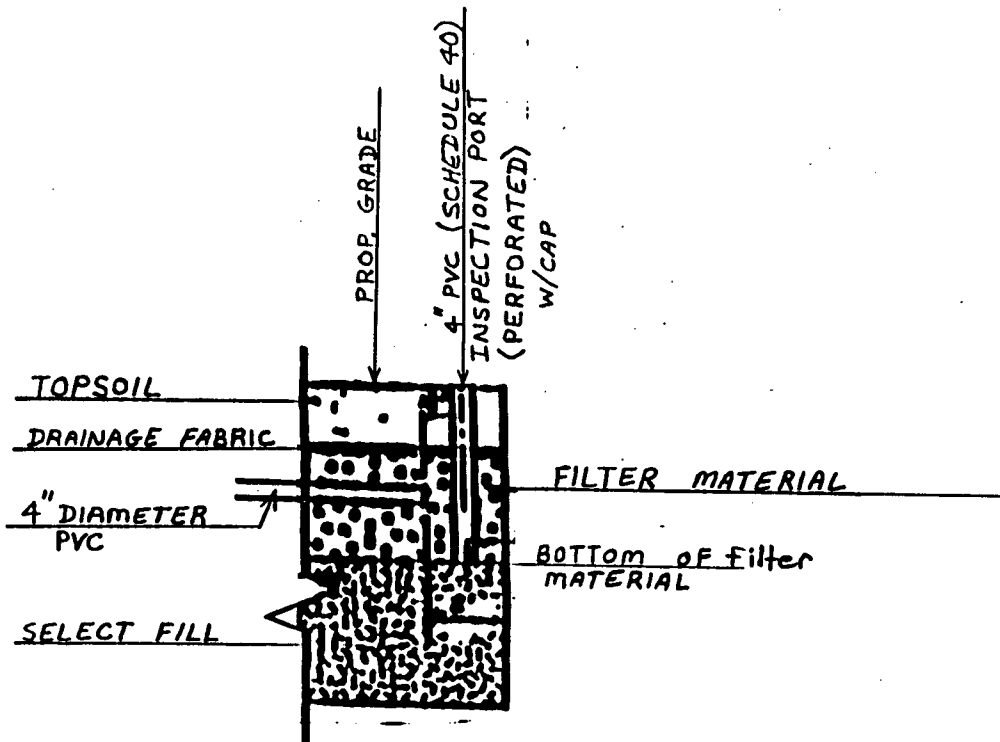
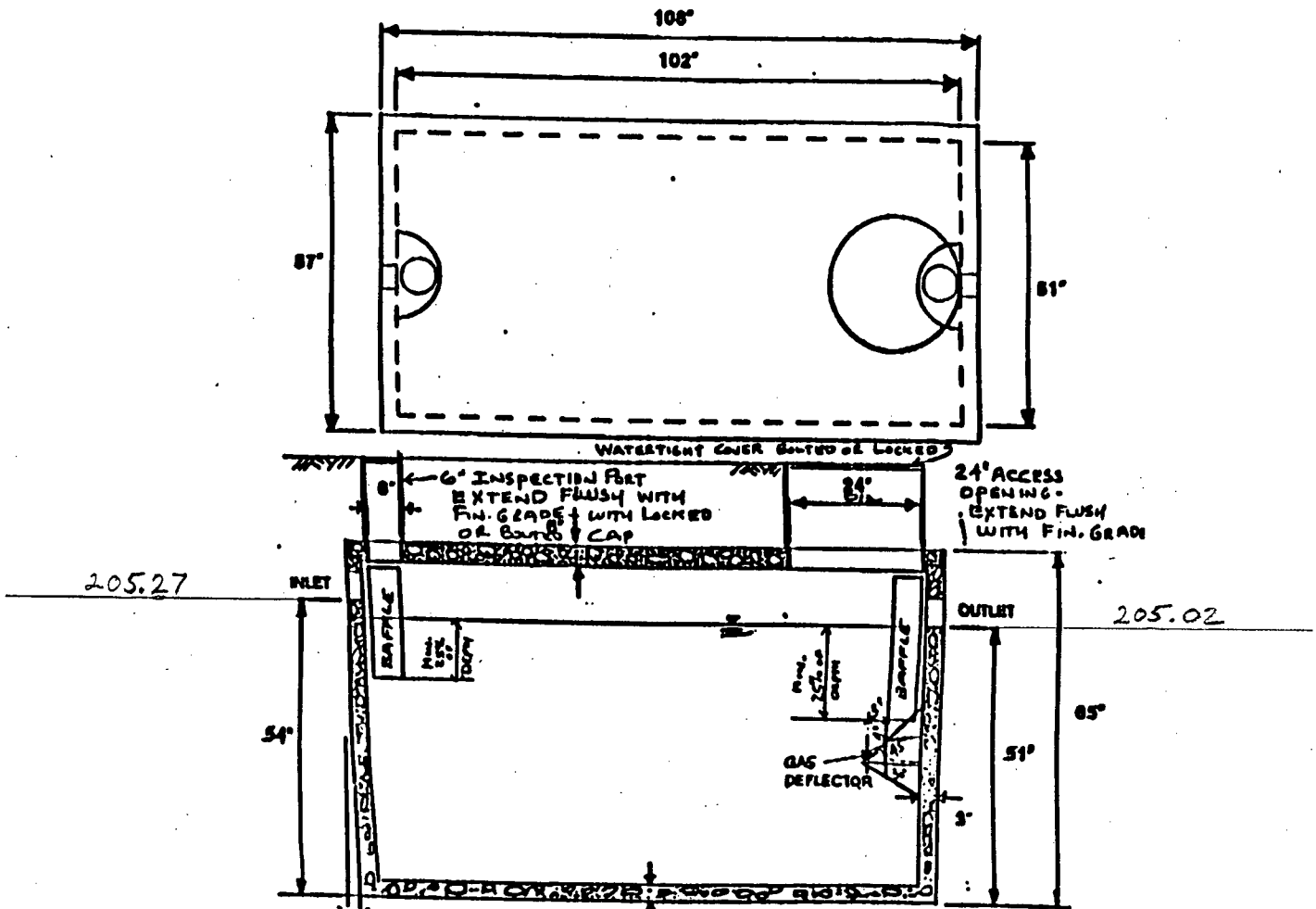
PO Box 3544  
Princeton, NJ 08543-3544  
(609) 936-0030

**SEPTIC PLAN and CROSS-SECTION**  
PREPARED FOR  
**LOT 44.08 BLOCK 50**  
MERCER CO. HOPEWELL TWP. NEW JERSEY

DESIGNED  
R.C.B.  
DRAWN  
ACAD  
CHECKED (P)  
CHECKED (P)  
SCALE  
DATE

PROJECT No.  
DRAWING No.  
**3/6**  
SHEET

# NEW JERSEY 1000 GALLON MONOLITHIC SEPTIC TANK



## INSPECTION PORT

**Robert C. Bushar, P.E.**

Professional Engineer N.J. Lic. No. 25130

*Robert C. Bushar*

DATE 9/3/96

**Bettigole Andrews & Clark, Inc.**

CONSULTING ENGINEERS

PO Box 3341  
Princeton, NJ 08543-3341  
(609) 938-0030

SEPTIC DETAILS  
PREPARED FOR

LOT 44.08 BLOCK 50

MERCER CO. HOPEWELL TWP. NEW JERSEY

DESIGNED  
R.C.B.  
DRAIN  
ACAD  
CHECKED (P/E)

CHECKED (P/E)

SCALE

DATE

PROJECT No.

DRAWING No.

4/6

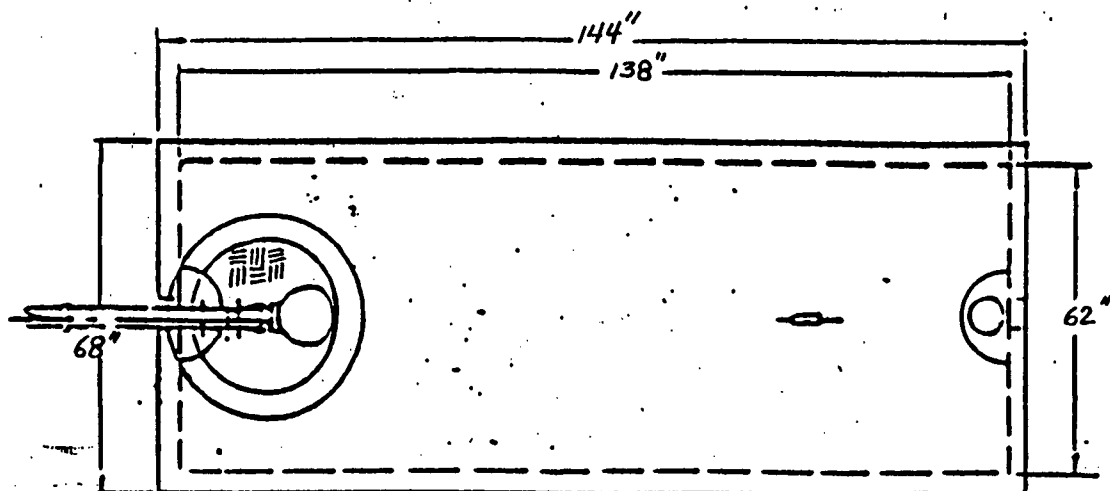
SHEET

# 1/2 Circle Excavator

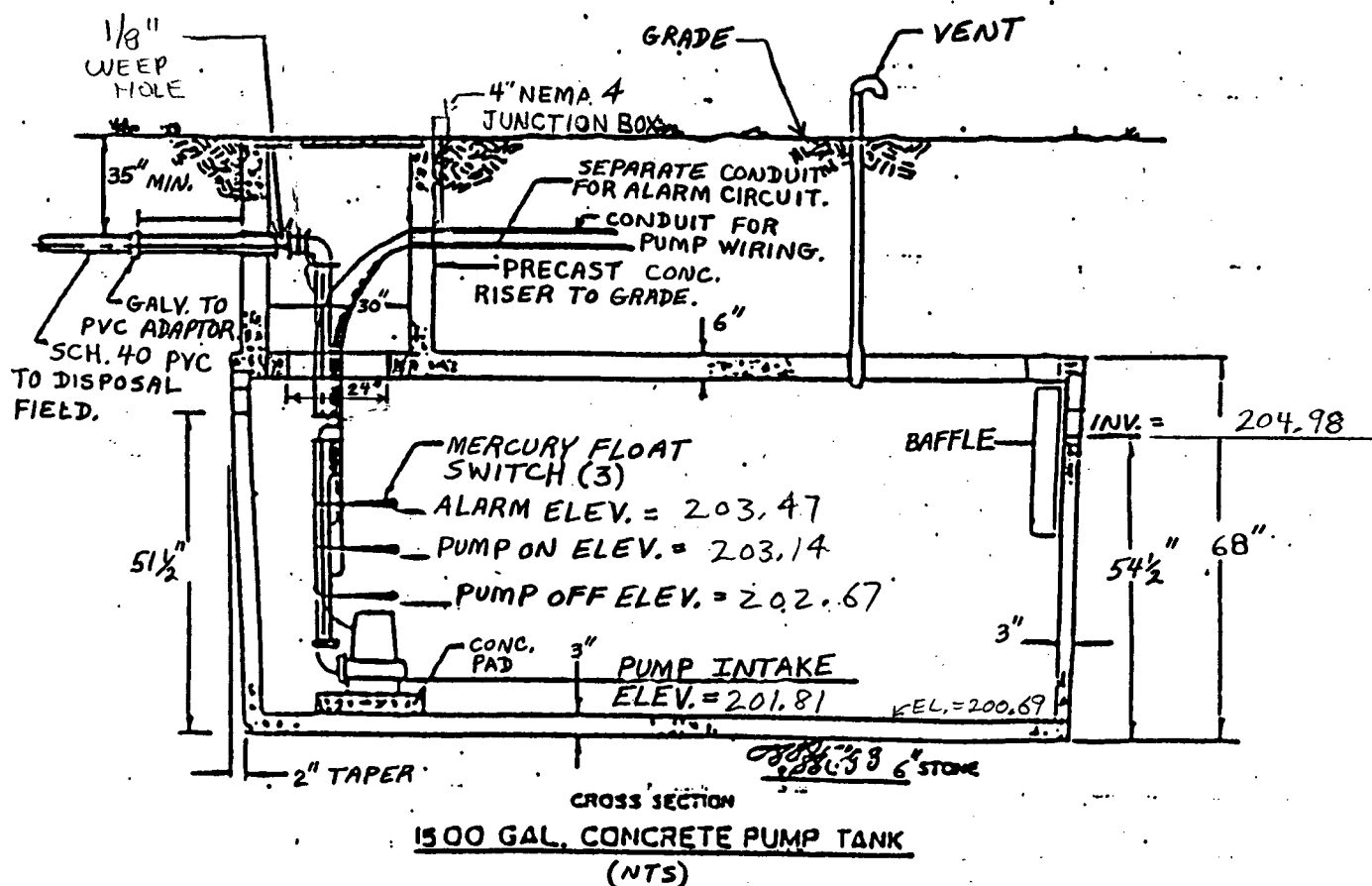
4/8/97 - Bed d/s depth ok  
Slight H<sub>2</sub>O in bottom - ok to base

4/14/97 - Snd in upto sand ok to stone + pipe





PLAN VIEW  
(NTS)



CROSS SECTION  
1500 GAL. CONCRETE PUMP TANK  
(NTS)

- NOTES:
1. ALL JOINTS & CONNECTIONS TO BE WATERTIGHT.
  2. MANHOLE COVER TO BE WATERTIGHT & LOCKABLE
  3. ALL INSIDE SURFACES SHALL BE SEALED WITH TWO COATS OF AN INERT COATING PRIOR TO SITE DELIVERY.
  4. ALARM & PUMP TO BE ON SEPARATE CIRCUITS.
  5. PUMP TO BE: Goulds 3887 - 3/4 HP OR AN APPROVED EQUAL.
  6. CONTROL PANEL & ALARM TO BE LOCATED WITHIN THE DWELLING.
  7. REFER TO THE PUMP MANUFACTURERS PLANT & SPECIFICATIONS FOR ELECTRICAL REQUIREMENTS.

Robert C. Bushar, P.E.

Professional Engineer N.J. Lic. No. 28138

Robert C. Bushar

DATE 9/3/96

Belligole Andrews & Clark, Inc.

CONSULTING ENGINEERS

P.O. Box 351  
Pittsford, NY 14534-0351  
(800) 838-0030

PUMP DETAILS

PREPARED FOR

LOT 44.08 BLOCK 50

MERCER CO. HOPEWELL TWP. NEW JERSEY

DESIGNED

A.E.B.

DRAIN

ACAD.

CHECKED

P.J.

DATE

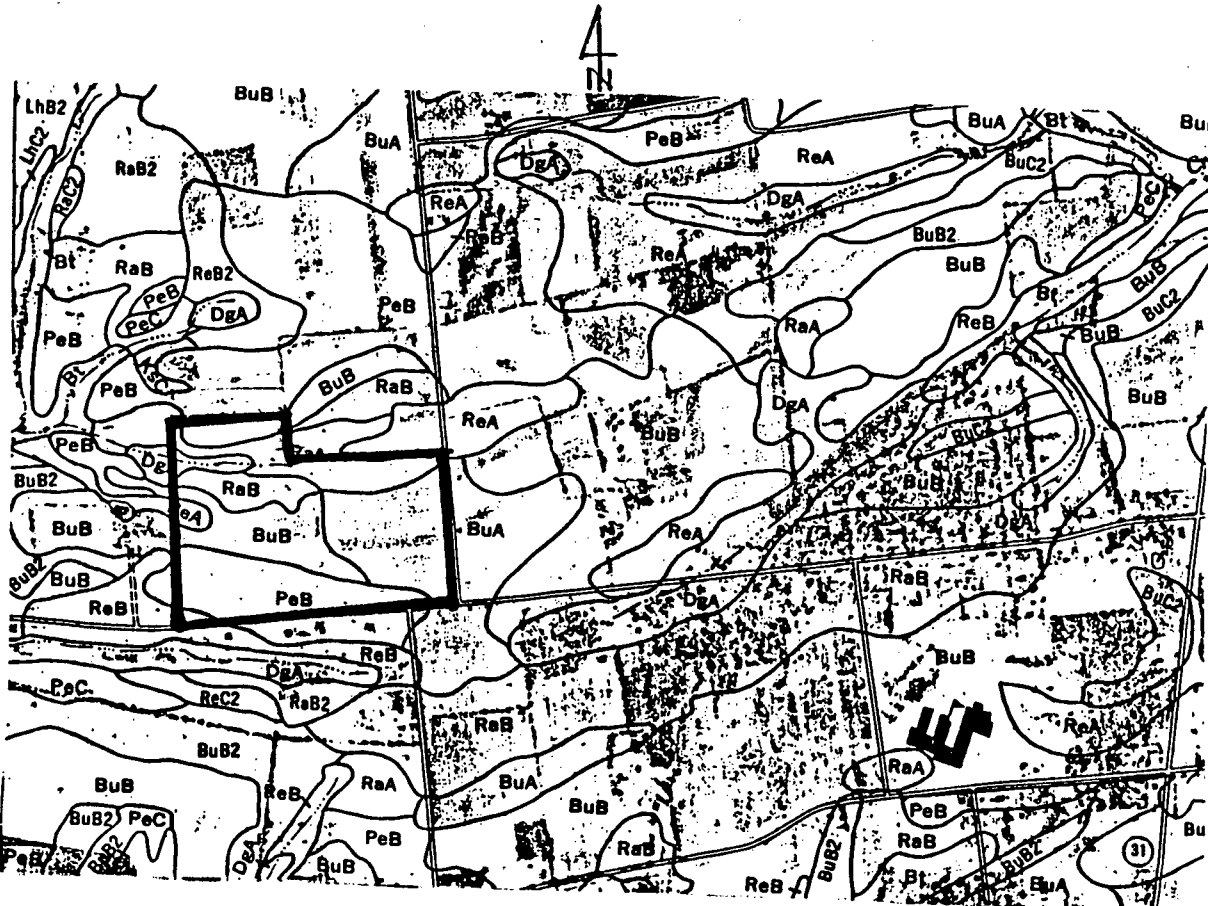
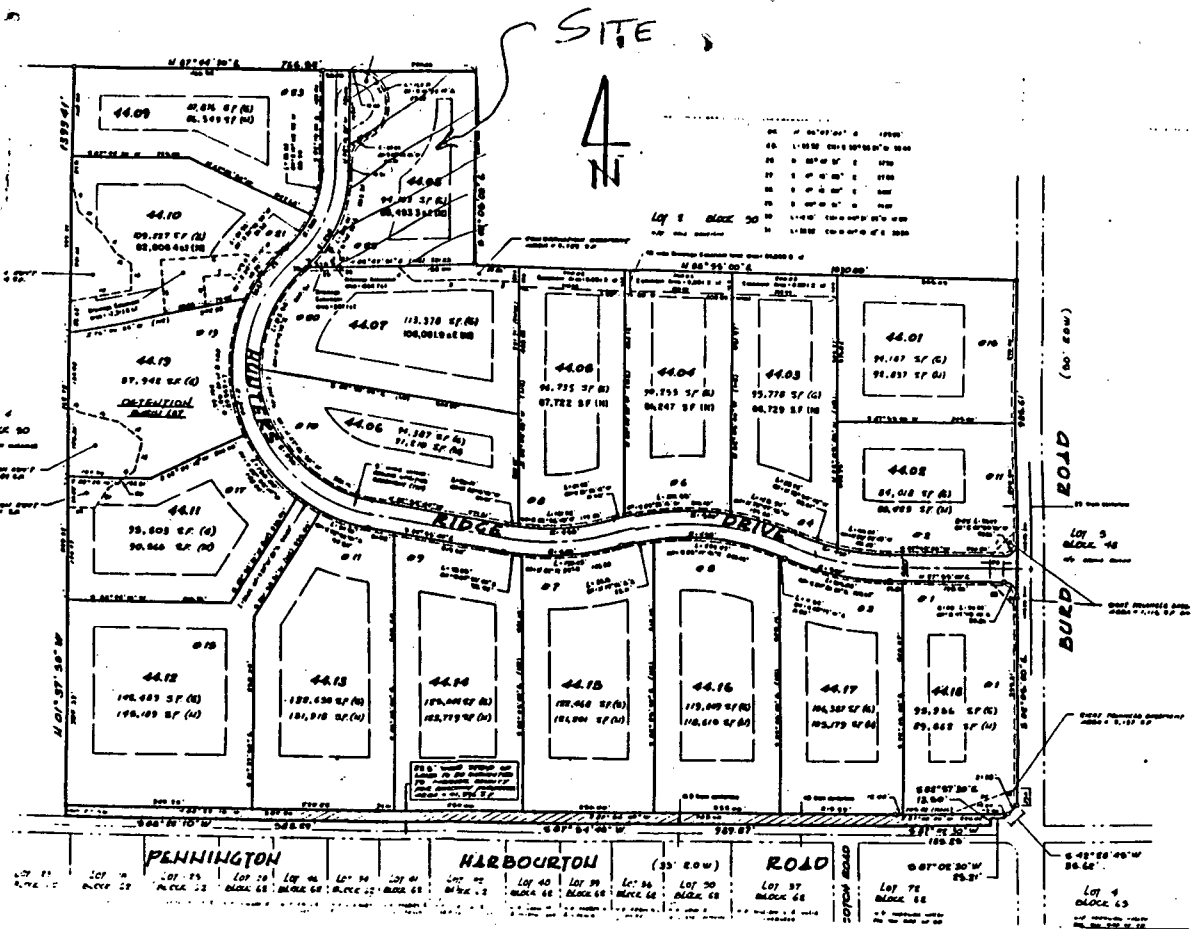
DATE

PROJECT No.

BLANK No.

5/6

WEEK



**Robert C. Bushar, P.E.**  
Professional Engineer N.J. Lic. No. 25130

*Robert C. Bushar*

DATE: 9/3/96

**Bettigole Andrews & Clark, Inc.**  
CONSULTING ENGINEERS

PO Box 354  
Princeton, NJ 08543-3544  
(609) 938-0030

**AREA MAPS**

PREPARED FOR

**LOT 44.08 BLOCK 50**

MERCEER CO. HOPEWELL TWP. NEW JERSEY

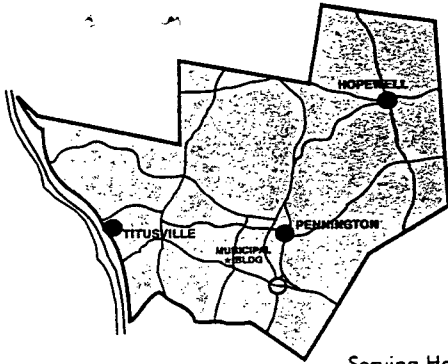
DESIGNED  
R.C.B.  
DRAWN  
A.C.A.D.  
CHECKED (P.H.)  
G.E.O.D.E.P.C.

DATE

PROJECT No.

DRAWING No.

6/6



Serving Hopewell Borough  
and Pennington Borough

# TOWNSHIP of HOPEWELL

## DEPARTMENT of HEALTH

201 WASHINGTON CROSSING PENNINGTON RD. TITUSVILLE, N.J. 08560 MERCER COUNTY  
TELEPHONE 609 737-0120/737-0132 / TELEFAX NO. 737-1022

January 29, 1997

Palomar Associates  
51 Lower Kingston Road  
Pittstown, NJ 08867

Re: Block 50 Lot 44.08

To whom it may concern:

Your application for an onsite subsurface sewage disposal system has been approved with the following conditions:

**SEWAGE DISPOSAL PERMITS ARE VALID FOR TWO YEARS FROM DATE OF ISSUE.**

1. A copy of this letter must be forwarded to your construction contractor and sewage disposal installer prior to installation of said system.
2. The house location must be staked by a licensed surveyor or professional engineer to assure proper location and elevation as represented on the attached plan.
3. The sewage disposal system must be located and staked prior to installation by a licensed surveyor or professional engineer to guarantee the proper alignment of the system in the area of the soil tests, and to insure it will conform to all site restrictions as represented on the attached design.
4. The required elevation of the sewage disposal system should be verified by the licensed professional engineer or surveyor, the builder and the plumbing contractor as it relates to the foundation height, the point where the sewer line exits the dwelling and the height of the septic tank. If this is a gravity system and the minimum height of the sewer line is not maintained, an ejector system will be required after the septic tank.
5. An onsite conference is required with your installer and a representative from this office prior to installation of any part of this system. This should avoid any problem during the installation which can be costly to all parties concerned.
6. The design engineer must be notified at the beginning of the installation. Field measures must be made for the required as-built design, and grading plan certifications. The as-built must show soil test location, distances to the tank and D-box as measured from two fixed

points, also, any changes caused by site conditions, construction changes and installation problems. If this is a raised system, the as-built grading plan must be certified by the engineer that it is as designed, showing all inverts and contour lines. The as-built will provide a detailed location of the installed system so it can be located once it is covered.

7. No excavating machinery shall be permitted in the excavation during construction. A track-hoe or back-hoe must be used to dig the excavation. Sand must be available at the start of construction to cover the bottom and to protect open fractures etc.

8. All trees within 10 feet of a conventional disposal system or within the area of the extended clay fill and sloped area of a raised disposal/mound system must be removed.

9. All phases of construction of the disposal system must be inspected by the Health Department. It is your responsibility (or your contractors) to notify the Health Department by no later than 9:00 a.m. on every day that construction is underway so inspections can be scheduled. Systems will be dug up if not inspected by this office!

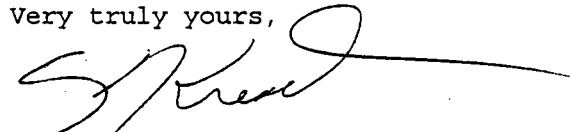
10. A certificate of occupancy will not be issued if the system is not completed and the grades certified. Raised systems must be stabilized. All systems must be seeded or sodded and have established vegetative growth.

11. All septic tanks must comply with new tank requirements and also be provided with locking manhole access lids to final grade as required by NJDEP 7:9A.

12. All sand and clay fill must be stock piled on site and certified by a licensed laboratory or by the design engineer once in place using a perc test.

Effective January 1, 1990 the New Jersey Department of Environmental Protection enacted a law requiring the certification and licensing of sewage disposal systems.

Very truly yours,



George K. Kiesel  
Senior Sanitarian

cc: Bob Bushar

1/2 Crack Excavating....

4/8/97 - Bad dug depth hole  
Slight H<sub>2</sub>O in Bottom  
OK to Saw



# CTL

CERTIFIED TESTING LABORATORIES, INC.

PERMEABILITY CLASS RATING DATA --Form 3C

CLIENT: Bettigole, Andrews & Clark

LAB NO: B-203-97

PROJECT: The Fields at Pennington

REPORT NO: PM-1

Hopewell Twp., Mercer County, NJ

Select Fill for Septic Bed from Stockpile

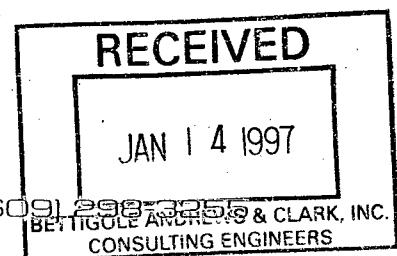
1. Test number: Lot 44.08 Block 50 Replicate (letter) \_\_\_\_\_
2. Sample Depth: \_\_\_\_\_ Soil PH/Boring Number \_\_\_\_\_ Date Collected \_\_\_\_\_
3. Coarse Fragment Content:
  - Total Weight of sample, Wt, grams 809
  - Weight of material retained on 2mm sieve, W.C.F. Grams 32.5
  - Weight % Coarse Fragment (W.C.F./W.T. x 100) 4.0
4. Oven Dry Weight (24 hours, 105°C) of 40 gram air dry sample, grams, Wt. 39.98
5. Hydrometer Calibration, Rc 1.00 @ 68°
6. Hydrometer Reading 40 seconds, grams, R1 5.5  
Temperature of suspension, °F 68°
7. Corrected Hydrometer Reading, grams, R1' 5.5 - 1.0 = 4.5
8. Hydrometer Reading -- 2 hours, grams, R2 5.0  
Temperature of suspension, °F 68.9
9. Corrected Hydrometer Reading, Grams, R2' 5.0 + 0.2 x .9 - 1.0 = 4.18
10. % Sand = (Wt. - R1)/Wt. x 100 =  $(39.98 - 4.5) / 39.98 \times 100 = 88.74$
11. % Clay =  $R2' / Wt. \times 100 = 4.18 / 39.98 \times 100 = 10.46$
12. Sieve Analysis:
  - a. Oven Dry Weight (2 hrs. 105°C) Total sand fraction  
(Soil retained in 0.047 mm sieve), grams 36.90
  - b. Wt. of fine plus very fine sand Fraction  
(Sand passing 0.25 mm sieve), grams 8.48
  - c. % Fine plus very fine sand (b/a) 22.98
13. Soil Morphology (natural soil samples only):  
Structure of Soil Horizon Tested: \_\_\_\_\_  
Consistence of soil Horizon Tested: Dry \_\_\_\_\_ Moist: \_\_\_\_\_
14. Soil Permeability Class Rating (Based upon average textural analysis of this replicate and other replicate samples): K-4
15. I hereby certify that the information furnished on Form 3C of this application is true and accurate. I am aware that falsification of data is a violation of the water pollution Control Act (N.J.S.A. 58:10A-1 Et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

\*All information listed in this report as to Test No., Depth, Locations, Dates, sampled/collected and project are as represented to us by client. Results indicated reflect laboratory test data only on sample submitted by client.

Signature of laboratory technician P. Sheth Date: 1-8-97

Main Office

155 U.S. Route 130 • Bordentown, NJ 08505 • (609) 298-3255



- Original Design approved 12/28/89 was for 5 Bedrooms. - NOT built

- Revised in 1996 to 4 Bedrooms (650 gals)

Septic Tank is 1000 gal (4 Bedroom)

Pump Tank is 1500 gal (oversized) usually 1250 for 4 beds  
1500 for 5 beds

- Drainfield is pressure dosed but engineer did not take pressure dose allowance in code. He stuck with 1.61 instead of 1.33 gft/gal/day. That was his prerogative NOT A HD requirement. No 25% required overdesign back then.

$$\text{Field is } 28.5 \times 37 = \underline{1054.5}$$
$$(650 \times 1.61 = 1046.5 \text{ req'd})$$

5 Beds pressure dosed  $(800 \times 1.33) = 1064 \text{ req'd}$

5 Beds gravity dosed  $(800 \times 1.61) = 1288 \text{ req'd}$

- So it's close, but tank is undersized.

- Assessor's office has it as 4 bedrooms on 2nd floor.

APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR  
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

4 - General Design Data

Block No. 50 Lot No. 44,08

Volume of Sanitary Sewage, gal 650

☒ Residential: No. of Dwelling Units 1 Total No. of Bedrooms 4

☐ Commercial/Institutional - Indicate type of establishment and show method of calculation. If estimate is based on water meter data, indicate source of data, frequency of readings, average daily flow, and maximum recorded daily reading

2. Alteration or Repairs

a) Reason for Alteration or Repair (check appropriate categories):

- ☐ Expansion or Change in Use  
☐ Upgrade Existing Facilities  
☐ Correct Malfunctioning System  
☐ Other (specify) \_\_\_\_\_

b) Describe Nature of Alteration or Repairs: \_\_\_\_\_

3. System Components:

a) Grease Trap Capacity, gals \_\_\_\_\_  
Show Calculation Used \_\_\_\_\_

b) Septic Tank Capacities, gals:  
☒ (Single) Compartment 1000  
☐ Second Compartment \_\_\_\_\_  
☐ Third Compartment \_\_\_\_\_

c) Effluent Distribution  
Method: ☐ Gravity Flow ☐ Gravity Dosing ☐ Pressure Dosing  
Dosing Device: ☒ Pump ☐ Siphon

d) Dosing Tank Capacities, gals:  
Total Capacity 1500 Dose Volume 162.5 Reserve Capacity 67.1

e) Laterals: Number 14 Total Length \_\_\_\_\_ Pipe Size 1" Spacing 3.75'

f) Connecting Pipe: Size 3" Length 65

g) Manifold: Size 3" Length 22.5'

h) Disposal Field: Type of Installation MSR  
Design Permeability (percolation rate) 3-15 min/in

Trenches: Width \_\_\_\_\_ Total Length \_\_\_\_\_ Bed: Area 1054 SF

i) Seepage Pits: Design Percolation Rate \_\_\_\_\_  
Number of Pits \_\_\_\_\_ Total Percolating Area Provided \_\_\_\_\_

Attachments (check items included):

- ☒ General Plan of System Showing Location of All System Components  
☒ X-Sections of Each System Component Including Grease Trap, Septic Tank, Dosing Tank, Disposal Field, Seepage Pits and Interceptor Drains  
☒ Pump Performance Curve  
☐ Other (specify) \_\_\_\_\_

I hereby certify that the information furnished on Form 4 of this application (and attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Professional Engineer

Robert C. Bunker

Date 7/3/96



# SEPTIC SYSTEM NOTES

Number of bedrooms = 4

Septic tank capacity required = 1000 GAL.

(no garbage disposal)

Design criteria:

Based on perc rate of 3-15 min./in.

4 bedrooms @ 650 gal./day (Q)

Disposal field bottom area table 10.2 (C) = 1.61

A/Q x Q = 1.61 x 650 = 1046.5 SF

Area of disposal bed =  $28.5 \times 37 = 1054$  SF prop.

**Acceptable material for connection pipe and distribution laterals:** Connecting Pipe: solid pipe. Plastic - PVC (ASTM D 2665) - schedule 40, SDR-21 or SRD-26; or ABS (ASTM 2661) - cast iron. Joints to be water tight and have root protection. Slope to be 2' in 100' min., 4" dia. min. **Distribution laterals:** Perforated pipe - plastic - acrylonitrile - butadiene - styrene (ABS) (ASTM D-2751); polyvinyl chloride (PVC) (ASTM D-2729, D-3034); styrene - rubber (ASTM D-2852, D-3298) or polyethylene, straight well (ASTM D-1248); clay pipe standard and extra strength perforated (ASTM C-211) slope to be 2" per 100' max., 4" dia. min. and capped at the end.

**Inspection Ports:** Inspection ports shall be provided at each corner of the disposal field (see detail).

**Select Fill:** Fill to be 85 - 90% sand, 5 - 15% silt clay, 2% minimum clay. Shall have a percolation rate between 3 and 30 min./inch percolation test within the select fill shall be performed prior to the placement of filter material. Compaction may be accomplished manually, mechanically, tamping, rolling or by driving over the filled area in a controlled pattern using tracked or rubber-tied vehicle. Excavating equipment shall not be driven directly on the exposed bottom of excavation. A minimum of one foot of fill material shall be maintained below tracks at all times. Fill material shall be spread and compacted in layers of maximum of one foot. Compaction test to be performed under the direction of a professional engineer.

**Filter Material:** Filter material to cover distribution lines to a depth of 2" above the top of the pipe and a minimum of 12" deep beneath the bottom of the distribution lines. Material to be washed gravel or crushed stone, and free of fines, dust, ashes or clay, refer to N.J. Dept. of Transportation standard sizes for coarse aggregate. Filter material shall conform in size and gradation to size number 24, number three or number four. Filter material to be covered with drainage fabric. Drainage fabric shall have adequate tensile strength to prevent ripping during installation and prevent downward migration of soil particles. Sheets to be overlapped by a minimum of 6 inches.

**Distribution Box:** To be set perfectly level. The invert of the inlet shall be 1" above the invert or outlet. Boxes shall have a means of access of adequate size for maintenance and inspection of outlet ports. Access openings shall extend to within 12" to 18" of finish grade and prevent the entrance of surface water. A permanent marker shall be placed over distribution box.

**Septic Tanks:** Water test to be performed and witnessed by authorized agent prior to back filling. Tank shall meet the specifications of 7:9A-B.2 chapter 199 standards for individual subsurface disposal systems. Manholes must be extended to within six inches of finished grade and be permanently marked. Manhole covers that are not extended to finished grade may be constructed of reinforced concrete or other suitable materials.

**As-built Location Plan:** As-built location and grades of septic system shall be provided to health departments. A minimum of one percolation test shall be performed in select fill prior to the installation of filter material. Contractor to notify consulting Eng. 2 days in advance of construction of disposal system to coordinate testing

Type of limiting zone *Fractured Rock*

Type of installation permitted table 10.1 *MSR*

Soil suitability classifications: boring *1 II (w<sub>r</sub>, S<sub>c</sub>, S<sub>r</sub>)* boring *2 II (w<sub>r</sub>, S<sub>c</sub>, S<sub>r</sub>)*

Soil survey showing soil to be *R<sub>2A</sub>* and septic suitability as

Type of system: *MSR*

Benchmark to be set by SURVEYOR prior to construction.

Robert C. Bushar, P.E.  
Professional Engineer N.J. Lic. No. 25130

*Robert C. Bushar*  
DATE 7/3/96

Bettigole Andrews & Clark, Inc.  
CONSULTING ENGINEERS

PO Box 3541  
Princeton, NJ 08543-3541  
(609) 938-0030

SEPTIC NOTES  
PREPARED FOR  
LOT 44.08 BLOCK 50

|                    |             |
|--------------------|-------------|
| DESIGNED<br>R.C.B. | PROJECT No. |
| DRAWN<br>ACAD      |             |
| CHECKED (PM)       |             |
| CHECKED (PE)       | DRAWING No. |
| SCALE              | 2/6         |

HUNTERDON COUNTY HEALTH DEPARTMENT  
of Pages APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR  
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM  
Form 5 - Design of Pressure or Gravity Dose SystemMUNICIPALITY Hopewell BLOCK 50 LOT 44.08

## I. Configuration of Distribution Network:

Type of Manifold: End X Central  
Distribution Laterals: Number 14 Length, ft 18.5 Spacing, ft 3.75 <sup>5' hole spacing</sup> Volume: 10.6 GAL.  
Hole Diameter, ins. 1/4" Hole Spacing, ins. 36"  
Diameter of Laterals, ins. 1"

## II. Lateral Discharge Rate:

Design Pressure Head at Supply End of Laterals, ft. 2.5  
Hole Discharge Rate, Q, gpm 1.18  
Number of Holes per Lateral, n 6  
Lateral Discharge Rate, (Q x n) gpm 7.08

III. Manifold Length, ft. 22.5 Manifold Diameter, ins. 3" Volume: 8.3 GAL.IV. System Discharge Rate, gpm 99.2

## V. a Pump Selection:

Pump displacement volume: 5  
Diameter of Delivery Pipe 3" Length of Delivery Pipe 65 Volume: 23.9 GAL.  
Friction Loss in Delivery Pipe, ft., ft. 1.51  
Elevation of Dosing Tank Low Water Level 202.67  
Elevation of Lateral Invert 213.4  
Elevation Head, H<sub>e</sub>, ft. 10.73  
Total Operating Head, H<sub>t</sub> (H<sub>f</sub> + H<sub>f</sub> + H<sub>e</sub>), ft. 14.74  
Goulds Pump Model 3887 Rated Horsepower 3/4 HP  
Pump Discharge Rate at Total Operating Head, gpm 125

## b Siphon Elevation:

Diameter of Delivery Pipe \_\_\_\_\_ Length of Delivery Pipe \_\_\_\_\_ Volume: \_\_\_\_\_  
Friction Loss in Delivery Pipe, H<sub>f</sub>, ft. \_\_\_\_\_  
Velocity Head, H<sub>v</sub>, ft. \_\_\_\_\_  
Total Operating Head, H<sub>t</sub> (H<sub>f</sub> + H<sub>f</sub> + H<sub>v</sub>), ft. \_\_\_\_\_  
Elevation of Lateral Invert \_\_\_\_\_  
Elevation of Siphon Invert \_\_\_\_\_  
Internal horizontal area of dosing tank in (ft<sup>2</sup>) \_\_\_\_\_

## VI. Dose Volume:

(Q) Design Volume of Sewage, gal/day 650 <sup>Pump off</sup>  $(162.5 + 5 + 42.8) / (59.4 \times 7.48) = 0.47'$   
Design Permeability, in/hr \_\_\_\_\_ or Percolation Rate, min/in 3-15  
Internal Volume of Distribution Network 428  
(0.25Q) Dose Volume 162.5 <sup>Reserve Capacity</sup>  
Pump tank size in (ft<sup>3</sup>) 59.4  $(204.98 - 203.41) \times (59.4 \times 7.48) = 67.1$  GAL

I. \_\_\_\_\_  
VII. I hereby certify that the information furnished on Form 5 of this application (and attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Professional Engineer Robert C. Busher  
N.J. License No. 25130

Date 9/3/96

Seal

hchsa5.doc

JUL 11 1997

LOT 3  
N87°44'30"E 250.00'

502°05'00"E  
354.53'  
LOT 2

FILED MAP  
1"=50'

HUNTERS RIDGE DRIVE (50' R.O.W.)  
NO2°15'30"W 180.00'  
R=600.00' L=162.71'  
TEMPORARY CUL-DE-SAC EASEMENT

LOT 44.08  
94.103± S.F.  
2.16± AC.

PUMP TANK  
RIM=208.20

SEPTIC BED  
SL-4  
SL-5  
SL-6  
SL-7

SEPTIC TANK  
RIM=208.71

HOUSE INV.=  
206.19

FOUNDATION ONLY  
T.O.B.=209.88

WELL TO SEPTIC  
WELL

5' WIDE UNDER GROUND UTILITIES EASEMENT

N85°47'51"E 37.50'  
50°4'12"09"E 27.00'

DRAINAGE EASEMENT AREA=1364.7± S.F.

R=250.00' L=561.43'  
R=450.00' L=201.49'  
N82°55'44"W 271.61'

LOT 44.07  
R=500.00' L=349.07'

BURD ROAD (25' TO Q)

R=25.00' L=39.27'  
587°55'00"W 220.00'  
R=450.00' L=184.57'

TIES FOR SEPTIC BED  
1-A 117.3'  
1-B 130.9'  
1-C 154.8'  
1-D 148.9'  
2-A 98.1'  
2-B 101.3'  
2-C 132.4'  
2-D 129.9'

LEGEND  
EXISTING ELEVATION x 210.5  
SOIL LOG SL-4

AS BUILT DESIGN  
DATE: 7/18/97  
HOPEWELL TOWNSHIP HEALTH DEPT

OFFSETS SHOWN HEREIN ARE NOT TO BE USED AS A BASIS FOR CONSTRUCTION OF FENCES OR OTHER PERMANENT STRUCTURES.

THIS SURVEY DOES NOT PURPORT TO IDENTIFY ENCROACHMENTS, UTILITIES, SERVICE LINES OR STRUCTURES BELOW GRADE, IF ANY, EXCEPT AS SPECIFICALLY NOTED HEREON.

THIS CERTIFICATION IS MADE ONLY TO BELOW NAMED PARTIES FOR PURCHASE AND/OR MORTGAGE OF HEREN DELINEATED PROPERTY BY BELOW NAMED PURCHASER. NO RESPONSIBILITY OR LIABILITY IS ASSUMED BY SURVEYOR FOR USE OF SURVEY FOR ANY OTHER PURPOSE INCLUDING, BUT NOT LIMITED TO USE OF SURVEY FOR SURVEY AFFIDAVIT, RESALE OF PROPERTY, OR TO ANY OTHER PERSON NOT LISTED IN CERTIFICATION, EITHER DIRECTLY OR INDIRECTLY.

ALSO KNOWN AS LOT 44.08 IN BLOCK 50 AS SHOWN ON HOPEWELL TAX MAP.

| NO. | DATE   | REVISION DESCRIPTION                       | BY   |
|-----|--------|--------------------------------------------|------|
| 1.  | 7/3/97 | REVISED AS PER REVIEW LETTER DATED 6/19/97 | M.A. |

BETTIGOLE ANDREWS & CLARK, Inc.  
CONSULTING ENGINEERS  
(908) 349-3446  
310 MAIN STREET TOMS RIVER, N.J. 08753

MICHAEL T. ARMSTRONG, P.L.S.  
PROFESSIONAL LAND SURVEYOR N.J. LIC. NO. 35820  
DATE 7/2/97

'THE FIELDS AT PENNINGTON'  
SEPTIC ASBUILT PLAN  
PREPARED FOR  
BLOCK 50 LOT 44.08  
HOPEWELL TOWNSHIP  
MERCER COUNTY NEW JERSEY  
DR. BY J.M. CHK. BY MMC DATE 6-2-97  
JOB NO. 096058.00 DWG. NO. 1 OF 1



# TOWNSHIP of HOPEWELL

MERCER COUNTY

## DEPARTMENT OF HEALTH

201 Washington Crossing Pennington Road Titusville, New Jersey 08560-1410

Phone: 609.737.0120 Fax: 609-737-6836

September 17, 2015

### Letter of Review

John & Billie Jo Shelmet  
22 Hunters Ridge Drive  
Pennington, NJ 08534

RE: Block 50, Lot 44.08 (22 Hunters Ridge Drive)

Dear Mr. & Mrs. Shelmet,

This office has received the applications for letter of review for well water and septic for the sale of the above referenced property. A review of the material submitted with the application revealed the following:

1. **WELL WATER** – A well water analysis report dated 8-27-2015 from New Jersey Analytical Laboratories indicated the well water was compliant for primary New Jersey Safe Drinking Water Act parameters at the time of analysis, with the exception of arsenic. A post treatment water analysis report dated 9-10-2015 from LECO Laboratories indicated the water, after treatment, was compliant with New Jersey Safe Drinking Water Act limit for arsenic.

**NOTE:** It is a homeowner's responsibility to assure all required maintenance and monitoring are conducted on the water treatment system to assure safe, potable water are consistently delivered to the home. Failure to maintain and monitor the system may result in water that fails to meet New Jersey Safe Drinking Water Act being used by the occupants. Please contact the system installer or a qualified water treatment professional to advice on the proper maintenance and monitoring intervals for the system installed.

2. **SEPTIC SYSTEM** – A septic system inspection report dated 8-4-2015 from Classic Home Inspections indicated the system was functioning satisfactorily at the time of inspection.

Based on the information provided to this office, a full, unconditional, letter of review is hereby issued.

You may contact this office at (609) 737-0120 with any questions you may have regarding this matter. Our office hours are Monday through Friday, 8:30 - 4:30

Sincerely,

A handwritten signature in black ink, appearing to read 'R. English', written in a cursive style.

Robert B. English  
Health Officer

COPY



# TOWNSHIP of HOPEWELL

MERCER COUNTY

## DEPARTMENT OF HEALTH

201 Washington Crossing Pennington Road  
Titusville, New Jersey 08560-1410

Phone: 609.737.0120 Fax: 609-737-6836 www.hopewelltp.org



**Public Health**  
Prevent. Promote. Protect.

### REQUEST FOR PROPERTY INFORMATION

Date of Request: 8/7/15

Requested By: Patrick Weaver

Requester Company (if applicable): CSI

Requester Address: 127 Highland Ave  
Midland Park, NJ

Requester Telephone No.: (201) 444-5134

Document/Information Requested: Septic Plans

Block 50 Lot 44.08

Property Address: 22 Hunter Ridge Rd

Notes: \_\_\_\_\_

Applicant

Palomas

Block:

50

lot:

44.08

location

Hunter's Bridge Drive

Sewage Disposal Systems

Installation approved

7-18-97

Pump and alarm approved

7-9-97

Grading Approved

7-18-97

As-built approved

7-18-97

Application to operate system

NA

Sand Certification

7-14-97

This office has performed inspections or received the necessary certification required for issuance of a certificate of occupancy

Temporary CO

Date

Inspector

Onsite Water Supply

Well Casing Inspection

11-13-96

Pump Installation Report

7-22-97

Well Construction Report

7-22-97

Water Availability test

11-14-96

Primary Water Quality  
(bacterial, nitrate)

7-24-97

Secondary Water Quality  
(Iron, manganese, ph)

7-24-97

Final Grade Inspection  
(casing must extend 12 inches  
above grade)

7-22-97

Final CO

Date

7-24-97

Inspector

C. J. Green

**M E M O R A N D U M**

RECEIVED

NOV 3 1997

Inspection Report to be filed with VCEA

**TO:** William R. White, Municipal Construction Official  
Township of Hopewell

**FROM:** Paul E. Pogorzelski, P.E. *PEFG*  
Township Engineer

**DATE:** November 4, 1997

**RE:** Site Improvement Inspection  
Final Certificate of Occupancy Request  
Block 50, Lot 44.08  
Fields at Pennington  
VCEA File No. 7061

Please be advised that on October 30, 1997, an inspection was made of the above referenced block and lot for Final Certificate of Occupancy. The following are our recommendations:

- I. **Recommendation:** Recommend Final Certificate of Occupancy be issued.
- II. **Conditions:** None.
- III. **Comments:** At the time of inspection, it was noted that the homeowner was in the process of installing several landscaped beds and a swimming pool. A portion of the septic disposal bed was observed to have been disturbed by one of the contractors. By copy of this memorandum, I am notifying the Health Department of this condition.

PEP:FG:lan

cc: Palomar Associates  
Gary Guarino ✓



**COPY**

August 6, 2003

John J & Billie Jo Shelmut  
22 Hunters Ridge Drive  
Pennington, NJ 08534

Ref: Block 50 Lot 44.08  
22 Hunters Ridge Drive

Dear John J & Billie Jo Shelmut

Since my March 11, 2003 letter to you concerning the potential for well water contamination within the Burd/Yard Road area of the Township, the following has occurred.

As of August 1, 2003, only 4 property owners have let me know that they had their well water tested for volatile organic chemicals as recommended.

Of those 4 sampled, 3 contained low levels of (TCE) Trichloroethylene below the contamination level set by the State. Additionally the same 3 homes were located on the South side of Pennington Harbourn Road.

Currently there are still Hunter's Ridge and Pennington Harbourn property owners who have not tested or have not authorized their laboratory to send in the results. If you have not tested or are near any of the impacted properties, and have not tested, I am again recommending that you do so.

I am working with NJDEP and the case manager assigned to determine the source and direction of the contamination.

I would be happy to meet and discuss the potential impact on these properties. You should also be aware that any properties with contamination levels over the limit of 1.0 ppb may apply for (POET) point of entry treatment system, ie., activated charcoal treatment systems through the State's Spill Fund Program.

If you have any questions please feel free to call me at 737-0120 ext 653. Reports may be faxed to 609-737-6836.

Very truly yours,  
Gary A. Guarino  
Health Officer

**Zithromax**  
ONCE DAILY FOR 5 DAYS  
(AZITHROMYCIN)

AVAILABLE AS  
**Z-PAK**

**Zithromax**  
(azithromycin for  
oral suspension)  
ONCE  
DAILY  
FOR  
5 DAYS

Please see full prescribing information on last pages.

8/11/03

Fax to 737-6836

Ref: Block 50  
Lot 44.08  
22 Hunters Ridge Dr.

Mr. Guarino-

In response to your letter dated 8/6/03,  
enclosed please find a copy of lab analysis  
of our tap water (dated 3/13/98).

The water was first tested in 01/97 and  
we then rechecked it 1 year later.

Please advise if this timetable is  
sufficient to satisfy your concern.

Thank you,

Billie Jo Shelmet

John & Billie Jo Shelmet  
22 Hunters Ridge Dr.  
Pennington, NJ 08534

I would  
recommend yearly  
no noted on  
Chart until we  
determine direction  
of chlorine's  
movement  
Gary

8/14/03

green  
well Feisty  
groundhog  
agent.

Douglassville Location:  
605 Benjamin Franklin Highway  
Douglassville, PA 19518  
Phone: (610) 327-8196  
Fax: (610) 327-6864

# Blue Marsh

LABORATORY • INC

Professional testing for the critical decision

## LABORATORY ANALYSIS REPORT

Princeton Location:  
267 Wall Street  
Princeton, NJ 08540  
Phone: (609) 924-5151  
Fax: (609) 924-9692

Client: Shelmet Residence  
Address: 22 Hunter's Ridge  
Hopewell, NJ 08525

Test Number: L98500  
Date Received: March 13, 1998  
Date Sampled: March 13, 1998

Attention: Ms. Billi Jo Shelmet

Job Number: 137873-B2

| SAMPLE NUMBER | SAMPLE DESIGNATION/DESCRIPTION         |
|---------------|----------------------------------------|
| 1             | Tap Water: 22 Hunter's Ridge, Hopewell |
| Limit         | Maximum Contaminant Level              |
| Method        | Standard Method, 18th Edition          |

| PARAMETER /<br>CONSTITUENT          | SAMPLE NUMBER |          |           |
|-------------------------------------|---------------|----------|-----------|
|                                     | 1             | Limit    | Method    |
| Iron, total                         | 0.11          | 0.3      | 3111B     |
| Manganese, total                    | 0.68          | 0.05     | 3111B     |
| Nitrate as N                        | 0.29          | 10       | 4500 NO3D |
| pH (units)                          | 7.8           | 6.5-8.5* | 4500I+B   |
| Total Coliforms,<br>colonies/100 ml | 0             | 0        | 9222B     |

Sampled by Blue Marsh Laboratory, Inc.

\*NIDEP Acceptable pH range.

All results in mg/l (ppm) except where noted

Laboratory ID No. 11198

March 20, 1998

Michael Wright, Technical Director

This report is intended to be reproduced in its entirety only. The results in this report apply to only the sample(s) submitted and analyzed.

# BLUE MARSH LABORATORY, INC.

Shelnet Residence  
Test Report: 198500  
March 20, 1998  
Page 2

Volatile Organics: EPA Method 502.2

Sample ID#: Tap Water: 22 Hunter's Ridge, Hopewell

| Parameter                   | Result | (PQL) | Parameter                            | Result | (PQL) |
|-----------------------------|--------|-------|--------------------------------------|--------|-------|
| Benzene                     | ND     | 0.2   | 1,3-Dichloropropane                  | ND     | 0.2   |
| Bromobenzene                | ND     | 0.2   | 2,2-Dichloropropane                  | ND     | 0.2   |
| Bromochloromethane          | ND     | 0.2   | 1,1-Dichloropropene                  | ND     | 0.2   |
| Bromodichloromethane        | ND     | 0.2   | cis-1,3-Dichloropropene              | ND     | 0.2   |
| Bromoform                   | ND     | 0.2   | trans-1,3-Dichloropropene            | ND     | 0.2   |
| Bromomethane                | ND     | 0.2   | Ethylbenzene                         | ND     | 0.2   |
| n-Butylbenzene              | ND     | 0.2   | Hexachlorobutadiene                  | ND     | 0.2   |
| sec-Butylbenzene            | ND     | 0.2   | Isopropylbenzene                     | ND     | 0.2   |
| tert-Butylbenzene           | ND     | 0.2   | 4-Isopropyltoluene                   | ND     | 0.2   |
| Carbon tetrachloride        | ND     | 0.2   | Methylene Chloride                   | ND     | 0.2   |
| Chlorobenzene               | ND     | 0.5   | Naphthalene                          | ND     | 0.5   |
| Chloroethane                | ND     | 0.5   | n-Propylbenzene                      | ND     | 0.2   |
| Chloroform                  | ND     | 0.2   | Styrene                              | ND     | 0.5   |
| Chloromethane               | ND     | 0.2   | 1,1,1,2-Tetrachloroethane            | ND     | 0.5   |
| 2-Chlorotoluene             | ND     | 0.2   | 1,1,2,2-Tetrachloroethane            | ND     | 0.2   |
| 4-Chlorotoluene             | ND     | 0.2   | Tetrachloroethene                    | ND     | 0.2   |
| 1,2-Dibromo-3-Chloropropane | ND     | 1.0   | Toluene                              | ND     | 0.5   |
| Dibromochloromethane        | ND     | 0.2   | 1,2,3-Trichlorobenzene               | ND     | 0.2   |
| 1,2-Dibromoethane           | ND     | 0.5   | 1,2,4-Trichlorobenzene               | ND     | 0.2   |
| Dibromomethane              | ND     | 0.5   | 1,1,1-Trichloroethane                | ND     | 0.2   |
| 1,2-Dichlorobenzene         | ND     | 0.2   | 1,1,2-Trichloroethane                | ND     | 0.2   |
| 1,3-Dichlorobenzene         | ND     | 0.2   | Trichloroethene                      | ND     | 0.2   |
| 1,4-Dichlorobenzene         | ND     | 0.2   | Trichlorofluoromethane               | ND     | 0.2   |
| Dichlorodifluoromethane     | ND     | 0.2   | 1,2,3-Trichloropropane               | ND     | 0.5   |
| 1,1-Dichloroethane          | ND     | 0.2   | 1,2,4-Trimethylbenzene               | ND     | 0.2   |
| 1,2-Dichloroethane          | ND     | 0.2   | 1,3,5-Trimethylbenzene               | ND     | 0.2   |
| 1,1-Dichloroethene          | ND     | 0.2   | Vinyl Chloride                       | ND     | 0.2   |
| cis-1,2-Dichloroethene      | ND     | 0.2   | Xylenes, total                       | ND     | 0.5   |
| trans-1,2-Dichloroethene    | ND     | 0.2   | Methyl-tertiary-butyl<br>Ether(MTBE) | ND     | 2.0   |
| 1,2-Dichloropropane         | ND     | 0.2   |                                      |        |       |

PQL - Practical Quantitation Limit

All results are expressed in micrograms/liter (ppb)

ND-None Detected above PQL

Sampled by Blue Marsh Laboratory, Inc.

COPY

March 11, 2003

John J & Billie Jo Shelmut  
22 Hunters Ridge Drive  
Pennington, NJ 08534

Ref: Block 50 Lot 44.08

Dear John J & Billie Jo Shelmut

As you have heard several Yard Road and Burd Road residents have had their well water tested. To their surprise, the laboratory detected low levels of Chlorinated solvents or volatile organic compounds. I am including a fact sheet on chlorinated solvents in drinking water provided by the State Health Department for your review.

It appears that the direction of the contamination is moving in a south westerly direction towards Hunters Ridge and Pennington Harbourn Road, I am strongly encouraging all surrounding property owners to have their water tested for volatile organic compounds. Based upon the original round of test results from the affected properties in 1999, I have asked NJDEP to assist the Health Department and to ascertain the source of the contamination.

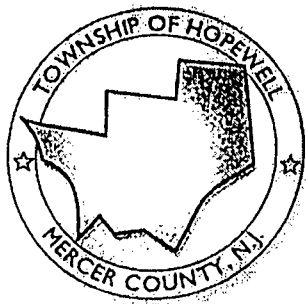
Any property owner who has two (2) consecutive samples with volatile organic compounds which exceed the MCL (maximum contamination levels) will be eligible to apply for a spill fund claim with NJDEP for the installation of a point-of-entry (POET) water treatment system. These systems are highly effective and require minimal maintenance by the homeowners. If your well is contaminated above the MCL, the second confirmatory sample cost will be reimbursed by NJDEP as part of the POET program.

I am enclosing a listing of area laboratories which can conduct the required tests, EPA method 524.2. Additionally, I have negotiated a price with Douglas Haltmeier, director at Blue Marsh Laboratories (609)924-5151 for residents within the "Yard Road" and surrounding areas. He has advised me that the price is \$95.00 plus a pick up fee of \$25 (as of 3-11-03). This price is for those property owners clearly indicating when calling that they were responding to Hopewell Township Health Department's letter regarding the "Yard Road area contamination investigation", these tests normally cost between \$100 and \$150.00. Please remind the laboratory to forward copies directly to the Hopewell Township health department. Bacteria samples are recommended annually. These are also available at a special price of \$25 if collected with the organic sample.

As the results are received I will be mapping the location and direction of the contamination. This will be available for residents to review at the health department. If you have any questions at any time please feel free to call me at 737-0120 to discuss this matter further.

Very truly yours,  
Gary A. Guarino  
Health Officer

Enclosure



# TOWNSHIP of HOPEWELL

## DEPARTMENT of HEALTH

Serving Hopewell Borough and Pennington Borough

201 WASHINGTON CROSSING PENNINGTON ROAD, TITUSVILLE, N.J. 08560

TELEPHONE 609-737-0120 / FAX 609-737-2770

August 3, 2001

John J & Billie Jo Shelmut  
22 Hunters Ridge Drive  
Pennington, NJ 08534

Ref: Block 50 Lot 44.08  
22 Hunters Ridge Drive

COPY

Dear John J & Billie Jo Shelmut

I would like to bring to your attention that several "Yard Road area" residents have had their well water tested (see map). To their surprise, the laboratory detected low levels of Chlorinated solvents or volatile organic compounds. There is some concern that the contamination may migrate to the southwest and impact the wells on Hunters Ridge Drive. I am including a pamphlet on Private Well Water Testing and on Volatile organic compounds in drinking water provided by the State Health Department for your review.

As a property owner it is your responsibility to make sure your well is safe and potable. Therefore, I am strongly encouraging all Hunters Ridge Drive property owners to have their water tested routinely for bacteria, nitrates and for volatile organic compounds as noted on page 17 of the Private well testing pamphlet. NJDEP is already involved at the request of the Health Department to help ascertain the source of the contamination.

Any private well that shows contamination with volatile organic compounds which exceed the MCL (maximum contamination levels) would be eligible to submit a spill fund claim with NJDEP for the installation of a point-of-entry (POET) water treatment system. These systems are highly effective and require minimal maintenance by the homeowners.

I am enclosing a listing of area laboratories which can conduct the volatile organic test, EPA method 524.2. I have also negotiated a reduced price with Douglas Haltmeier, director at Blue Marsh Laboratories (609)924-5151 for residents within the "Yard Road" and surrounding areas. He has advised me that the price is \$85.00 (as of 8-03-01) for Township property owners indicating when scheduling that they are responding to the Health Department's letter regarding the "Yard Road area contamination investigation", these tests normally cost between \$100 and \$150.00. Please remind the laboratory to forward copies directly to the Hopewell Township Health Department. Bacteria samples are recommended annually. These are also available at a special price if collected with the volatile organic sample.

As the results are received I will be mapping the location and direction of the contamination. This will be provided to all residents. If you have any questions at any time please feel free to call me at 737-0120 to discuss this matter further.

Very truly yours,

Gary A. Guarino  
Health Officer

Enclosure: Map & 2 Pamphlets

COPY

June 4, 2001

Mr. Shelmet  
22 Hunters Ridge Drive  
Pennington, NJ 08534

Re: Block 50 Lot 44.08

Dear resident:

This office has received a water quality laboratory report for your property dated *March 27, 2001*. The report indicates the water is safe for the following items that were tested for:

\_\_\_\_\_ Coliform bacteria  
☒ \_\_\_\_\_ Volatile Organic compounds  
\_\_\_\_\_ Nitrates  
\_\_\_\_\_ Lead  
\_\_\_\_\_ Other

\_\_\_\_\_  
\_\_\_\_\_

Information on routine private well water testing and septic system maintenance is being provided. Please contact this office to discuss any questions you may have on wells or septic.

Very truly yours,

  
Gary A. Guarino  
Health Officer

enc:



**State of New Jersey**

DONALD T. DiFRANCESCO  
Acting Governor

Department of Environmental Protection

Robert C. Shinn, Jr.  
Commissioner

**Water Supply Administration – Bureau of Safe Drinking Water**

401 East State St., P.O. Box 426  
Trenton, New Jersey 08625-0426  
Tel# 609-292-5550 – Fax# 609-292-1654

MAY 16 2001

Gary Guarino, Health Officer  
Hopewell Township Health Department  
201 Washington Crossing-Pennington Rd. #24  
Titusville, New Jersey 08560-1410

**Re: Private Potable Well Water Analyses in vicinity of Yard Road Ground Water Contamination site, Hopewell Township, Mercer County.**

Dear Mr. Guarino:

Summarized below are the significant results of a water sample collected from a private potable well on March 27 in Hopewell Township, Mercer County. This sample was analyzed for Volatile Organic Compounds using USEPA method 524.2, version 4.1. This potable well was sampled as part of the Yard Road Ground Water Contamination site investigation.

Owner Name:                      Shelmet

Well Location:                    22 Hunters Ridge Dr.  
                                          Block 50                      Lot 44-8

**With regard to the parameters tested, by copy of this letter, the property owner is informed that water obtained from this well is acceptable for drinking water and other domestic uses. None of the constituents analyzed for were detected in the potable water sample taken from this well.**

It is recommended that you provide guidance and assistance to the property owner/user if warranted. If there are any questions on the information provided in this letter, please contact Laura Colodner, Community Relations Coordinator for the site, at (609) 633-3858.

Very truly yours,

Barker G. Hamill, Chief  
Bureau of Safe Drinking Water

cc: Shelmet, 22 Hunters Ridge Dr., Pennington, NJ 08534  
Greg Bakeman, BGWPA  
Laura Colodner, BCR  
Fred Dickert, BSDW  
Akshay Parikh, BSM



HOPEWELL TOWNSHIP HEALTH DEPARTMENT  
201 WASHINGTON CROSSING PENNINGTON ROAD  
TITUSVILLE, NEW JERSEY 08560

609-737-0120 FAX 609-737-1022

|                             |                |
|-----------------------------|----------------|
| Permit Number               | <u>96-0110</u> |
| Date Issued                 | <u>11-5-96</u> |
| Application Fee Received \$ | <u>100.00</u>  |

APPLICATION FOR PERMIT TO LOCATE AND CONSTRUCT AN INDIVIDUAL WATER SUPPLY & SYSTEM

SECTION A

Applicant PALOMAR ASSOC Phone (Home) (908) 730-9772 (Work) 609 737-3033  
Mailing Address 51 LOWER KINGSTOWN  
City Pittsford State N.J ZIP \_\_\_\_\_  
Location where well is to be constructed or altered Block 50 Lot 44.08  
Street HUNTERS RIDGE ROAD City Hopewell ZIP \_\_\_\_\_  
Well Driller SOMMERVILLE WELL DRILLING Phone (\_\_\_\_) \_\_\_\_\_  
Mailing Address 5 VAN DERBEEK  
City SOMMERVILLE State N.J ZIP \_\_\_\_\_  
Signature of Applicant or Agent Andersen Date 11/4/96

SECTION B

State Well Permit Number

2713964

State Permit Issue Date

10/8/96

Expiration of State Well Permit

10/8/97

SECTION C

Inspection of grouting and installation of casing

Date 11-13-96

Length of casing installed

50

Feet

Method of grouting of annular space

Grouting

Inspector

[Signature]

License No. 831518

Instructions for completing application:

Application must be submitted with:

1. An engineers's site plan locating all existing and proposed wells and onsite sewage disposal systems within 200 feet.
2. A floor plan of the proposed structure showing all potential bedrooms, bathrooms and or other potential water uses (examples, underground lawn sprinklers, fire suppression systems, water fountains etc.).
3. A copy of the state well permit must be attached.
4. A check for the fee made payable to Hopewell Township.

Upon completion of the well construction a yield test must be conducted and the completed report submitted to the health department on an approved form.

Upon completion of the water supply system the completed state well and pump records must be submitted to the health department by the licensed well driller/pump installer.

Water potability tests per "The Safe Drinking Water Standards" must be collected by a certified testing laboratory and submitted to the health department prior to receiving final approval.

SERIAL # 01943

DWR-133  
(4/96)

STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
TRENTON, NJ

RECEIVED

OCT 17 1996

Permit No. 2713964

Mail to  
NJDEP  
Bureau of Water Allocation  
CN 426  
Trenton, NJ 08625-0426

PERMIT TO DRILL WELL

Hopewell Township Health Dept.

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 27.14.381

Owner PALOMAR ASSOCIATES  
Address 51 LOWER KINGTOWN RD.  
PITTSBURGH, NJ 08867  
Name of Facility THE FIELDS @ PENNINGTON  
Address HUNTER'S RIDGE DR.  
Hopewell

Driller SOMERVILLE WELL DRILLING LTD INC.  
Address 318 VANDERVEER RD.  
BRIDGEWATER NJ, 08807

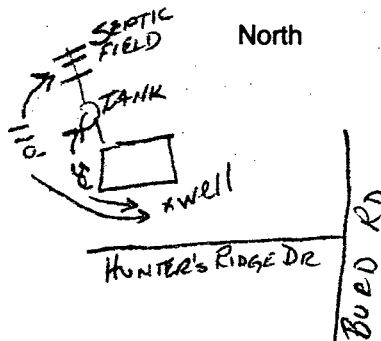
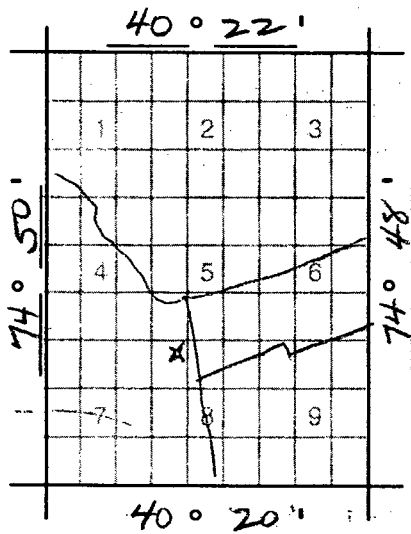
|                           |                          |        |                                               |        |      |
|---------------------------|--------------------------|--------|-----------------------------------------------|--------|------|
| Diameter of Well          | 6                        | Inches | Proposed Depth of Well                        | 200    | Feet |
| Proposed Capacity of Pump | 10                       | GPM    | Method of Drilling (cable-tool, Rotary, etc.) | ROTARY |      |
| Use of Well (See Reverse) | DOMESTIC                 |        |                                               |        |      |
| Drinking Water Supply?    | yes (see # 6 on reverse) |        |                                               |        |      |

LOCATION OF WELL

Lot # 44.68 Block # 50 Municipality Hopewell County MERCER

State Atlas Map No. 27

Draw sketch showing distance and location of well site to nearest public roads, streets, components of the nearest sewage disposal system, etc.

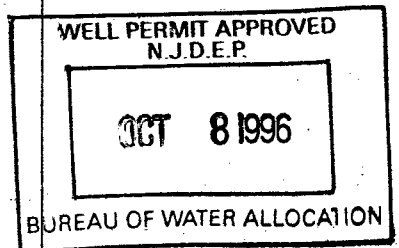


80' OFF HUNTER'S RIDGE DR.  
1/4 mile OFF BUCO RD.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS AND REGULATIONS PERTAINING TO THIS PERMIT. APPROVAL OF THIS PERMIT IS MADE SUBJECT TO ACCEPTANCE OF AND COMPLIANCE WITH THE FOLLOWING ADDITIONAL CONDITIONS.

- ☒ DOMESTIC/PUBLIC NON-COMMUNITY/NON-PUBLIC Water Supply Wells shall comply with N.J.A.C. 7:10-12.1 et seq.
- ☐ PUBLIC COMMUNITY Water Supply Wells shall obtain construction and operation permits from the Bureau of Safe Drinking Water in accordance with N.J.A.C. 7:10-11.1 et seq.
- ☐ CLOSED LOOP GEOTHERMAL - see attached conditions.
- ☐ OPEN LOOP GEOTHERMAL HEAT PUMP WELLS - Wells must be a minimum of 50 feet apart and the water must be returned to the same aquifer as the production well.
- ☐ INDUSTRIAL SUPPLY - A physical connection control permit shall be obtained pursuant to the provisions of N.J.A.C. 7:10-10.1 et seq.
- ☐ IRRIGATION SUPPLY - A physical connection control permit may be required pursuant to the provisions of N.J.A.C. 7:10-10.1 et seq.
- ☐ REPLACEMENT WELL - Existing well must be sealed by a certified New Jersey licensed well driller upon abandonment.
- ☐ IRRIGATION PURPOSES ONLY ☐ TEST PURPOSES ONLY
- ☐ PINELANDS - Well must be drilled and cased to a minimum depth of 100' unless the provisions of N.J.A.C. 7:50-6.84 (a)4.v. are met.
- ☐ MINIMUM distance requirements as per N.J.A.C. 7:10-12.13 have not been met - see attached additional condition(s).
- ☐ The well shall be equipped with a totalizing flow meter per N.J.A.C. 7:19-2 et seq.

This Space for Approval Stamp



In compliance with N.J.S.A. 58:4A-14, application is made for a permit to drill a well as described above.

Date 10/4/96 Signature of Driller Paul Thomas Registration No. J1291  
Signature of Owner Mark Weenman

COPIES: Water Allocation — White Health Dept. — Yellow Owner — Blue Driller — White

|              |                            |                                    |
|--------------|----------------------------|------------------------------------|
| USE OF WELL: | Agricultural/Horticultural | Livestock                          |
|              | Domestic                   | Non-Public                         |
|              | Fire Protection            | Public Community Water Supply      |
|              | Geothermal Closed Loop     | Public Non-Community Water System  |
|              | Geothermal Open Loop       | Replacement Type of Well (Specify) |
|              | Industrial                 | Test                               |
|              | Irrigation                 |                                    |

Make Checks Payable to: **"TREASURER - STATE OF NEW JERSEY"**

In accepting this permit the Owner and Driller agree to abide by the following terms and conditions:

1. This permit conveys no rights, either expressed or implied, to divert water.
2. Well permits, submitted incomplete and/or illegible will be returned without approval for modification.
3. **If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Allocation.**
4. In the event this well is abandoned, the Owner shall assume full responsibility for filling and sealing it in a manner satisfactory to the Bureau in accordance with provisions N.J.S.A. 58:4A-4.1 and applicable regulations.
5. This permit will be valid for one (1) year from date of approval. Department must be notified in writing of permit cancellation.
6. Drinking Water Supplies must be classified as either:
  - a. **Domestic** (private household)
  - b. **Non-Public Water Supply** (Other Than Domestic Supply)
  - c. **Public Community Water Supply** — at least 15 service connections or serves at least 25 individuals daily (municipal supply, community well, mobile home parks, etc.)
  - d. **Public Non-Community Water Supply** (campgrounds, restaurants, hospitals, etc.)
7. A well record must be submitted by the well driller to the Bureau of Water Allocation within ninety (90) days after the well is completed.
8. This permit is NONTRANSFERABLE.
9. All wells to be used as a drinking water supply should be tested in accordance with the requirements of the appropriate county/municipal Health Department.
10. If the use of the well is to be changed, a well permit for the proposed use of the well must be submitted for review and approval. The existing well permit number must be referenced on the application form.

**HOPEWELL TOWNSHIP HEALTH DEPARTMENT**  
 201 Washington Crossing Pennington Road  
 Titusville, N.J. 08560  
 (609) 737-0120

**WELL YIELD TEST REPORT**

DATE 11/14/96 BLOCK 50 LOT 44.08

JOB NAME PALOMAR ASSOCIATES

LOCATION HUNTERS RIDGE DR. Hopewell

DEPTH OF WELL 150' NO. OF BEDROOMS 4

DEPTH OF PUMP 180' NO. OF BATHROOMS 3  
 (During Test) (PEAK DEMAND RATE #BATHROOMS  
 X 3.0 / GPM.

45mins @ 9gpm

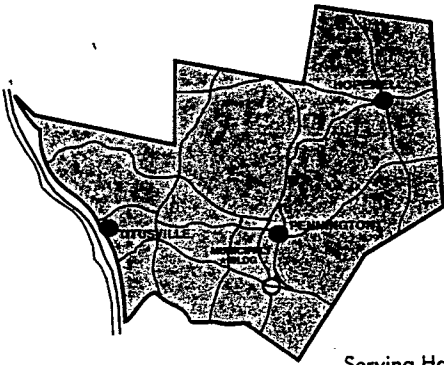
|            | TIME | STATIC LEVEL | GPM | REMARKS |
|------------|------|--------------|-----|---------|
| START      | 2:00 | 20'          | 9   | 0103520 |
| PEAK       | 2:30 | 20'          | 9   | 0103790 |
| DEMAND END | 2:45 | 20'          | 9   | 0104060 |
| START      | 2:50 | 20'          | 12  | 0104060 |
| CONSTANT   | 2:55 | 20'          | 12  |         |
| HEAD TEST  | 3:15 | 20'          | 12  |         |
|            | 4:15 | 20'          | 12  |         |
|            | 5:15 | 20'          | 12  |         |
|            |      |              |     |         |
|            |      |              |     |         |
| END        | 6:15 | 20'          | 12  |         |
| RECOVERY   |      |              |     |         |
|            |      |              |     |         |
|            |      |              |     |         |
| 90%        |      |              |     |         |
| 100%       | 6:15 | 20'          | 12  | 0104580 |

DRILLER PAUL THOMAS

SIGNATURE Paul Thomas

LICENSE # 51791

DATE 11/14/96



# TOWNSHIP of HOPEWELL

## DEPARTMENT of HEALTH

201 WASHINGTON CROSSING PENNINGTON RD. TITUSVILLE, N.J. 08560 MERCER COUNTY  
TELEPHONE 609 737-0120/737-0132 / TELEFAX NO. 737-1022

Serving Hopewell Borough  
and Pennington Borough

November 13, 1996

Palomar Associates  
51 Lower Kingston Road  
Pittstown, NJ 08867

Re: Block 50 Lot 44.08

To Whom It May Concern:

Enclosed is your permit to construct a well at the above referenced property.

Please have the well location staked by your engineer.

Please notify your well driller that the permit(s) has been approved. The driller will schedule the appropriate inspection.

Upon completion of the well, your well driller will conduct the required water availability test per township ordinance.

Very truly yours,

George K. Kiesel  
Senior Sanitarian

cc: Bob Bushar

**CHYUN ASSOCIATES, INC.**

Environmental Testing Laboratory

609-924-5151

267 Wall Street, Princeton, N J 08540

**LABORATORY ANALYSIS REPORT**

Client: Palomar Associates  
Address: 51 Lower Kingtown Road  
Pittstown, NJ 08867

Test Number: L971070A  
Date Received: July 21, 1997  
Date Sampled: July 21, 1997

Attention: Mr. Mark Weinerman

Job Number: 136747-17A

| SAMPLE NUMBER | SAMPLE DESIGNATION/DESCRIPTION |
|---------------|--------------------------------|
| 1             | Raw Water: 22 Hunter Ridge     |
| Limit         | Maximum Contaminant Level      |
| Method        | Standard Method, 18th Edition  |
|               |                                |
|               |                                |
|               |                                |
|               |                                |

| PARAMETER /<br>CONSTITUENT          | SAMPLE NUMBER |          |         |  |  |  |
|-------------------------------------|---------------|----------|---------|--|--|--|
|                                     | 1             | Limit    | Method  |  |  |  |
| Iron, total                         | 0.30          | 0.3      | 3111B   |  |  |  |
| Manganese, total                    | 0.02          | 0.05     | 3111B   |  |  |  |
| Nitrate as N                        | 1.3           | 10       | 5880    |  |  |  |
| pH, (units)                         | 7.6           | 6.5-8.5* | 4500H+B |  |  |  |
| Total Coliforms,<br>colonies/100 ml | 0             | 0        | 9222B   |  |  |  |
|                                     |               |          |         |  |  |  |
|                                     |               |          |         |  |  |  |
|                                     |               |          |         |  |  |  |
|                                     |               |          |         |  |  |  |

Sampled by Chyun Associates  
Lot 50 Block 44.08  
Hopewell Twp., NJ  
\*NJDEP Acceptable pH range.

All results in mg/l (ppm) except where noted

Laboratory ID No. 11198



Member of  
American Council of  
Independent  
Laboratories, Inc.

July 23, 1997

Michael Wright, Technical Director

# LABORATORY ANALYSIS REPORT

Client: Palomar Associates  
Address: 51 Lower Kingtown Road  
Pittstown, NJ 08867

Test Number: L971070B  
Date Received: July 22, 1997  
Date Sampled: July 22, 1997

Attention: Mr. Mark Weinerman

Job Number: 136747-17B

[illegible][illegible]

Sampled by Chyun Associates

\*This result expressed in mg/l (ppm)

Laboratory ID No. 11198



Member of  
American Council of  
Independent  
Laboratories, Inc.

July 23, 1997

Michael Wright, Technical Director

RECEIVED

JUL 21 1997

**WELL RECORD**

Well Permit Number

27 — 13964

Atlas Sheet Coordinates

27 : 14 : 381

OWNER Hopewell Township Health Dept.

Address 51 LOWER KINGTOWN ROAD

City PITTSBURGH

State PA

Zip Code

WELL LOCATION ADDRESS HUNTER'S RIDGE DR

Owner's Well No.

County MERCER

Municipality HOPWELL TWP

Lot No. 44.08

Block No. 50

WELL USE DOMESTIC

DATE WELL STARTED 11 / 13 / 96

DATE WELL COMPLETED 11 / 13 / 96

**WELL CONSTRUCTION**

Total Depth Drilled 150 ft.

Finished Well Depth 150 ft.

Borehole Diameter:

Top 10 in.

Bottom 6 in.

Well Casing Begins:

+2 ft. above grade or

         ft. below grade

| Note: Measure all depths from land surface  | Depth to Top (ft.) | Depth to Bottom (ft.) | Diameter (inches) | Material              | Wgt./Rating (lbs/sch no.) |
|---------------------------------------------|--------------------|-----------------------|-------------------|-----------------------|---------------------------|
| Single/Inner Casing                         | <u>+2</u>          | <u>54</u>             | <u>6</u>          | <u>steel</u>          | <u>19#</u>                |
| Middle Casing (for triple cased wells only) |                    |                       |                   |                       |                           |
| Outer Casing (largest diameter)             |                    |                       |                   |                       |                           |
| Open Hole or Screen (No. Used )             | <u>54</u>          | <u>150</u>            | <u>6</u>          |                       |                           |
| Blank Casings (No. Used )                   |                    |                       |                   |                       |                           |
| Tail Piece                                  |                    |                       |                   |                       |                           |
| Gravel Pack                                 |                    |                       |                   |                       |                           |
| Grout                                       | <u>3</u>           | <u>54</u>             |                   | Neat Cement Bentonite | <u>1248</u> lbs           |

**RECORD OF TEST**

Test Date 11 / 13 / 96

Static Water Level 20 ft. below land surface

Water Level Measured Using TAPE

Pumping Water Level 100 ft. below land surface

Well Was Pumped Using AIR

Well Yield 30 gpm estimated

If Pump Tested: Discharge Rate          gpm

Duration of Test          hours

**PERMANENT PUMPING EQUIPMENT NOT YET INSTALLED**

Installed by Somerville Reg. No. 245

Pump Type submersible

Depth of Pump below land surface 100' ft.

Capacity 10 gpm Horsepower 3/4

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company SOMERVILLE WELL DRILLING CO.

Well Driller (Print) PAUL THOMAS

Driller's Signature Paul Thomas

Registration No. J1291 Date 11 / 13 / 96

Grouting Method GRAVITY DISPLACEMENT

Drilling Method ROTARY

**GEOLOGIC LOG**

Note each depth where water was encountered in consolidated formations.

0-3' top soil

3-10' overburden

10-150' shale

water 94'

115'

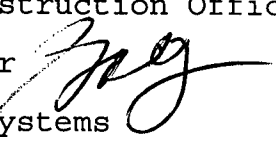


**TOWNSHIP OF HOPEWELL**

**\* MEMORANDUM \***

COPY

**TO:** Hopewell Township Municipal Construction Official

**FROM:** Gary A. Guarino, Health Officer 

**SUBJECT:** Well alteration and lawn systems  
John Shelmet owner  
Block 50 Lot 44.08  
22 Hunter Ridge Drive

**DATE:** October 3, 1997

This office has received information that a an application has been submitted for a lawn irrigation system at the above location. As a prior approval, Township ordinance 16-6.8e. requires the submission of a licensed engineer on the impact of said system on the well and aquifer.

Please be advised that no information has been submitted to this office on this matter.

The well on site was drilled in November 1996 and tested for yield on 11/14/96. The test at the time indicated a sustained yield of 12 gpm. The drillers log indicated an estimated yield of 30 gpm. Before the system is approved the applicant needs to provide the required documentation including:

1. A design of the lawn system showing each zone and the max gpm of the sprinkler heads and the max time each zone should be operated at.
2. An up dated pump test showing the well can be pumped at or above the required gpm for the total operating time.
3. An up dated well pump record.

Installation of a pump capable of generating gpm in excess of the long term aquifer contribution as determined in the 2-part pump test will cause a lowering of the water table. This could damage the pump and or impact adjoining properties. Leaving occupants with out water.

4. Engineer's statement of the long term effect on the aquifer and anticipated impact on this and surrounding properties.

cc: Mr. John Shelmet, owner  
Jeff at Windsor lawn sprinkler  
Walter P. Travis, Inc., Well Drilling

50/44.08

# WALTER P. TRAVIS, INC.

Well Drilling Contractors :: Domestic and Industrial Pumps and Repairing  
Water Conditioners and Purifiers

1650 PENNINGTON ROAD — TRENTON, N. J. 08618  
Telephone: (609) 882-3107

*Mailed*  
*10/22/97*

**RECEIVED**

**OCT 14 1997**

October 10, 1997

Hopewell Township Health Dept.

Hopewell Township Health Department

RE: John Shelmet

22 Hunter Drive

Phone: 737-7482

1- 2H.P. #15P4G02 Submersible Pump. Pump setting 120'--1 $\frac{1}{4}$ "

# 80 P.V.C.

1- # 350 Tank

REplace wire with 10-3 w/g

Pumping rate-- 20 GPM @ 60 PSI.

*Jerry*  
*10-22-97*  
*need*  
*Revised*  
*yield test*  
*at 20+gpm*  
*to verify*  
*contribution*  
*to aquifer*  
*note - no*  
*impact on*  
*aquifer*  
*16*

Using the reported yield of the 200 industrial and domestic wells in Hopewell Township, we find two-thirds of the industrial wells are in the top 10% of yields. This might be expected. One industrial well, however, is in the lowest 10% of all yields. Twenty percent of the wells give 30 gpm or more and 20% give 7 gpm or less with only 5% giving less than 5 gpm.

## BRUNSWICK SHALE

### DOMESTIC WELLS

| Township                  | No. of Wells | YIELD IN GALLONS PER MINUTE |               |         |        |
|---------------------------|--------------|-----------------------------|---------------|---------|--------|
|                           |              | Maximum                     | Minimum       | Average | Median |
| Hopewell                  | 176          | 60                          | $\frac{1}{2}$ | 15      | 10     |
| Princeton                 | 8            | 30                          | 5             | 11      | 8      |
| Lawrence                  | 2            | 7                           | 5             | ..      | ..     |
| All Shale (Mercer Co.)    | 186          | 60                          | $\frac{1}{2}$ | 15      | ..     |
| Montgomery                | 43           | 40                          | 3             | 13      | 14     |
| Bridgewater               |              |                             |               |         |        |
| a. Washington Valley      | 95           | 25                          | 8             | 12      | 10     |
| b. South of 1st Watchungs | 144          | 35                          | 2             | 13      | 12     |

# Windsor Lawn Sprinkler Inc.

P.O. BOX 9762  
TRENTON NJ 08650  
(609) 443-1444

Landscape Irrigation  
Lic. # 0016768

September 4, 1997

RECEIVED

OCT 23 1997

Hopewell Township Health Dept.

To Whom it May Concern:

The homeowner, John Shelmet, has contracted with Walter P. Travis Inc.

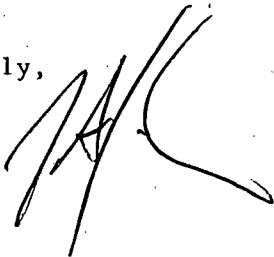
to upgrade the water pump and tank to put out 22.5 gallons per minute.

I have zoned the sprinkler system to commodate 22.5 gallons per

minute. If you have any questions, please don't hesitate to call

Joan at 609 443 1444.

Sincerely,

A handwritten signature in black ink, appearing to be 'J. Shelmet' or similar, written over the 'Sincerely,' text.

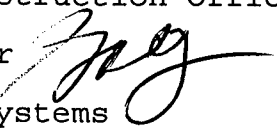
SEP 10 1997



## TOWNSHIP OF HOPEWELL

### \* MEMORANDUM \*

TO: Hopewell Township Municipal Construction Official

FROM: Gary A. Guarino, Health Officer 

SUBJECT: Well alteration and lawn systems  
John Shelmet owner  
Block 50 Lot 44.08  
22 Hunter Ridge Drive

DATE: October 3, 1997

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Please be advised that no information has been submitted to this office on this matter.

The well on site was drilled in November 1996 and tested for yield on 11/14/96. The test at the time indicated a sustained yield of 12 gpm. The drillers log indicated an estimated yield of 30 gpm. Before the system is approved the applicant needs to provide the required documentation including:

1. A design of the lawn system showing each zone and the max gpm of the sprinkler heads and the max time each zone should be operated at.
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3. An up dated well pump record.

Installation of a pump capable of generating gpm in excess of the long term aquifer contribution as determined in the 2-part pump test will cause a lowering of the water table. This could damage the pump and or impact adjoining properties. Leaving occupants with out water.

4. Engineer's statement of the long term effect on the aquifer and anticipated impact on this and surrounding properties.

cc: Mr. John Shelmet, owner  
Jeff at Windsor lawn sprinkler  
Walter P. Travis, Inc., Well Drilling

50/44.05

Thomas, Somerville.  
Paul Shell Drill.

908-507-7154 (Car  
phone)

is at  
Hunters Ridge Road

Lexington. It appears to  
him there may be some well drilling  
being done without driller's being  
licensed. Paul could not  
lost on Right U.P. Trunk  
Singing Hawk Syon

Log



# CONSTRUCTION PERMIT APPLICATION

Applicant Completes: Sections I, II, III (optional), IV, VI and VII

## I. IDENTIFICATION

1. Proposed Work-site at: 22 HUNTERS RIDGE DR
2. Name of Owner in Fee: JOHN SHALMUT Tel. (609) 737-7482  
Address 22 HUNTERS RIDGE DR Hopewell 08534  
street municipality zip code
3. Ownership in Fee: Public ☐ Private ☒
4. Principal Contractor: GRAZIANO PLUMBING Tel. (609) 443-1444  
Address (53 BLOCK RD) P.O. BOX 10126 TRENTON  
License No. OR, if new home, Builder Reg. No. 3898 Exp. Date \_\_\_\_\_  
Federal Emp. No. \_\_\_\_\_ Social Security No. 152-51-6380
5. Architect or Engineer WINDSOR LAWN SPRINKLER 609-396-3044  
Address P.O. BOX 9762 TRENTON, NJ 08650
6. Responsible Person in Charge of Work JEFF OR JOE Tel. 609, 443-1444

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## VI. BU

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12. Max. Oc

## II. PROPOSED WORK

1. ☐ Minor work (single trade)
2. ☐ Small Job (\$5,000 and no prior approvals)
3. ☐ New Building
4. ☐ Addition
5. ☐ Alteration
6. ☐ Fire Protection
7. ☒ Plumbing
8. ☐ Electrical
9. ☐ Elevator Devices
10. ☐ Asbestos Abatement
11. ☐ Demolition

| Est. Cost   | OPTIONAL (for office use only) |            |                |               |           |                     |
|-------------|--------------------------------|------------|----------------|---------------|-----------|---------------------|
|             | Plans Rec'd By                 | Date Rec'd | Rejection Date | Approval Date | Re-viewer | Resubmissi Approval |
| 6575        | 9-11-97                        | REN        |                | 9/12/97       | EW        |                     |
| TOTAL COSTS |                                |            |                |               |           |                     |
| 6575        |                                |            |                |               |           |                     |

III. DO YOU WANT: (optional) 1 ☐ Partial Releases 2. ☐ Prototype Processing

## IV. DOES OR WILL YOUR BUILDING CONTAIN ANY OF THE FOLLOWING?

1. ☐ Elevators/Escalators/Lifts/  
Dumbwaiters/Moving Walks
2. ☐ High Pressure Boilers
3. ☐ Pressure Vessels
4. ☐ Refrigeration Systems
5. ☐ Cross-Connections/Backflow Preventers
6. ☐ Hazardous Uses/Places of Assembly
7. ☐ Sprinklers
8. ☐ Smoke Control Systems in Open Wells
9. ☐ Underground Storage Tanks

Contractor TO have elec. Tech Card filled out. (Had given him a lawn sprinkler handout) he will return on Thursday.

Will submit a plan diagram also rec'd. 9-11-97 Stated he doesn't feel as though he needs electrical (Spoke w/ ALLEN)

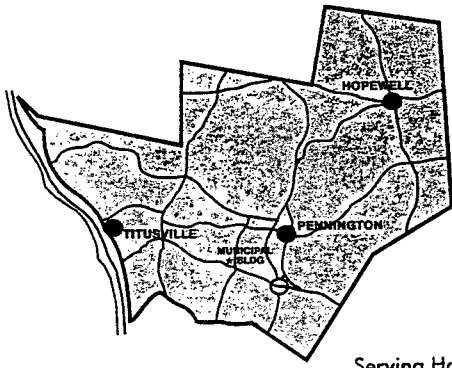
6. ☐ One-Family (R-3) BOCA  
No of dwelling units:  
Before Construction \_\_\_\_\_  
After Construction \_\_\_\_\_  
Net gain or loss \_\_\_\_\_

## B. NON-RESIDENTIAL

1. State Specific Use:

2. Use Group:

3. Change in Use Group, Indicate Former:



# TOWNSHIP of HOPEWELL

## DEPARTMENT of HEALTH

201 WASHINGTON CROSSING PENNINGTON RD. TITUSVILLE, N.J. 08560 MERCER COUNTY  
TELEPHONE 609 737-0120/737-0132 / TELEFAX NO. 737-1022

Serving Hopewell Borough  
and Pennington Borough

June 19, 1997

Palomar Associates  
51 Lower Kingston Road  
Pittstown, NJ 08867

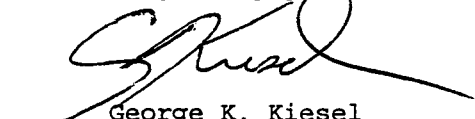
Re: Block 50 Lot 44.08

The As-Built submitted for the above referenced property has been reviewed by our office and is rejected for the following:

A Certificate of Compliance will not be issued without these items completed.

1. Mound grading was not shown.
2. Soil test locations were not shown.
3. Four corners of bed are to be located from two (2) fixed points of the dwelling.
4. Well location was not shown.
5. The as-built must be submitted on 8 1/2" x 14" sheets.

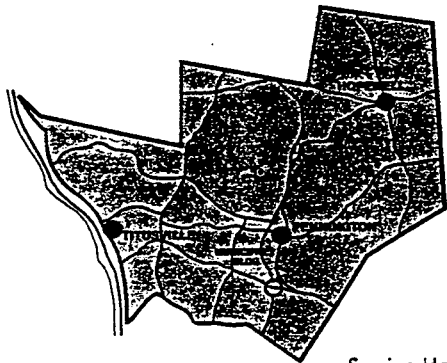
Very truly yours,



George K. Kiesel  
Senior Sanitarian

cc: Bob Bushar





Serving Hopewell Borough  
and Pennington Borough

# TOWNSHIP of HOPEWELL

## DEPARTMENT of HEALTH

201 WASHINGTON CROSSING PENNINGTON RD. TITUSVILLE, N.J. 08560 MERCER COUNTY  
TELEPHONE 609 737-0120/737-0132 / TELEFAX NO. 737-1022

November 13, 1996

Palomar Associates  
51 Lower Kingston Road  
Pittstown, NJ 08867

Re: Block 50 Lot 44.08

To Whom It May Concern:

Your application for an individual sewage disposal system for the above referenced property has been reviewed by this office and must be denied for the following reasons:

1. Soil test results were not provided for reserve area.

Very truly yours,

George K. Kiesel  
Senior Sanitarian

cc: Bob Bushar

**Bettigole Andrews & Clark, Inc.**  
Consulting Engineers

310 Main Street  
Toms River, NJ 08753  
908-349-3446  
Fax 908-286-4938

**Offices:**  
New Jersey  
New York  
New Hampshire  
Connecticut  
Massachusetts  
Pennsylvania  
Florida

January 14, 1997

Mr. George Kiesel  
Hopewell Township Health Department  
Route 546 and Scotch Road  
Titusville, NJ 08560

**RECEIVED**

**JAN 16 1997**

Hopewell Township Health Dept.

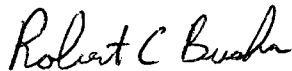
RE: Percolation Test Data  
The Fields at Pennington  
(a.k.a. Piatkowski)

Dear George:

Per your comment letter on Lot 44.08 dated November 13, 1996, enclosed please find the soil test results. Log No. 34 and Percolation Tests B and C were performed by Princeton Junction Engineering in 1987.

If you should have any questions, please do not hesitate to call.

Sincerely,



Robert C. Bushar, P.E.  
BETTIGOLE ANDREWS & CLARK, INC.

mz

enc

D:\DATA\PRDATA\WORD\PALOMAR\FIELDS\KIESEL.WPD

c: Howard Dreskin

**RECEIVED**

**JAN 16 1997**

Hopewell Township Health Dept.



RECEIVED  
JAN 16 1987  
HOPKINSON TOWNSHIP HEALTH DEPT.

# LEGEND

- SOIL LOG LOCATION
- PASSING PERC LOCATION
- FAILING PERC LOCATION
- ABANDONED SOIL LOG
- 1993 SOIL LOG LOCATION
- BASEIN FLOOD LOCATION

## PERC RESULTS

| LOT   | HOLE | DEPTH | RATE (MIN/INCH) |
|-------|------|-------|-----------------|
| LOT 1 | A    | 36"   | 27              |
|       | B    | 53"   | H.G. - SLOW     |
|       | C    | 39"   | 22              |
|       | D    | 38"   | 26              |
| LOT 2 | A    | 54"   | 13              |
|       | B    | 36"   | 41              |
|       | C    | 43"   | 14              |
| LOT 3 | A    | 43"   | 20              |
|       | B    | 41"   | 8               |
|       | C    | 44"   | 2               |
| LOT 4 | A    | 46"   | 13              |
|       | B    | 44"   | 5               |
|       | C    | 46"   | 5               |
| LOT 5 | B    | 35"   | 32              |
|       | C    | 35"   | 22              |
|       | D    | 33"   | 39              |
|       | E    | 41"   | 39              |
| LOT 6 | X    | 40"   | 20              |
|       | Y    | 57"   | 13              |
|       | Z    | 54"   | 5               |
| LOT 7 | A    | 36"   | 3               |
|       | B    | 39"   | 24              |
|       | C    | 36"   | 34              |
| LOT 8 | A    | 35"   | H.G. - ABAND.   |
|       | B    | 32"   | 8               |
|       | C    | 34"   | 23              |
| LOT 9 | A    | 31"   | 8               |
|       | B    | 34"   | 28              |
|       | C    | 31"   | 5               |

|        |     |     |               |
|--------|-----|-----|---------------|
| LOT 10 | A   | 35" | 23            |
|        | B   | 39" | 10            |
| LOT 11 | X   | 44" | H.G. - ABAND. |
|        | Y   | 46" | H.G. - ABAND. |
|        | Z   | 42" | 17            |
|        | Y-1 | 44" | 28            |
| LOT 12 | A   | 38" | 17            |
|        | B   | 41" | 13            |
| LOT 13 | A   | 39" | 4             |
|        | B   | 38" | 3             |
| LOT 14 | X   | 49" | 20            |
|        | Y   | 48" | 10            |
|        | Z   | 48" | 12            |
| LOT 15 | B   | 69" | 4             |
|        | C   | 58" | 38            |
|        | D   | 56" | 26            |
| LOT 16 | D   | 47" | H.G. - ABAND. |
|        | E   | 54" | 34            |
|        | F   | 54" | 29            |
|        | G   | 52" | 34            |
| LOT 17 | A   | 57" | H.G. - ABAND. |
|        | B   | 57" | 10            |
|        | C   | 54" | 6             |
| LOT 18 | A   | 61" | H.G. - SLOW   |
|        | B   | 64" | 4             |
|        | C   | 47" | 12            |
|        | D   | 51" | 3             |

## SOIL LOG RESULTS

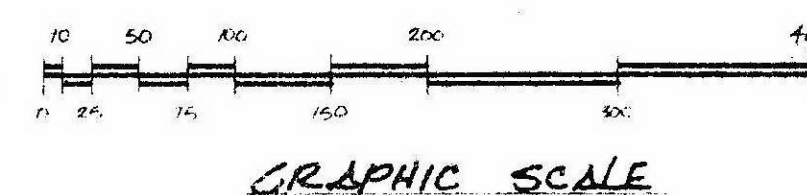
| LOT NO. | LOG NO. | DEPTH      | DESCRIPTION                                                     |
|---------|---------|------------|-----------------------------------------------------------------|
| 1       | 45      | 0" - 14"   | TOPSOIL                                                         |
|         |         | 14" - 30"  | MED. FRAC. LAYERED SHALE W/ SOME SILT 99/1                      |
|         |         | 30" - 91"  | MED. FRAC. LAYERED SHALE (HARD)                                 |
|         |         | 91"        | REFUSAL WATER                                                   |
| 2       | 44      | 0" - 12"   | TOPSOIL                                                         |
|         |         | 12" - 37"  | BR. SILTY CLAY W/ SMALL SM. MED. FRAC. SHALE W/ SOME SILTY CLAY |
|         |         | 37" - 70"  | MED. FRAC. SHALE (SHEAR WALLS LOOSE)                            |
|         |         | 70" - 120" | WATER                                                           |
| 3       | 43      | 0" - 10"   | TOPSOIL                                                         |
|         |         | 10" - 17"  | TAN SILTY CLAY                                                  |
|         |         | 17" - 33"  | RED CLAY W/ SOME SM. SHALE                                      |
|         |         | 33" - 79"  | MED. FRAC. SHALE W/ TRACES OF CLAY                              |
| 4       | 42      | 0" - 13"   | TOPSOIL                                                         |
|         |         | 13" - 32"  | BR. CLAY W/ SOME SILT                                           |
|         |         | 32" - 78"  | SM. FRAC. SHALE W/ SOME TRACES OF SILT                          |
|         |         | 78" - 108" | MED. FRAC. SHALE (BEDROCK) (WET) TIGHT                          |
| 5       | 41      | 0" - 10"   | TOPSOIL                                                         |
|         |         | 10" - 30"  | BROWNISH-RED CLAY                                               |
|         |         | 30" - 72"  | SM. MED. FRAC. SHALE W/ TRACES OF SILT                          |
|         |         | 72" - 120" | MED. LG. SHALE W/ TRACES OF CLAY (HARD) REFUSAL                 |
| 6       | 38      | 0" - 10"   | TOPSOIL                                                         |
|         |         | 10" - 54"  | GRITTY CLAY & LOAM (MOSY, LOOSE)                                |
|         |         | 54" - 118" | LG. SHALE W/ SOME GRITTY CLAY LOAM (WET, LOOSE) 84/20           |
|         |         | 118"       | WATER                                                           |
| 7       | 8       | 0" - 12"   | TOPSOIL                                                         |
|         |         | 12" - 57"  | SM. FRAC. SHALE W/ SOME CLAY                                    |
|         |         | 57" - 76"  | SM. MED. FRAC. SHALE W/ SOME CLAY                               |
|         |         | 76" - 110" | LG. TIGHT SHALE REFUSAL WATER                                   |
| 8       | 34      | 0" - 10"   | TOPSOIL                                                         |
|         |         | 10" - 35"  | BR. SILTY CLAY W/ SM. SHALE 50/50 LOOSE                         |
|         |         | 35" - 53"  | SM. SHALE W/ SOME BR. CLAY 70/30 TIGHT                          |
|         |         | 53" - 62"  | MED. SHALE W/ BR. CLAY 99/1 TIGHT                               |
| 9       | 32      | 0" - 10"   | TOPSOIL                                                         |
|         |         | 10" - 17"  | SM. MED. FRAC. SHALE W/ CLAY 70/30                              |
|         |         | 17" - 60"  | MED. FRAC. SHALE W/ CLAY 99/1                                   |
|         |         | 60"        | REFUSAL WATER                                                   |

| LOT NO. | LOG NO. | DEPTH       | DESCRIPTION                                      |
|---------|---------|-------------|--------------------------------------------------|
| 10      | 30      | 0" - 12"    | TOPSOIL                                          |
|         |         | 12" - 48"   | SM. MED. FRAC. SHALE W/ CLAY (LOOSE) (WET)       |
|         |         | 48" - 63"   | MED. LG. FRAC. SHALE W/ SOME CLAY (V. WET)       |
|         |         | 63"         | REFUSAL WATER                                    |
| 11      | 36      | 0" - 9"     | TOPSOIL                                          |
|         |         | 9" - 26"    | LT. BR. CLAY (SLIGHT MOTTLED)                    |
|         |         | 26" - 43"   | SM. SHALE W/ RED CLAY                            |
|         |         | 43" - 87"   | MED. SHALE W/ RED CLAY W/ WATER                  |
| 12      | 22      | 0" - 11"    | TOPSOIL                                          |
|         |         | 11" - 24"   | MED. FRAC. SHALE W/ SOME CLAY 70/30              |
|         |         | 24" - 90"   | MED. FRAC. SHALE W/ SOME CLAY 84/20              |
|         |         | 90"         | REFUSAL WATER                                    |
| 13      | 26      | 0" - 16"    | TOPSOIL                                          |
|         |         | 16" - 24"   | BR. CLAY                                         |
|         |         | 24" - 70"   | SM. FRAC. SHALE W/ CLAY                          |
|         |         | 70" - 92"   | MED. FRAC. SHALE W/ SOME CLAY 84/20              |
| 14      | 6       | 0" - 11"    | TOPSOIL                                          |
|         |         | 11" - 35"   | BR. CLAY                                         |
|         |         | 35" - 136"  | SM. SHALE W/ SOME CLAY                           |
|         |         | 136"        | REFUSAL WATER                                    |
| 15      | 11      | 0" - 9"     | TOPSOIL                                          |
|         |         | 9" - 48"    | BR. LOAMY CLAY                                   |
|         |         | 48" - 183"  | SM. MED. SHALE (MOSY, TIGHT IN BOTTOM)           |
|         |         | 183"        | REFUSAL WATER                                    |
| 16      | 12      | 0" - 12"    | TOPSOIL                                          |
|         |         | 12" - 50"   | BR. SILTY LOAMY CLAY                             |
|         |         | 50" - 127"  | SM. MED. SHALE (MOSY)                            |
|         |         | 127" - 140" | MED. LG. SHALE (WET)                             |
| 17      | 13      | 0" - 10"    | TOPSOIL                                          |
|         |         | 10" - 45"   | BR. CLAY                                         |
|         |         | 45" - 142"  | SM. MED. SHALE (MOSY, TIGHT)                     |
|         |         | 142"        | REFUSAL WATER                                    |
| 18      | 47      | 0" - 10"    | TOPSOIL                                          |
|         |         | 10" - 41"   | BR. CLAY W/ TRACES OF SM. MED. FRAC. SHALE       |
|         |         | 41" - 80"   | SM. MED. FRAC. SHALE W/ SOME BROOKLYN CLAY 70/30 |
|         |         | 80" - 102"  | PURPLE FRAC. SHALE W/ TRACES OF SILTY CLAY 99/1  |

NOTE: SOIL LOGS PERFORMED BY D. GEOFFREY BROWN, P.E. #24327 DURING THE FOLLOWING DATES: FEB. 9-11, MARCH 2-4, APRIL 8-11, 1987. WITNESSED BY GEORGE.

PERC TESTS PERFORMED BY D. GEOFFREY BROWN, P.E. #24327 BETWEEN JULY 20-31, 1987. WITNESSED BY GEORGE.

|                                                                                 |       |
|---------------------------------------------------------------------------------|-------|
| ARNOLD RYDEN, JR. PROFESSIONAL LAND SURVEYOR                                    |       |
| D. GEOFFREY BROWN PROFESSIONAL ENGINEER #24327                                  |       |
| PRINCETON JCT. ENGINEERING PROFESSIONAL ENGINEERS & LAND SURVEYORS              |       |
| P.O. BOX 223 NORTH POST RD. PRINCETON JUNCTION, NEW JERSEY 08550 (609) 799 1906 |       |
| OF LOT 44, BLOCK 55, FOR ALEXANDER A. PLUTH                                     |       |
| HOPKINSON TOWNSHIP, MERCER COUNTY (609) 799 1963                                |       |
| DATE 7/2/87                                                                     | SCALE |
| REV                                                                             | DATE  |





No 11838

12/28

19 89

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

PERMIT

PERMISSION IS HEREBY GRANTED TO Alexander A. Piatkowski

TO Construct a Sewage Disposal System

AT Block 50 Lot 44-Proposed #8

NATURE OF PROPOSED WORK To Construct a Sewage Disposal System

THIS PERMIT WILL EXPIRE

JANUARY 1, 1992

FEE 100.00

NON-TRANSFERABLE

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

BY [Signature]

CALL BEFORE YOU DIG  
1-800-272-1000  
FOR UTILITY LOCATIONS.

*File Copy*

APPLICATION FOR SEWAGE DISPOSAL SYSTEMS

Applicant ALEXANDER A. PIATKOWSKI Block 50 Lot 44 (PRELIM. 8)  
Mailing Address 1364 DUETZ AVENUE Location HUNTERS RIDGE DRIVE  
TRENTON, NJ 08611 Size of Lot 94,103 Square Feet  
Phone # (Home) 392-1812 (Work) \_\_\_\_\_ Zoning Designation R-200  
Builder if different than above \_\_\_\_\_ Phone # \_\_\_\_\_  
Mailing Address \_\_\_\_\_ #11838  
Signature of Applicant AA. Piatkowski Date \_\_\_\_\_  
Fee \$ 160.<sup>00</sup> Date Received \_\_\_\_\_  
Type of Construction or Usage RESIDENTIAL  
Number of Bedrooms 5 Gal/Day if Commercial \_\_\_\_\_  
Water Source WELL Square Footage of Bldg. \_\_\_\_\_

SOIL TEST RESULTS

| Hole No. | Perc Test Results |                  | Depths           | Soil Log # <u>34</u><br>Description of Soil Encountered |
|----------|-------------------|------------------|------------------|---------------------------------------------------------|
|          | Depth             | Rate Min/In      |                  |                                                         |
| <u>A</u> | <u>35"</u>        | <u>ABANDONED</u> | <u>0" - 10"</u>  | <u>TOPSOIL</u>                                          |
| <u>B</u> | <u>32"</u>        | <u>8</u>         | <u>10" - 35"</u> | <u>BROWN SILTY CLAY WITH SMALL SHALE 50/50 LOOSE</u>    |
| <u>C</u> | <u>34"</u>        | <u>23</u>        | <u>35" - 53"</u> | <u>SMALL SHALE WITH SOME BROWN CLAY 70/30 TIGHT</u>     |
|          |                   |                  | <u>53" - 62"</u> | <u>MEDIUM SHALE WITH BROWN CLAY 90/10 TIGHT</u>         |

Date of Perc Tests 4-14-87  
Date of Soil Logs 3-4-87  
Professional Firm PRINCETON JCT. ENGINEERING CO.  
Test Conducted by ROBIN RITTENHOUSE  
Witnessed By GEORGE  
Design Certified By: [Signature]  
(Signature of Professional Engineer)  
License # 24327  
Date 12-28-80  
Depth to Bedrock 62"  
Depth to Seasonal High Water Table 52"  
Determined by (check one):  
a) Physical Measurement ☒ Jan 1 - May 15  
b) Soil Maps ☐ List Below  
c) Soil Detail ☐ Describe Below

SYSTEM DESIGN SHALL COMPLY WITH N.J.D.E.P. STANDARDS FOR THE CONSTRUCTION OF INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM AND HOPEWELL TOWNSHIP SEWAGE DISPOSAL ORDINANCE.

No. of Bedrooms 5 X 255 Square Footage/Bedroom = 1275 Square Feet  
Tank(s) Size 1250 GAL. Square Footage Designed 1277.5  
Installer \_\_\_\_\_ Phone # \_\_\_\_\_  
Address \_\_\_\_\_

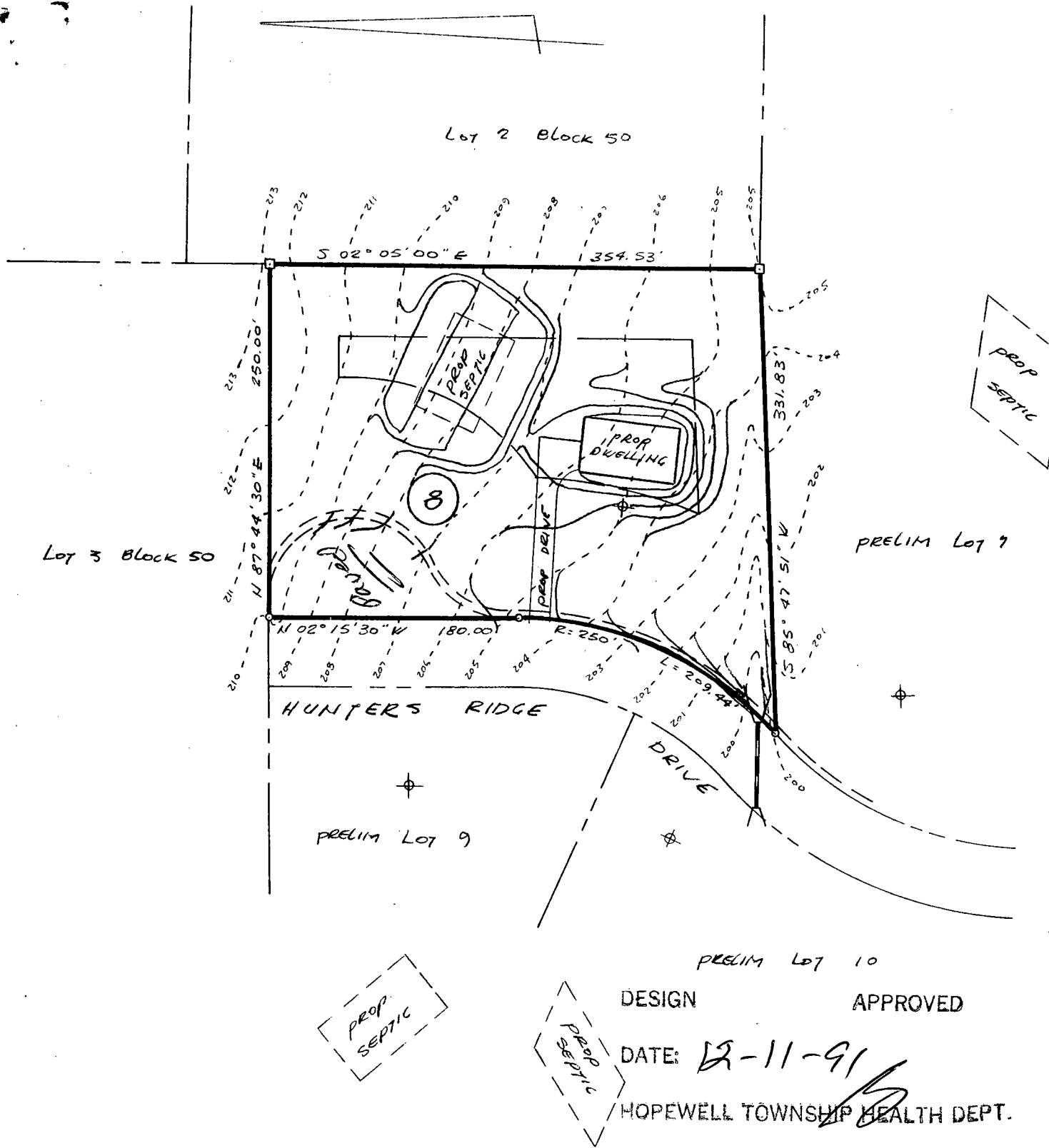
Three copies of Design to be submitted on 8 1/2" x 14" sheets.  
Minimum Distance to all Water Courses, Flood Plains and Wells, 100 feet unless approved by Administrative Authority.  
Distance to other disposal systems on adjacent lots - 50 feet minimum.  
Expansion attics require additional design area square footage.  
Garbage disposals require 25% over design and an additional tank in series.  
Distance to foundations and foundation drains, etc. 25 feet minimum.  
Pump design to include pitless adapter, pump size and model, and minimum wet well size.

Application Approved \_\_\_\_\_ Date 12-11-91  
Installation Approved \_\_\_\_\_ Date \_\_\_\_\_  
As Built Approved \_\_\_\_\_ Date \_\_\_\_\_

RECEIVED

DEC 28 1989

HOPEWELL TOWNSHIP HEALTH DEPT.



LEGEND

- PERC TEST
- SOIL LOG
- ⊕ PROP WELL

- NOTE: 1. SUMP PUMP DISCHARGE LINE TO BE CONNECTED TO STORM SEWER, IF POSSIBLE.
2. IF 4 BEDROOM DWELLING IS PROPOSED, SEPTIC SYSTEM MAY BE REDUCED TO 1020 SF.

ARNOLD RYDEN, JR. PLS # 21223

| SHEET | BLOCK | LOT       |
|-------|-------|-----------|
|       | 50    | 44 (P. 8) |

**PRINCETON JCT. ENGINEERING CO.**  
 PROFESSIONAL ENGINEERS & LAND SURVEYORS  
 P.O. BOX 223 NORTH POST RD.  
 PRINCETON JUNCTION, NEW JERSEY 08550  
 (609) 799 1906 (609) 799 1963

PLOT PLAN & SEPTIC DESIGN  
 OF PRELIM Lot 8, FOR  
 ALEXANDER A. PIATKOVSKI  
 HOPEWELL TWP MERCER CO. N.J.

FRANK L. QUINN  
 BRYCE M. RITTENHOUSE  
 ARNOLD RYDEN, JR.  
 D. GEOFFREY BROWN  
 WESLEY J. LANE  
 KENNETH SMITH  
 FRANK J. FALCONE

| P.E. & P.L.S. | NO.   |
|---------------|-------|
| P.E. & P.L.S. | 13453 |
| P.E. & P.L.S. | 21223 |
| P.E. & P.L.S. | 24327 |
| P.E. & P.L.S. | 30747 |
| P.E. & P.L.S. | 30346 |
| P.E. & P.L.S. | 32112 |

DRAWN  
MDK  
CHECK  
ARJR  
REV.

DATE  
12.28.89  
SCALE  
1"=100'

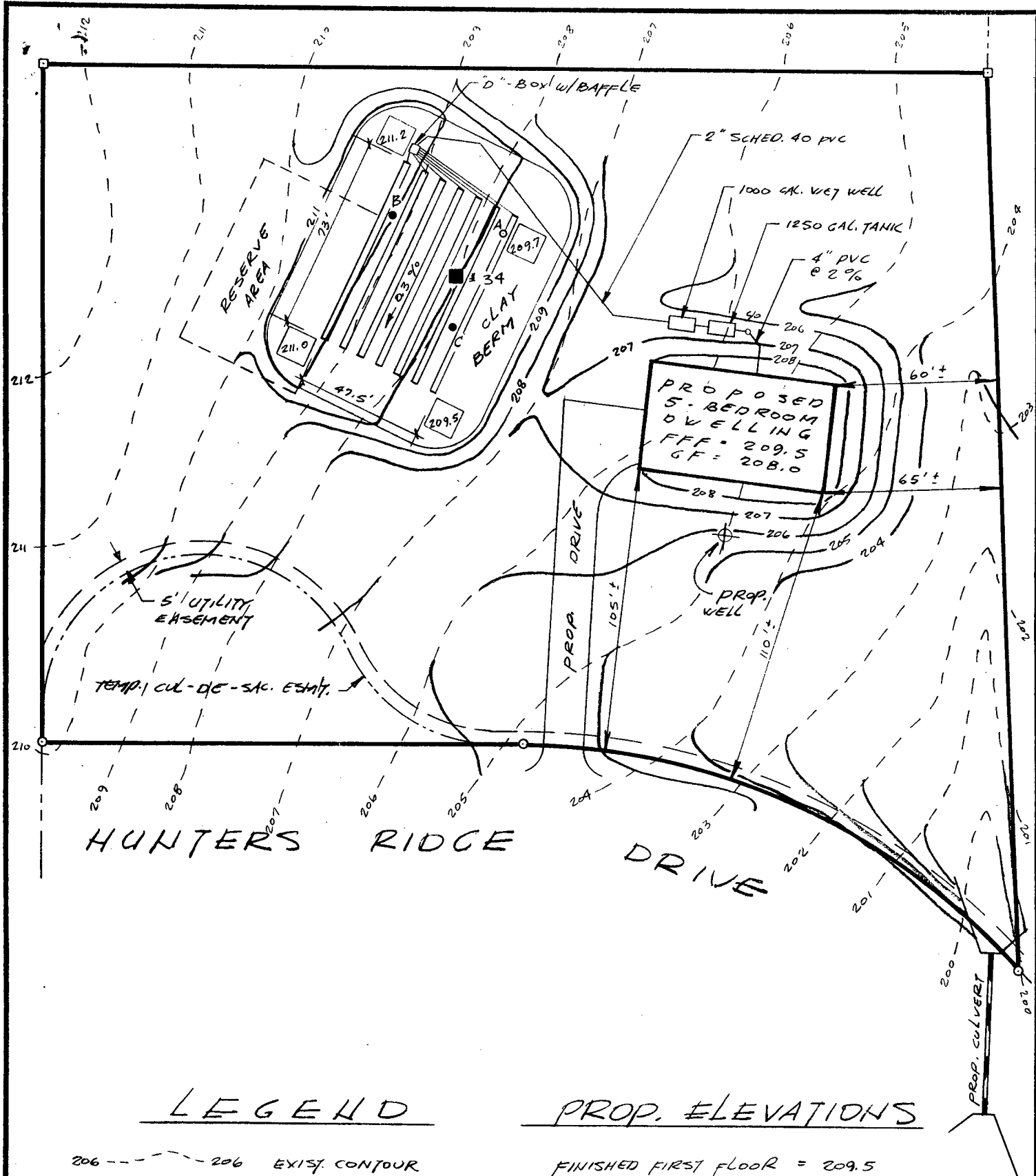
CERTIFIED AS CORRECT TO:

D. GEOFFREY BROWN  
 PE # 24327

*Arnold Ryden, Jr.*

12/28/89  
 DATE

*D. Geoffrey Brown*



## LEGEND

- 206 --- 206 EXIST. CONTOUR
- 206 ——— PROP. CONTOUR
- 209.5 PROP. ELEVATION
- B PERC TEST
- #34 SOIL LOG

## PROP. ELEVATIONS

- FINISHED FIRST FLOOR = 209.5
- GARAGE FLOOR = 208.0
- INVERT OUT = 204.0
- TANK: INV IN = 203.5
- INV OUT = 203.3
- WET WELL: INV IN = 203.2
- DISTRIBUTION BOX = 210.2

ARNOLD RYDEN, JR. p.l.s. #21223

| SHEET | BLOCK | LOT      |
|-------|-------|----------|
|       | 50    | 44 (P-8) |

**PRINCETON JCT. ENGINEERING CO.**  
 PROFESSIONAL ENGINEERS & LAND SURVEYORS  
 P.O. BOX 223 NORTH POST RD.  
 PRINCETON JUNCTION, NEW JERSEY 08550  
 (609) 799 1906 (609) 799 1963

PLOT PLAN DETAIL  
 OF PRELIM LOT B, FOR  
 ALEXANDER A. PIATKOWSKI  
 HOPEWELL TWP MERCER CO. NJ

FRANK L. QUINCY  
 BRYCE M. RITTENHOUSE  
 ARNOLD RYDEN, JR.  
 D. GEOFFREY BROWN  
 WESLEY J. LAINE  
 FRANK J. FALCONE

P.E. & P.L.S.  
 P.E. & P.L.S.  
 P.E. & P.L.S.  
 P.E. & P.L.S.

NO. 13453  
 NO. 21223  
 NO. 24327  
 NO. 30747  
 NO. 32112

DRAWN  
 MDK  
 CHECK  
 ARJn  
 REV.

DATE  
 12.28.89  
 SCALE  
 1"=50'

CERTIFIED AS CORRECT TO:

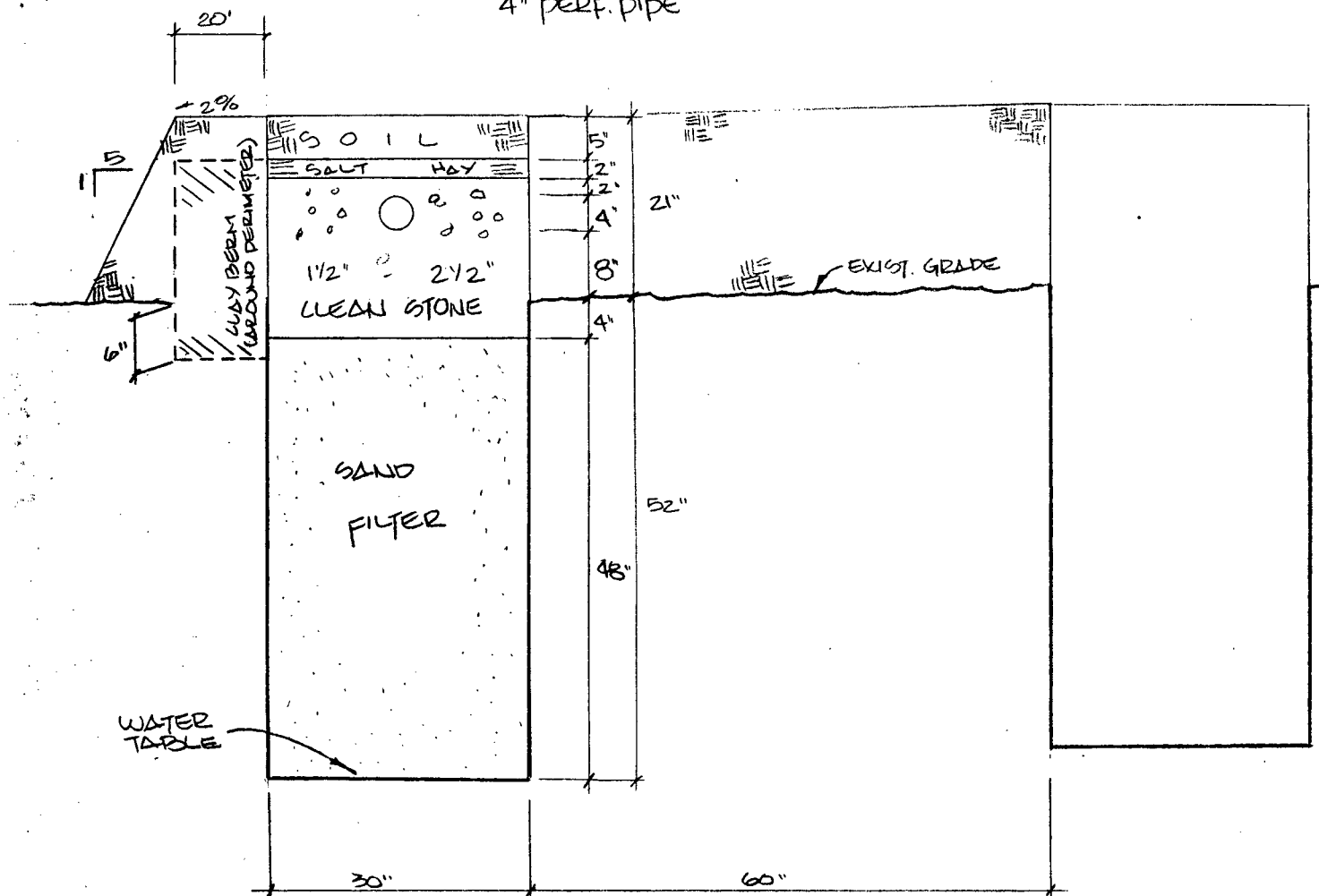
D. GEOFFREY BROWN  
 PE # 24327

*Arnold Ryden, Jr.*

12/28/89  
 DATE

*D. Geoffrey Brown*

4" PERF. PIPE



TRENCH DETAIL

N.T.S

NOTE

Filter sand shall have a clay content (finer than .002mm) which shall not be less than 5% or more than 12% (by weight) of the portion of soil finer than 2.0mm. Coarse fragments larger than 1/4 inch diam. shall not exceed 15% by volume of the material used for sandy filters.

WEL WELL DATA

PITLESS ADAPTER REQUIRED  
ALARM ELEVATION = 202.7

1000 GAL. MIN.

3/4 H.P. PUMP MIN.

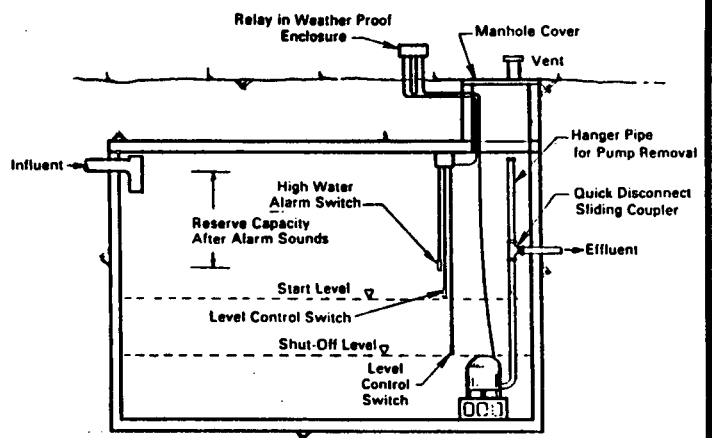
INVERT IN = 203.2

BOTTOM ELEVATION = 200.7

PUMP RANGE = 200.7 - 202.2

VISUAL & AUDIBLE ALARM REQ

TYPICAL DOSING CHAMBER WITH PUMP



D. GEOFFREY BROWN PE # 24327

SHEET

BLOCK

LOT

50

44(P-8)

PRINCETON JCT. ENGINEERING CO.

PROFESSIONAL ENGINEERS & LAND SURVEYORS

P.O. BOX 223 NORTH POST RD.

PRINCETON JUNCTION, NEW JERSEY 08550

(609) 799 1906

(609) 799 1963

SEPTIC DETAILS

OF PRELIM LOT 8, FOR

ALEXANDER A. PIATKOVSKI

HOPWELL TWP MERCER CO. NJ

FRANK L. QUINN  
BRYCE M. RITTENHOUSE  
ARNOLD RYDEN, JR.  
D. GEOFFREY BROWN  
WESLEY J. LANE  
KEVIN M. SMITH  
FRANK J. FALCONE

P.E. & P.L.S. NO. 11093  
P.E. & P.L.S. NO. 13453  
P.L.S. NO. 21223  
P.E. P.L.S. NO. 24327  
P.L.S. NO. 30747  
P.E. NO. 30348  
P.L.S. NO. 32112

DRAWN

LSK

CHECK

REV.

DATE

12.28

89

SCALE

NONE

CERTIFIED AS CORRECT TO:

DATE



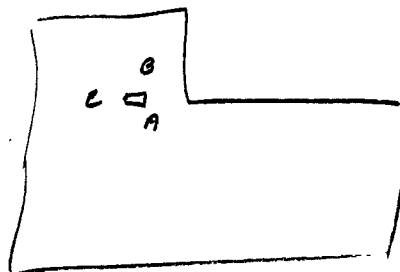
# SOIL LOG AND PERCOLATION TESTS

OWNER/DEVELOPER PIATKOWSKI  
 LOCATION Bond Rd + Penn - Titusville Rd  
 ENGINEER Arnold Ryden Roy  
 DATE OF LOG \_\_\_\_\_ DATE OF PERC 4-15-87

BLOCK 50  
 LOT 44  
 INSPECTOR [Signature]  
 DEPTH OF GROUND WATER \_\_\_\_\_

## SOIL LOG

LOCATION: SOIL LOG & PERC TESTS



HOLE # 348

HOLE # 340

| STABILIZATION    |        |   |
|------------------|--------|---|
| DEPTH: <u>32</u> |        |   |
| TIME             | INCHES |   |
| 3:43             | 0      |   |
| 3:53             | 6      | 6 |
| 3:53             | 0      |   |
| 4:03             | 5      | 5 |
| 4:03             | 0      |   |
| 4:13             | 5      | 5 |
| 4:13             | 0      |   |
| 4:23             | 5      | 5 |
| 4:23             | 0      |   |
| 4:33             | 5      | 5 |
| 4:33             | 0      |   |
| 4:43             | 5      | 5 |
|                  |        |   |
|                  |        |   |

1/7.8

| TEST   |        |
|--------|--------|
| DEPTH: |        |
| TIME   | INCHES |
| 4:34   | 0      |
| 5:00   | 5 1/4  |
| 5:38   | 7      |
|        |        |
|        |        |
|        |        |
|        |        |
|        |        |

RATE:

1/7.8

| STABILIZATION    |        |       |
|------------------|--------|-------|
| DEPTH: <u>34</u> |        |       |
| TIME             | INCHES |       |
| 3:44             | 0      |       |
| 3:54             | 3 1/2  | 3 1/2 |
| 3:54             | 0      |       |
| 4:04             | 3      | 3     |
| 4:04             | 0      |       |
| 4:14             | 2 3/4  | 2 3/4 |
| 4:14             | 0      |       |
| 4:24             | 2 3/4  | 2 3/4 |
| 4:24             | 0      |       |
| 4:34             | 2 3/4  | 2 3/4 |
| 4:34             | 0      |       |
| 4:44             | 2 3/4  | 2 3/4 |
|                  |        |       |
|                  |        |       |

RATE:

1/22.6

| TEST   |        |
|--------|--------|
| DEPTH: |        |
| TIME   | INCHES |
| 4:44   | 0      |
| 5:00   | 3      |
| 7:00   | 6      |
|        |        |
|        |        |
|        |        |
|        |        |
|        |        |

**PERCOLATION TEST RESULTS**

ORDERED BY TOM PIATKOVSKI DATE 3-4-87  
4-14-87  
FOR TOM PIATKOVSKI WEATHER 70° SUNNY  
120 HARCOURT DRIVE SHEET \_\_\_\_\_  
HAMILTON N.J. 08610 BLOCK 50  
MUNICIPALITY HOPEWELL TWP LOT 44  
PRELIM Log 8

NO. OF TEST HOLES \_\_\_\_\_

NO. OF TESTS TO DETERMINE SATURATION \_\_\_\_\_  
RESULTS IN MINUTES PER INCH

**COMMENTS:**

| HOLE | DEPTH | RATE         | REMARKS   |
|------|-------|--------------|-----------|
| A    | 35"   | -            | ABANDONED |
| B    | 32"   | 1" IN 8 MIN  |           |
| C    | 34"   | 1" IN 23 MIN |           |

D. Geoffrey Brown 8/17/87

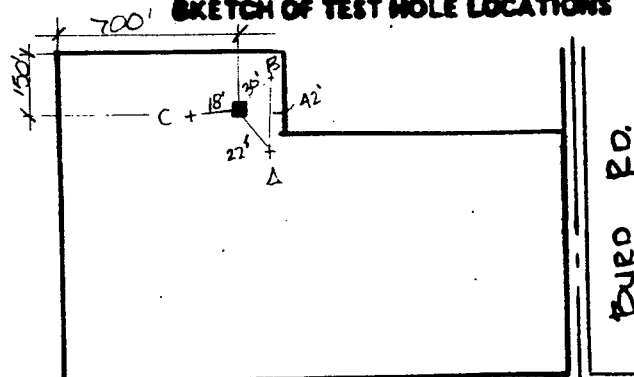
P.E. LIC. NO. 24327

DATE

D. GEOFFREY BROWN

WITNESS: GEORGE

**SKETCH OF TEST HOLE LOCATIONS**



PENNINGTON HARBOURTON RD.

**SOIL LOG**

LOG # 34

0"-10" TOP SOIL  
10"-35" BROWN SILTY CLAY - W/ - SMALL SHALE 50/50 LOOSE  
35"-53" SMALL SHALE W/ S BROWN CLAY 70/30 TIGHT  
53"-62" MED SHALE W/ BROWN CLAY 90/10 TIGHT

REFUSAL  
SEEPAGE @ 52" (F)

**PRINCETON JUNCTION ENGINEERING CO.**  
**PROFESSIONAL ENGINEERS AND LAND SURVEYORS**  
NORTH POST ROAD, P.O. BOX 223  
PRINCETON JUNCTION, N.J. 08560

800-799-1808

800-799-1863

**PERCOLATION TEST RESULTS**

ORDERED BY TOM PIATKOWSKI

DATE 3-4-87 LOG  
4-14-87 PERCS

FOR TOM PIATKOWSKI

WEATHER 70° SUNNY

120 HARCOURT DRIVE

SHEET           

HAMILTON H.U. 08610

BLOCK 50

MUNICIPALITY HOPEVELL TWP

LOT 44

PRELIM Log 8

NO. OF TEST HOLES           

NO. OF TESTS TO DETERMINE SATURATION             
RESULTS IN MINUTES PER INCH           

**COMMENTS:**

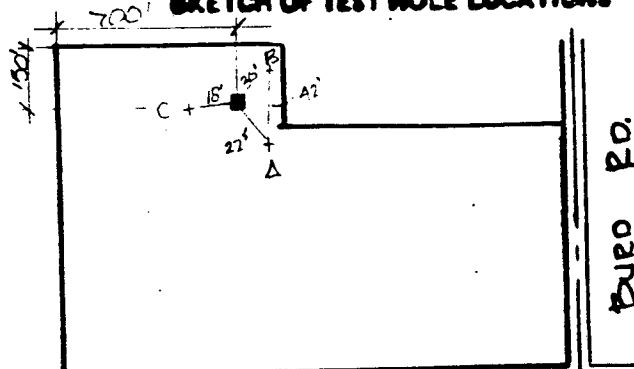


| HOLES | DEPTH | RATE         | REMARKS   |
|-------|-------|--------------|-----------|
| A     | 35"   | -            | ABANDONED |
| B     | 32"   | 1" IN 8 MIN  |           |
| C     | 31"   | 1" IN 23 MIN |           |

D. Geoffrey Brown  
P.E. LIC. NO. 24327  
D. GEOFFREY BROWN  
DATE 9-19-88

WITNESS: GEORGE

**SKETCH OF TEST HOLE LOCATIONS**



**SOIL LOG**

LOG # 34

0"-10" TOP SOIL  
10"-35" BROWN SILTY CLAY - w/ - SMALL SHALE 50/50 LOOSE  
35"-53" SMALL SHALE w/ BROWN CLAY 70/30 TIGHT  
53"-62" MED SHALE w/ BROWN CLAY 90/10 TIGHT

REFUSAL

SEE PAGE 652" (F)

WATER TABLE DETERMINED BY  
WET SEASON INVESTIGATION

Piatkowski

Log# 34

PRDF  
3/4/87  
3350 Snowy  
INSPECTOR GEORGE  
HUTWELL/TWD

0-10 Top Soil

10-35 Brown silty clay w/ small shale 50/50 loose

35-53 small shale w/s Brown clay 70/30 tight

53-62 med shale w/ Brown clay 90/10 tight

Refusal

Seepage @ 52" (F)

LOG# 35

0-7" TOP SOIL

7-30' SM - MED FRAC SHALE - w- CLAY 70/30 HARD

30'-60' LARGE FRAC SHALE - w- SOME CLAY 70/10 HARD

REFUSAL

SEEPAGE @ 20" (M)

Log# 36

0-9 Top Soil

9-26 Lt brown clay slight mottles

26-43 Small shale w/ Red clay 50/50

43-87 MED SHALE w/ Red clay 50/50

Seepage @ 66 (F)

Log# 37

0-10 TOP SOIL

10-28 sm fine shale w/ CLAY 60/40 (moist) (Loose)

28-56 md shale w/ clay 70/30 (WET, TIGHT)

Refusal

Seepage @ 28" (F)



# TOWNSHIP of HOPEWELL

## DEPARTMENT of HEALTH

201 WASHINGTON CROSSING PENNINGTON RD. TITUSVILLE, N.J. 08560 MERCER COUNTY  
TELEPHONE 609 737-0120/737-0132 / TELEFAX NO. 737-1022

Serving Hopewell Borough  
and Pennington Brough

December 11, 1991

Alexander A. Piatowski  
1364 Duetz Ave.  
Trenton, NJ 08611

Re: Block 50 Lot 44.08

To whom it may concern:

Your application for an onsite subsurface sewage disposal system has been approved with the following conditions:

**\* Special Condition for Designs submitted prior to 1-1-90**

1. This permit expires on January 1, 1992 unless an extension is granted by the Board of Health.
2. This design is based upon receiving final subdivision approval without lot configuration changes resulting from NJDEP wetlands determination or any other reasons.
3. Any engineering changes to this plan will result in a revision meeting both 1990 Township and State standards. A tested reserve area will be required if revised.
4. This design is based upon design standards in effect prior to February 1988 and does not comply with current technology (NJAC 7:9A).
5. This permit is not transferable. A new application and permit fee (\$100) must be submitted with three (3) copies of the previously approved design with a new title block. All other changes will require updating as noted in #2 above.
6. Perspective property purchasers should consult with their professional engineer as to their professional opinions regarding adequacy of these soil tests and this design. Also, the possibility of retesting and redesigning to meet their lot development plan, NJAC 7:9A and Township ordinance 16-12.

**\* Other specific conditions pertaining to this lot and permit:**

1. Prior to applying for a building permit a well must be drilled and tested for yield base on Township ordinance 16-6.

2. Floor plans must be submitted prior to applying for a building permit.
3. This office reserves the right to require changes to this design as field conditions may warrant.
4. 1250 gallon pump tank is required for design with 5 bedrooms.
5. Based on know soil conditions, retesting and redesigning under new State NJAC 7:9A is recommended.
6. Reverse driveway and house detail to avoid septic area and provide adequate turn around area.

**\* General conditions of approval for all systems**

1. A copy of this letter must be forwarded to your construction contractor and sewage disposal installer prior to installation of said system.
2. The house location must be staked by a licensed surveyor or professional engineer to assure proper location and elevation as represented on the attached plan.
3. The sewage disposal system must be located and staked prior to installation by a licensed surveyor or professional engineer to guarantee the proper alignment of the system in the area of the soil tests, and to insure it will conform to all site restrictions as represented on the attached design.
4. The required elevation of the sewage disposal system should be verified by the licensed professional engineer or surveyor, the builder and the plumbing contractor as it relates to the foundation height, the point where the sewer line exits the dwelling and the height of the septic tank. If this is a gravity system and the minimum height of the sewer line is not maintained, an ejector system will be required after the septic tank.
5. An onsite conference is required with your installer and a representative from this office prior to installation of any part of this system. This should avoid any problem during the installation which can be costly to all parties concerned.
6. The design engineer must be notified at the beginning of the installation. Field measures must be made for the required as-built design, and grading plan certifications. The as-built must show soil test location, distances to the tank and D-box as measured from two fixed points, also, any changes caused by site conditions, construction changes and installation problems. If this is a raised system, the as-built grading plan must be certified by the engineer that it is as designed, showing all inverts and contour lines. The as-built will provide a detailed location of the installed system so it can be located once it is covered.
7. No excavating machinery shall be permitted in the excavation during

construction. A Track hoe must be used to dig the excavation. Sand must be available at the start of construction to cover the bottom and to protect open fractures etc.

8. All trees within 10 feet of a conventional disposal system or within the area of the extended clay fill and sloped area of a raised disposal/mound system must be removed.

9. All phases of construction of the disposal system must be inspected by the Health Department. It is your responsibility (or your contractors) to notify the Health Department by no later than 9:00 a.m. on every day that construction is underway so inspections can be scheduled. Systems will be dug up if not inspected by this office!

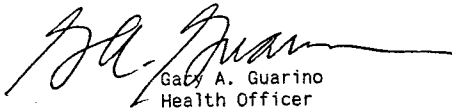
10. A certificate of occupancy will not be issued if the system is not completed and the grades certified. Raised systems must be stabilized. All systems must be seeded or sodded and have established vegetative growth.

11. All septic tanks must comply with new tank requirements and also be provided with locking manhole access lids to final grade as required by NJDEP 7:9A.

12. All sand and clay fill must be stock piled on site and certified by a licensed laboratory or by the design engineer once in place using a perc test.

Effective January 1, 1990 the New Jersey Department of Environmental Protection enacted a law requiring the certification and licensing of sewage disposal systems.

Very truly yours,



Gary A. Guarino  
Health Officer

cc: Princeton Junction Engineering