Groundwater & Wastewater Services
Septic Project File & Data Review Worksheet

GWS File #: 7472B  WASPS App #: 2973

Primary ES assigned to project: PW

Secondary ES assigned to project:

Project Type: New System ☑ Alteration ☐ Repair ☐ Modified Plot Plan ☐

I. File Review:

| Rule or Law | | | | |
|---|---|---|---|---|
| | **Permit Application** | | | |
| .1937(d) | Is the Application complete | Yes ☑ | No ☐ | N/A ☐ |
| .1937(d) | Is there a Site plan/Plat with application | Yes ☑ | No ☐ | N/A ☐ |
| .1937(d) | Is the Facility shown? | Yes ☑ | No ☐ | N/A ☐ |
| .1937(d) | Are appurtenances shown | Yes ☑ | No ☐ | N/A ☐ |
| | **Site Evaluation Information** | | | |
| .1939 (a)(1) | Topography and Landscape Position Recorded? | Yes ☑ | No ☐ | N/A ☐ |
| .1940 (a-g) | Slope % Recorded? | Yes ☑ | No ☐ | N/A ☐ |
| .1939 (a)(2) | Texture Class Recorded? | Yes ☑ | No ☐ | N/A ☐ |
| .1939 (a)(2) | Structure type Recorded? | Yes ☑ | No ☐ | N/A ☐ |
| .1939 (a)(2) | Consistence Recorded? | Yes ☑ | No ☐ | N/A ☐ |
| .1939 (a)(2) | Mineralogy Recorded? | Yes ☑ | No ☐ | N/A ☐ |
| .1939 (a)(3) | Soil Wetness Condition Recorded? | Yes ☐ | No ☐ | N/A ☑ |
| .1939 (a)(4) | Soil Depth to Rock or Parent Material Recorded When Encountered | Yes ☐ | No ☐ | N/A ☑ |
| .1939 (a)(5) | Depth to Restrictive Horizons Recorded When Encountered? | Yes ☐ | No ☐ | N/A ☑ |
| .1939 (a)(6) | Sufficient Available Space Recorded? | Yes ☑ | No ☐ | N/A ☐ |
| .1937(m) | Are the Profile Locations Shown? | | | |
| .1939(a) | Are the S/PS Profiles in system & in repair area? | Yes ☑ | No ☐ | N/A ☐ |
| & .1945(b) | Number of auger borings made: 4 | | | |
| | Were sufficient auger borings made? | Yes ☑ | No ☐ | N/A ☐ |
| .1939(d), .1955, .1956, .1957 | LTAR 3 | Yes ☑ | No ☐ | N/A ☐ |
| | **Improvement Permit/Construction Authorization** | | | |
| .1937(g) 130A-336(a) | Proposed System Type stated-Initial | Yes ☑ | No ☐ | N/A ☐ |
| .1945(b) | Proposed System Type stated-Repair | Yes ☑ | No ☐ | N/A ☐ |
| 130A-336 (a)(3) | System location identifiable by setbacks - Initial | Yes ☑ | No ☐ | N/A ☐ |
| .1937(g) .1945(b) | System components shown – Initial | Yes ☑ | No ☐ | N/A ☐ |
| .1945(b) | Repair area shown | Yes ☑ | No ☐ | N/A ☐ |
| .1937 (f)(g). | Does System design match facility, flow & WWcharacteristics? | Yes ☑ | No ☐ | N/A ☐ |
| .1937 (f)(g) | Is System design consistent with soil/site conditions? | Yes ☑ | No ☐ | N/A ☐ |
| .1937 (f)(g) | Is the System located in the approved area? | Yes ☑ | No ☐ | N/A ☐ |
| 130A-336(a) | Is the Design flow (gpd) indicated? | Yes ☑ | No ☐ | N/A ☐ |

| | | | | |
|---|---|---|---|---|
| [illegible](a) | Number of Bedrooms, employees, seats, etc. indicated? | | | |
| .1937(g) | Trench depth indicated? | Yes ☑ | No ☐ | N/A ☐ |
| .1937(g) | Trench width indicated? | Yes ☑ | No ☐ | N/A ☐ |
| .1937(g) | Trench length indicated? | Yes ☑ | No ☐ | N/A ☐ |
| 130A-336(a)(1) | Proposed/existing well shown? | Yes ☑ | No ☐ | N/A ☐ |
| 130A-336(a)(1) | Property line lengths shown? | Yes ☑ | No ☐ | N/A ☐ |
| 130A-336(a) | Facility/appurtenance setbacks shown from fixed points? | Yes ☑ | No ☐ | N/A ☐ |
| | Operation Permit | | | |
| .1937(i) | System type as described in table V(a) of rule .1961 | Yes ☐ | No ☐ | N/A ☐ |
| .1937(i) | Conditions for system performance, operation, maintenance, monitoring and reporting. | Yes ☐ | No ☐ | N/A ☐ |

II. WASPS Review:

| | | | |
|---|---|---|---|
| Construction authorization issued | Yes ☐ | No ☐ | N/A ☐ |
| Installation approval issued | Yes ☐ | No ☐ | N/A ☐ |
| Operation permit issued | Yes ☐ | No ☐ | N/A ☐ |
| Other related documentation | Yes ☐ | No ☐ | N/A ☐ |

# Items requiring correction/modification: _____

Comments:

IA issued date: _____

OP issued date: _____

Review performed by: ICR

Date performed: 3-19-08

BM

FILE NUMBER: 7472B

SEPTIC FEE: 200.00
DATE: 11/8/07
Check# 37861

Revised On: January 3, 2007

APPLICATION NUMBER: 2973

**MECKLENBURG COUNTY GROUNDWATER & WASTEWATER SERVICES**
**APPLICATION FOR A RESIDENTIAL SITE IMPROVEMENT PERMIT/ CONSTRUCTION AUTHORIZATION FOR AN ON-SITE WASTEWATER SYSTEM, NEW WELL INSTALLATION, OR REPAIR OF EXISTING WELL**

WELL FEE: _____
DATE: _____

1. SEPTIC / TYPE APPLICATION: ☐ NONE ☒ NEW SYSTEM ☐ ALTERATION ☐ REPAIR ☐ MODIFIED PLOT PLAN

2. WELL / TYPE APPLICATION: ☐ NONE ☐ NEW WELL ☐ MAJOR REPAIR ☐ ABANDONMENT

3. JOB LOCATION INFORMATION:

TAX PARCEL NUMBER: 00333101, 00304103 (Part of 00333102)
STREET ADDRESS: 3513 Grey Road
CITY: Davidson
STATE: NC ZIP: 28036
SUBDIVISION NAME: ABERSHAM
LOT #: 24 LOT SIZE (acres): 2.05 acres
TOWNSHIP:
☐ 0-MECKLENBURG ☐ 3-CORNELIUS ☐ 6-HUNTERSVILLE
☐ 1-CHARLOTTE ☐ 4-PINEVILLE ☐ 7-MINT HILL
☒ 2-DAVIDSON ☐ 5-MATTHEWS

4. BUILDING INFORMATION:

BUILDING TYPE:
☐ SINGLE MOBILE HOME ☐ MODULAR HOME
☐ DOUBLE WIDE ☐ MULTIPLE FAMILY
☒ HOUSE ☐ OTHER _____
HEATED SQUARE FOOTAGE:
NUMBER OF BEDROOMS: 6
NUMBER OF OCCUPANTS: 12 maximum
FOUNDATION TYPE:
☐ CONCRETE SLAB ☒ BASEMENT WITH PLUMBING
☐ CRAWL SPACE ☐ BASMENT WITH NO PLUMBING

5. IF PLANNING TO EXPAND OR ALTER THE EXISTING SYSTEM PLEASE COMPLETE THE FOLLOWING SECTION: ☒ N/A
NUMBER OF BEDROOMS TO BE ADDED: _____ NUMBER OF ADDITIONAL OCCUPANTS IN THE RESIDENCE: _____

6. WATER SUPPLY: ☐ MUNICIPAL ☐ PUBLIC WELL ☒ PRIVATE WELL ☐ SHARED WELL ☐ SPRING

7. PROPOSED USE OF WELL: ☒ N/A ☐ IRRIGATION ☐ POTABLE ☐ GEOTHERMAL ☐ OTHER

8. PLEASE INDICATE AND RANK DESIRED SEPTIC SYSTEM TYPE(S) IN ORDER OF PREFERENCE *(1-MOST DESIRED 5-LEAST DESIRED)*:

8A. RANK: ☐ ANY TYPE ☒ CONVENTIONAL 1 ☒ ACCEPTED 2 ☒ INNOVATIVE 3 ☒ ALTERNATIVE 4 ☐ OTHER _____

9. DO ANY OF THE FOLLOWING APPLY TO THE PROPERTY IN QUESTION? IF "YES" PLEASE ATTACH SUPPORTING DOCUMENTATION.

| | | | | | |
|---|---|---|---|---|---|
| BURIED CABLES, LANDFILLS, STUMPHOLES | ☐ YES | ☒ NO | GRADING/SOIL REMOVAL PERFORMED | ☐ YES | ☒ NO |
| EXISTING WASTEWATER SYSTEMS | ☐ YES | ☒ NO | JURISDICTIONAL WETLANDS | ☐ YES | ☒ NO |
| WELLS, SPRINGS, OR WATER LINES | ☐ YES | ☒ NO | APPROVAL REQUIRED BY ANY OTHER PUBLIC AGENCY | ☐ YES | ☒ NO |
| EASEMENTS OR RIGHT-OF-WAYS | ☐ YES | ☒ NO | WASTEWATER OTHER THAN DOMESTIC SEWAGE | ☐ YES | ☒ NO |

10. PROPERTY OWNER:

NAME: Neighborhoods at Abersham
ADDRESS: P.O. Box 99
CITY: Davidson
STATE: NC ZIP: 28036
HOME PHONE: N/A WORK PHONE: 704.895.0556
MOBILE PHONE: N/A FAX: 704.895.0558

11. OWNER'S LEGAL REPRESENTATIVE, IF APPLICABLE:

NAME: Rollans Soil & Environmental Services
ADDRESS: 470 N. Broad St., Suite D
CITY: Mooresville
STATE: NC ZIP: 28115
HOME PHONE: N/A WORK PHONE: 704.658.1723
MOBILE PHONE: 704.746.5046 FAX: 704.658.1724

12. WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? _____
13 WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY? _____

14. SEPTIC SYSTEM PERMIT APPLICATION SIGNATURE SECTION:

the information in this application is falsified, changed, or the site is altered, hen the Improvement Permit and Authorization to Construct shall become ivalid. I have read this application and certify that the information provided erein is true, complete and correct. Authorized county and state officials are ranted right of entry to conduct necessary inspections to determine ompliance with applicable laws and rules. I understand that I am solely sponsible for the proper identification and labeling of all property lines and orners and making the site accessible so that a complete site evaluation can e performed. The permit is valid for either 60 months or is non-expiring epending upon the documentation submitted: complete site plan = 60 onths, complete plat = non-expiring.

Property Owner's or Owner's Legal Representative Signature Date

15. WELL PERMIT APPLICATION SIGNATURE SECTION:

If the information in this application is falsified, changed, or the site is altered, then the Well Permit shall become invalid. I have read this application and certify that the information provided herein is true, complete and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed. The permit is valid for a period of 12 months from the date of issuance.

Property Owner's or Owner's Legal Representative Signature Date

☐ SURVEY PLAT TO SCALE SUBMITTED ☒ SCALED SITE PLAN SUBMITTED ☐ UN-SCALED SITE PLAN SUBMITTED

Department of Environment, Health, and Natural Resources
Division of Environmental Health
On-site Wastewater Section

Sheet: 1 of 2
Property ID: PO 003-331-01
Lot #: 24
File #: 7472B
AppID: 2973

# SOIL/SITE EVALUATION
# for ON-SITE WASTEWATER SYSTEM

Owner: Neighborhoods at Abersham
Applicant: Rollans Soil & Env. Ser.
Address: PO Box 99, Davidson, N. C. 28036
Date Evaluated: 12/12/2007
Proposed Facility: Residence
Design Flow (.1949): 720gpd
Property Size: .42a inv.
Location of Site: Off Grey Road
Property Recorded:
Water Supply: [ ] Public [ x ] Individual [ x ] Well [ ] Spring [ ] Other
Evaluation Method: [ ] Auger Boring [ x ] Pit [ ] Cut
Type of Wastewater: [ x ] Sewage [ ] Industrial Process [ ] Mixed

| PROFILE # | .1940 Landscape Position/ Slope% | Horizon Depth (IN.) | SOIL MORPHOLOGY .1941 .1941 Structure/ Texture | .1941 Consistence Mineralogy | b PROFILE FACTORS .1942 Soil Wetness/ Color | .1943 Soil Depth (IN.) | .1956 Sapro Class | .1944 Restr Horiz | Profile Class & LTAR |
|---|---|---|---|---|---|---|---|---|---|
| 1 | LS, 8 | 0-4 | GR/CL | FR/SEXP/SS/SP | >51" TO SOIL WETNESS | 51 | N/A | NONE | PS, IV |
| | | 4-28 | SBK/ABK/C | FI/SEXP/S/P | | | | | .3GPD/FT |
| | | 28-51 | SBK/CL | FR/SEXP/SS/SP | | | | | |
| 2 | " | 0-6 | GR/CL | " | " | " | " | " | " |
| | | 6-28 | SBK/ABK/C | FI/SEXP/S/P | | | | | |
| | | 28-51 | SBK/CL | FR/SEXP/SS/SP | | | | | |
| 3 | " | 0-3 | GR/CL | " | >48" TO SOIL WETNESS | 20 | " | " | US, IV |
| | | 3-20 | SBK/ABK/C | FI/SEXP/S/P | | | | | .15GPD/FT$^2$ |
| | | 20-48 | M/SCL | FR/SEXP/SS/SP | | | | | |
| | | MAY | NEED | PARTICLE SIZE ANAL. | | | | | |
| 4 | " | 0-6 | GR/CL | FR/SEXP/SS/SP | " | 48 | " | " | PS, IV |
| | | 6-32 | SBK/ABK/C | FI/SEXP/S/P | | | | | |
| | | 32-48 | SBK/CL | FR/SEXP/SS/SP | | | | | .3GPD/FT$^2$ |
| | | | | | SITE LTAR .3GPD/FT$^2$ | | | | |

| Description | Initial System | Repair System |
|---|---|---|
| Available Space (.1945) | PS | PS |
| System Type(s) | Iva | Iva |
| Site LTAR | 0.3 | 0.3 |

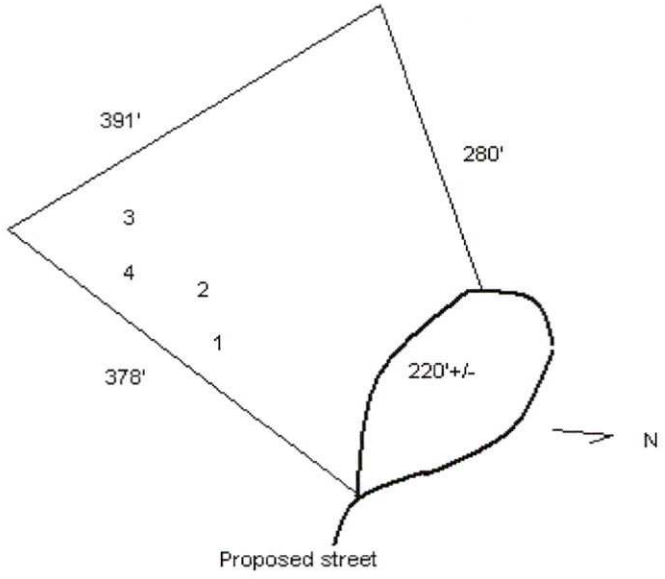
Other Factors (.1946):
Soil Evaluation By: W. R. Marlin, LSS, 12/28/2007,
Others Present: A. Rollans
Site Classification (.1948): PS
Site Evaluation By: PHILO WALKER RS 3/11/2008
Others Present:

**COMMENTS:**
100% repair

| Landscape Position | Group | Texture | .1955 LTAR | Structure |
|---|---|---|---|---|
| R-Ridge | I | S-Sand | 1.2 - 0.8 | SG-Single Grain |
| SS-Shoulder Slope | | LS-Loamy Sand | | M-Massive |
| LS-Linear Slope | | | | CR-Crumb |
| FS-Foot Slope | II | SL-Sandy Loam | 0.8 - 0.6 | GR-Granular |
| NS-Nose Slope | | L-Loam | | SBK-Subangular Blocky |
| HS-Head Slope | | | | ABK-Angular Blocky |
| CC-Concave Slope | III | SI-Silt | 0.6 - 0.3 | PL-Platy |
| CV-Convex Slope | | SICL-Silty Clay Loam | | PR-Prismatic |
| T-Terrace | | | | |
| FP-Flood Plain | | CL-Clay Loam | | |
| | | SCL-Sandy Clay Loam | | |
| | IV | SC-Sandy Clay | 0.4 - 0.1 | |
| | | SIC-Silty Clay | | |
| | | C-Clay | | |

| Consistence Moist | Consistence Wet | Mineralogy |
|---|---|---|
| VFR-Very Friable | NS-Non-Sticky | SEXP-Slightly Expansive |
| FR-Friable | SS-Slightly Sticky | EXP-Expansive |
| FI-Firm | S-Sticky | |
| VFI-Very Firm | VS-Very Sticky | |
| EFI-Extremely Firm | NP-Non-Plastic | |
| | SP-Slightly Plastic | |
| | P-Plastic | |
| | VP-Very Plastic | |

**Sketch of Soil Evaluation Locations**



Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St, Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

NC DENR
Division of Environmental Health
On-Site Wastewater Section

# IMPROVEMENT PERMIT for a RESIDENTIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30002973** GWS File #: **7472B** Tax Parcel #: **003-331-01**

- This IMPROVEMENT PERMIT is subject to revocation if site plans or the intended use change. There is to be **NO** grading, filling, or disturbance of the soil in the area of the septic tank system or repair area.
- CONSTRUCTION AUTHORIZATION must be obtained prior to receiving a Building Permit. The Construction Authorization is **NOT** transferable. Do not clear, grade, fill or disturb soil prior to obtaining a Construction Authorization.
- Domestic-type wastewater only. No industrial process wastewater may be discharged into the system.

**I. This Improvement Permit Shall:** Expire in Five (5) Years **Expiration Date (If Applicable):** 3/13/2013

Type of Installation: Residential - New System Lot Number: 24

Structure Type: HOUSE Size ($ft^2$): 0 # Bedrooms: 6 # Occupants: 12

Building Foundation: Basement With Plumbing Water Supply: Private Well

**II. Initial System Type:** PPBPS (pressurized) **System Classification:** IVa

Initial System Specifications:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Design Flow (gpd): | 720 | LTAR (gpd/$ft^2$): | 0.3 | Septic Tank Size (gal): | 1500 | Pump Tank Size (gal): | 1500 |
| Trench Width (ft): | 3 | Trench Spacing (ft): | 9 | Absorption Area ($ft^2$): | 1200 | Total Trench Length (ft): | 400 |
| Maximum Trench Depth (in): | 38 | Depth of Media (in): | N/A | Distribution Device: | Manifold (LPP Distri | | |

**III. Repair System Type:** PPBPS (pressurized) **System Classification:** IVa

Repair System Specifications:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Design Flow (gpd): | 720 | LTAR (gpd/$ft^2$): | 0.3 | Septic Tank Size (gal): | 1500 | Pump Tank Size (gal): | 1500 |
| Trench Width (ft): | 3 | Trench Spacing (ft): | 9 | Absorption Area ($ft^2$): | 1200 | Total Trench Length (ft): | 400 |
| Maximum Trench Depth (in): | 38 | Depth of Media (in): | N/A | Distribution Device: | Manifold (LPP Distri | | |

**IV. Permit Conditions/Comments:**

*(Please See the Following Page for Permit Conditions.)*

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment, and Disposal Systems* and is subject to the following provisions:

- No work shall be conducted on the septic system until an INSTALLATION APPROVAL is granted by the Department.
- The septic system installer shall be a registered septic contractor with Mecklenburg County Health Department.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: Philo Walker

Signature: Philo Walker RS

Date Issued: 3/13/2008

Owner/Legal Agent: Leslie Sito
Print Name

Signature: Leslie Sito

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St, Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

NC DENR
Division of Environmental Health
On-Site Wastewater Section

## IMPROVEMENT PERMIT for a RESIDENTIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30002973** GWS File #: **7472B**

**IV. Permit Conditions/Comments:**

- This type of septic system requires an inspection once every 3 years by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- This type of septic system requires a Certified Operator to maintain the system. A system maintenance contract with a Certified Operator must be on file prior to issuance of an Operation Permit.
- This type of repair system requires periodic inspections by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- The septic system shall be installed in accordance with the plans submitted by the wastewater system design consultant.
- All components of the septic system must be located at least 100 ft. (50 ft. minimum) from all private wells.
- All waterlines must be located a minimum of 10 ft. from any part of the septic system.

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment and Disposal Systems* and is subject to the following provisions:

- No work shall be conducted on the septic system until an INSTALLATION APPROVAL is granted by the Department.
- The septic system installer shall be a registered septic contractor with Mecklenburg County Health Department.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: Philo Walker

Signature: Philo Walker RS

Date Issued: 3/13/2008

Owner/Legal Agent: Leslie Sito
Print Name

Signature: Leslie Sito

# ROLLANS *Soil & Environmental Services, Inc.*

*470 N Broad Street, Suite D, Mooresville, NC 28115 Phone: (704) 658-1723 Fax: (704) 658-1724*

**Ashley Rollans** NC Licensed Soil Scientist
Mobile (704) 746 5046
Email: rollans.ashley@yahoo.com

**Brady Freeman**, Registered Sanitarian
Mobile: (704) 746-6497
Email: bfree209@yahoo.com


7472B

**Attached is a proposed design for a PPBPS Septic System with low pressure distribution for a 6 bedroom single family residence on Lot # 24 in ABERSHAM Subdivision, Mecklenburg County, North Carolina.**

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Site Plan/System Plan ---------- 6-7

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**January 10, 2008**
**Project #: 01-1044**
**Design By: Rollans Soil & Environmental Services**

**GWS Septic System Design Review**
**GWS File #:** 7472B **Approved** ☒ **Disapproved** ☐
**Design Review:** TCT 2-10-08
**Field Review:** MW 3/11/08 ☒ ☐
*Projects are not considered "APPROVED" until both sections above are completed and indicate an APPROVED status.

# INFORMATION FOR THE INSTALLER:

The permit should be read very carefully prior to bidding. The following are details that must be considered along with all other considerations.

- Tanks shall be approved by NC DENR, and certification supplied by the manufacturer.
- Tanks shall be water tested prior to installation.
- The installer shall be responsible to the owner for placement of the tanks and to insure that final grades are returned to the original natural grade, with exception of added structural features.
- The supply trench shall be compacted to eliminate cavities left during initial fill placement.
- Installation of the system shall be during dry conditions in order to protect the soil structure.
- All fittings shall be pressure rated fittings.
- All joints shall be cleaned with PVC pipe cleaner and a heavy bodied glue applied to weld all joints.
- Where required by the county health department, post installation inspections by the designer must be scheduled 5 week days in advance.
- Trenches shall be carefully excavated so the bottom is within 2" from the highest to . the lowest points of elevation within the trench. If the bottom elevation needs adjusting after it has been trenched, it will be done by removing high points rather than filling low points. It is extremely important to insure that trenches are not over excavated during initial trenching. All fine grading within the trench will be hand done with a shovel. No loose material will be left in the trench
- All pipe openings in the tanks shall be properly grouted. This also applies to the joints around the riser.
- All tanks shall be properly back filled and compacted to prevent slump at a later date.
- Earth dams, constructed of relatively impervious material, shall be installed at the beginning and end of each lateral.
- No heavy equipment shall be used on the field during or after installation. The use of a small loader (i.e. Bobcat) or a trencher (i.e. Ditch Witch 2300/2310) may be used for installation.
- Elevations at pinflag locations should be checked by the installer prior to beginning trenches.
- Pumptank riser should be 6" above grade, control panel should be 12" above grade.
- Design precludes foundation drains.
- Septic tank riser shall be a minimum of 6" above finished grade.
- System is specified as a PPBPS installation.
- Repair is specified as a PPBPS installation.
- Backfill 4 - 6" of material (County Approved) over panels, rake trench walls, lime side-walls, install trenches 36" wide and have no more than 1/4" fall in 10 feet.

# LP PPBPS SYSTEM
# FOR WASTEWATER TREATMENT

| | |
|---|---|
| **Owner/Applicant:** | William Brewster Company |
| **Address:** | PO Box 99 Davidson<br>NC 28036 |
| **Phone:** | 704 895 0556 |
| **County:** | Mecklenburg |
| **Location:** | ABERSHAM LOT # 24 |
| **Source of Wastewater Flow:** | 6 Bedroom Single Family Residence |
| **Estimated Gallons Per Day Flow:** | 720 |
| **System Flow:** | 39.36 |

## Design Specifications

| | |
|---|---|
| **Drainfield Size:** | 420 |
| **Loading Rate (gpd/ft.$^2$):** | 0.3 |
| **Depth of Gravel in Trench:** | NA (PPBPS ) |
| **Gravel Size:** | NA (PPBPS ) |
| **Trench Depth:** | 36 in. |
| **Trench Width:** | 36 in. |
| **Septic Tank Size:** | 1500 gal. |
| **Pump Tank Size:** | 1500 gal. |
| **Estimated Supply Line Length:** | 173 |
| **Supply Line Diameter:** | 2 in. SCH 40 PVC |
| **Supply Line Volume:** | 30.10 |
| **Dosing Volume:** | 231.55 |
| **Supply Manifold:** | N/A |
| **Supply Manifold Length:** | N/A |
| **Supply Manifold Volume:** | N/A |
| **Recommended Float Controls:** | SJE Sensor Float Control Switches as Required for Control Panel or County Approved Equivalents |
| **Recommended Control Panel:** | SJE-Rhombus Model 112 (NEMA 4x) Control Panel or County Approved Control Panel. |
| **Pressure Head:** | 2 ft. |
| **Friction Head:** | N/A |
| **Elevation Head:** | N/A |
| **Total Dynamic Head:** | N/A |
| **Threaded Union:** | In Tank |
| **Gate Valves:** | 1 in Tank<br>1 per lateral |
| **Check Valves:** | In Tank |
| **Anti-Siphon Hole:** | NA |
| **Additional Comments:** | Soil suitability was performed by Mecklenburg County Health Department |

## ABERSHAM LOT # 24

### LP PPBPS

| | |
|---|---|
| DESIGN FLOW (gpd): | 720 |
| SOIL APPLICATION RATE (gpd/ft.$^2$): | 0.3 |
| TOTAL AREA TRENCH BOTTOM: | 1260 |
| TOTAL LATERAL LENGTH: | 420 |
| NUMBER OF FIELDS: | 1 |
| LATERAL LENGTH REQUIRED PER FIELD: | 400 |
| SUPPLY LINE LENGTH: | 173 |
| TOTAL DYNAMIC HEAD: | N/A |
| MANIFOLD SIZE: | N/A |
| DOSING VOLUME: | 231.55 |
| PUMP TANK DRAW DOWN*: | 7.5 |
| SEPTIC TANK SIZE: | 1500 gal. |
| PUMP TANK SIZE: | 1500 gal. |

**Pump tank draw down based on a volume basis of 31 gallons per inch. Draw down may vary among pump tank manufacturers*

# ABERSHAM LOT # 24

Project #: 01-1044

LAYOUT FOR 6 BEDROOM HOME

January 10, 2008

| LINE # | FLAG COLOR | BS | HI | FS | ELEVATION | FLAGGED LINE LENGTH | DESIGN LINE LENGTH |
|---|---|---|---|---|---|---|---|
| TBM | | N/A | | | N/A | | |
| INSTR. 1 | | | N/A | | | | |
| HOUSE CNR | | | | N/A | N/A | | |
| P. TANK | | | | N/A | N/A | | |
| 1 | RED | | | N/A | N/A | 165 | 165 |
| 2 | ORANGE | | | N/A | N/A | 100 | 100 |
| 3 | BLUE | | | N/A | N/A | 76 | 76 |
| 4 | PINK | | | N/A | N/A | 60 | 60 |
| *5* | ***BLUE*** | | | ***N/A*** | ***N/A*** | ***91*** | ***70*** |
| *6* | ***PINK*** | | | ***N/A*** | ***N/A*** | ***93*** | ***70*** |
| *7* | ***RED*** | | | ***N/A*** | ***N/A*** | ***125*** | ***70*** |
| *8* | ***ORANGE*** | | | ***N/A*** | ***N/A*** | ***75*** | ***70*** |
| *9* | ***BLUE*** | | | ***N/A*** | ***N/A*** | ***79*** | ***70*** |
| *10* | ***PINK*** | | | ***N/A*** | ***N/A*** | ***75*** | ***70*** |
| | | | | | **Total** | **939** | **821** |

| | LINE LENGTH | LTAR GPD/FT2 | SYSTEM TYPE | SOIL LTAR GPD/FT2 | TRENCH SYSTEM | DISTRIBUTION |
|---|---|---|---|---|---|---|
| ** System* | ***420*** | ***0.3*** | ***MOD.*** | ***0.300*** | ***PPBPS*** | ***LOW PRESSURE*** |
| Repair | 401 | 0.3 | MOD. | 0.300 | PPBPS | LOW PRESSURE |

Notes:

** TBM located top of ground at EIP at corner of lot (see site plan)

**TBM is assumed to be 100'

**All measures in feet

**Nitrification lines are demonstrated on contour via colored pin flags

**BS, HI and FS indicate rod readings

# LP PPBPS TAPSHEET -ABERSHAM LOT 24

## SYSTEM

| Line # | Color | Elevation | Length | Hole Size | Flow/hole | Trench Area | Number of Panels |
|---|---|---|---|---|---|---|---|
| 5 | BLUE | N/A | 70 | 0.156 | 0.41 | 210 | 16 |
| 6 | PINK | N/A | 70 | 0.156 | 0.41 | 210 | 16 |
| 7 | RED | N/A | 70 | 0.156 | 0.41 | 210 | 16 |
| 8 | ORANGE | N/A | 70 | 0.156 | 0.41 | 210 | 16 |
| 9 | BLUE | N/A | 70 | 0.156 | 0.41 | 210 | 16 |
| 10 | PINK | N/A | 70 | 0.156 | 0.41 | 210 | 16 |
| | | | | | | | 96 |
| | total | feet = | 420 | gal/min = | 39.36 | | |
| | | | Des. Flow | 720 | | | |
| | | | Pump Run= | 5.88 | | | |
| | | | soil LTAR | 0.3 | | | |
| | | | LTAR +5% | 0.315 | | | |
| | | | LTAR with mod. | 0.6 | | | |
| | | | LTAR with mod., + 5% | 0.63 | | | |

.156 equals 5/32 inch hole

## CALCULATIONS

Location ABERSHAM

Project Number 01-1044

Lot No Lot 24

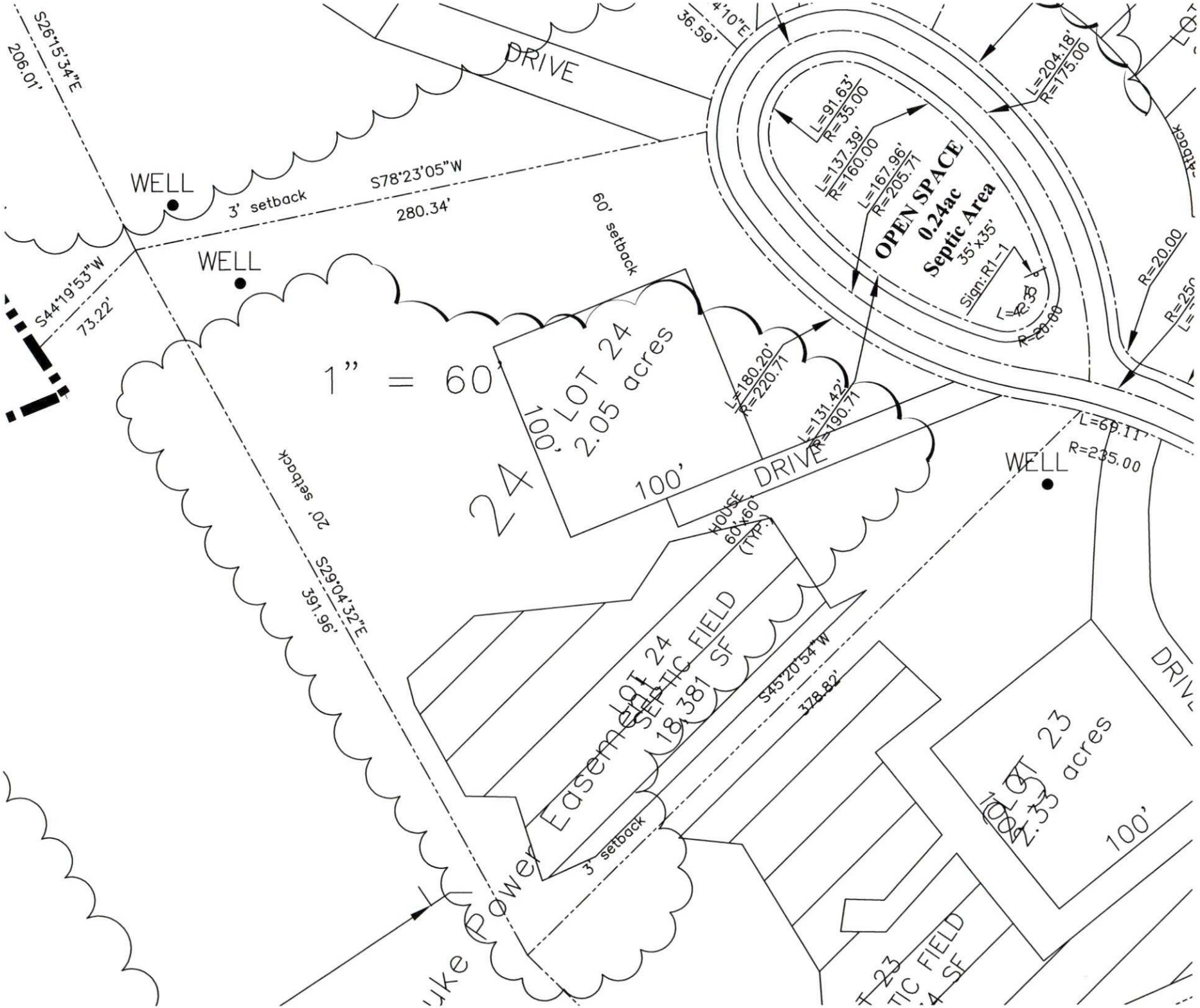
| | | |
|---|---|---|
| No. of Bedrooms | 6 | |
| Design Flow | 720 | $^{gal}/_{day}$ |
| LTAR | 0.300 | $^{gal}/_{ft^2\,day}$ |
| PPBPS? (YES OR NO) | YES | |
| Supply Line Length | 173 | ft. |
| Supply Line Volume | 30.102 | gal. |
| Required Feet of Line | 400 | ft. |
| Amount of Line from Layout | 420 | ft. |
| Gallons per Minute | 39.36 | $^{gal}/_{min}$ |
| Required Septic Tank Capacity | 1500 | gal. |
| Minimum Standard Tank Size | 1500 gal. | |
| Panel Volume | 3.6 | gal. |
| # of Panels | 96 | |
| Dosing Volume | 231.55 | gal. |

*Note: Dosing Volume based on 67% of # of panels times 3.6 gal/panel*

| | | |
|---|---|---|
| Tank Draw Down | 7.5 | *Generic Draw Down of 31 gal.per in.* |
| Pump Run Time | 5.88 | minutes |
| Elevation Head | N/A | ft. |
| Pressure Head | N/A | ft. |
| Friction Factor | 3.03 | ft./100 ft. *(From the interpolater.)* |
| Friction Head | N/A | ft. |
| Total Dynamic Head (+15%) | N/A | ft. |

FRICTION FACTOR
INTERPOLATER
2" SCH 40 PVC

| GPM | *f* |
|---|---|
| 20 | 0.84 |
| | -0.88 |
| 25 | 1.27 |
| | -1.28 |
| 30 | 1.78 |
| | -1.76 |
| 35 | 2.37 |
| | -2.25 |
| 40 | 3.03 |
| 43.07 | 3.48 |
| 45 | 3.77 |
| 48.14 | 4.28 |
| 50 | 4.58 |
| 57.11 | 5.89 |
| 60 | 6.42 |


DRIVE
S26°15'34"E
206.01'
WELL
3' setback
S78°23'05"W
280.34'
60' setback
WELL
S44°19'53"W
73.22'
1" = 60'
24
LOT 24
2.05 acres
100'
100'
L=180.20'
R=220.71
L=131.42'
R=190.71
DRIVE
HOUSE
60'x60'
(TYP.)
20' setback
S29°04'32"E
391.96'
LOT 24
SEPTIC FIELD
18,381 SF
Easement
S45°20'54"W
378.82'
3' setback
Duke Power
L=91.63'
R=35.00
L=137.39'
R=160.00
L=167.96'
R=205.71
OPEN SPACE
0.24ac
Septic Area
35'x35'
Sign: R1-1
L=204.18'
R=175.00
R=20.00
L=69.11'
R=235.00
WELL
LOT 23
2.33 acres
100'
100'
DRIVE

COMMENTS Scale 1" = 50'

6 Bedroom House

Keep the septic system > 100' (50' min) from any wells

