Groundwater & Wastewater Services
Septic Project File & Data Review Worksheet

GWS File #: 7475 B  WASPS App #: 2976

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 .35 | Yes ☑ | No ☐ | N/A ☐ |
| | **Improvement Permit/Construction Authorization** | | | |
| .1937(g) 130A-336(a) | Proposed System Type stated-Initial | Yes ☑ | No ☐ | N/A ☐ |
| .1945(b) 130A-336 (a)(3) | Proposed System Type stated-Repair | Yes ☑ | No ☐ | N/A ☐ |
| .1937(g) .1945(b) | System location identifiable by setbacks - Initial | Yes ☑ | No ☐ | N/A ☐ |
| .1945(b) | System components shown – Initial | Yes ☑ | No ☐ | N/A ☐ |
| .1937 (f)(g). | 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 ☐ |
| 130A-336(a) | Is the System located in the approved area? | Yes ☑ | No ☐ | N/A ☐ |
| | Is the Design flow (gpd) indicated? | Yes ☑ | No ☐ | N/A ☐ |

| | | | | |
|---|---|---|---|---|
| 130A-336(a) | Number of Bedrooms, employees, seats, etc. indicated? | Yes ☑ | No ☐ | N/A ☐ |
| .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: _____

Date performed: 1/30 08

BM

FILE NUMBER: 7475B

Revised On: January 3, 2007

APPLICATION NUMBER: 2976

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

**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 #: 27 LOT SIZE (acres): 2.04 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, ıen the Improvement Permit and Authorization to Construct shall become ıvalid. 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.

Samuel R. Rollans
roperty 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

*MECKLENBURG COUNTY*
*LAND USE AND ENVIRONMENTAL SERVICES*
*Payment Receipt*

**Receipt Information**

| | | | |
|---|---|---|---|
| **Date:** | 11/08/07 | **Amount:** | 1,800.00 |
| **Receipt #:** | 53585 | **Tendered:** | 1,800.00 |
| **Check / Auth #:** | CHECK 3786 | **Returned:** | 0.00 |
| **Received By:** | GLADNAG | | |

**Account Information**

**Account #:** 200000
**Contractor:** WILLIAM BREWSTER COMPANY,INC
**Attn:** D/B/A CEDARCROFT HOMES
**Address:** P.O. BOX 99
**Address:**
**City/State/Zip:** DAVIDSON, NC 28036

| Item | Description | Permit# | Quantity | Unit Price | Total Price |
|---|---|---|---|---|---|
| 0701 | Improvment Permit App-Residen<br>9 LOTS(SUBD- ABERSHAM ON GREY RD) | | 1 | 1,800.00 | 1,800.00 |

----------Outstanding Balances----------

| Month-To-Date | Prior Month | 30 Days | 60 Days | 90 Days | Balance |
|---|---|---|---|---|---|

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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 #: 27
File #: 7475B
AppID: 2976

# SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

Owner: Neighborhoods at Abersham
Applicant: Rollans Soil & Env, Ser,
Address: P. O. Box 99, Davidson, N. C. 28036
Date Evaluated: 12/12/2007
Proposed Facility: Residence
Design Flow (.1949): 720gpd
Property Size: Approx. .5a 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, 6 | 0-2 | GR/CL | FR/SEXP/SS/SP | >48" TO SOIL WETNESS | 48 | N/A | NONE | PS, IV |
| | | 2-8 | SBK/CL | " | | | | | .35GPD/FT$^2$ |
| | | 8-48 | SBK/C | FI/SEXP/S/P | | | | | |
| 2 | " | 0-43 | SBK/C | " | " | " | " | " | " |
| | | 43-48 | SBK/CL | FR/SEXP/SS/SP | | | | | |
| 3 | " | 0-20 | SBK/CL | " | " | " | " | " | " |
| | | 20-48 | WK/SBK/CL | " | | | | | |
| 4 | " | 0-19 | SBK/C | FI/SEXP/S/P | " | " | " | " | " |
| | | 19-48 | WKSBK/C | " | | | | | |
| | | | | | SITE LTAR .35GPD/FT$^2$ | | | | |

| Description | Initial System | Repair System |
|---|---|---|
| Available Space (.1945) | PS | PS |
| System Type(s) | IIIg | Iva |
| Site LTAR | 0.35 | 0.35 |

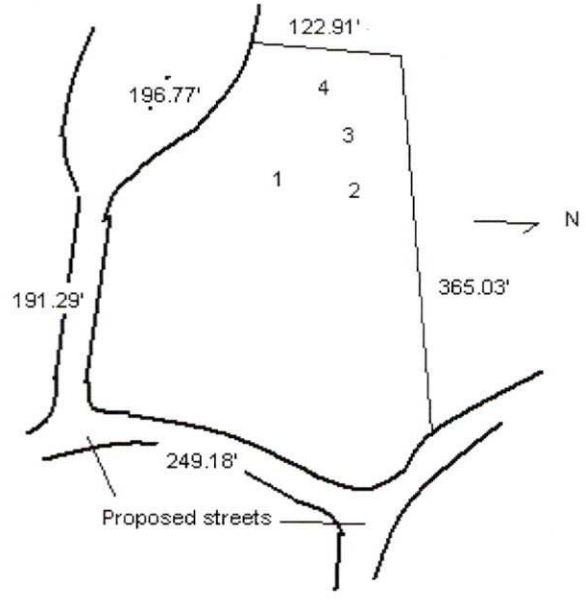
Other Factors (.1946):
Soil Evaluation By: W. R. Marlin, LSS, 12/17/2007,
Others Present: A. Rollans
Site Classification (.1948): PS
Site Evaluation By: PHILO WALKER 1/16/08
Others Present:

**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**



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 #: 27
File #: 7475B
AppID: 2976

# SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

Owner: Neighborhoods at Abersham
Address: P. O. Box 99, Davidson, N. C. 28036
Proposed Facility: Residence  Design Flow (.1949): 720gpd
Location of Site: Off Grey Road
Water Supply: [ ] Public [ x ] Individual [ x ] Well [ ] Spring [ ] Other
Evaluation Method: [ ] Auger Boring [ x ] Pit [ ] Cut
Type of Wastewater: [ x ] Sewage [ ] Industrial Process [ ] Mixed

Applicant: Rollans Soil & Env, Ser,
Date Evaluated: 12/12/07
Property Size: Approx. .5a inv.
Property Recorded:

| 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, 6 | 0-2 | GR/CL | FR/SEXP/SS/SP | >48" TO SOIL WETNESS | 48 | N/A | NONE | PS, IV .35GPD/FT$^2$ |
| | | 2-8 | SBK/CL | " | | | | | |
| | | 8-48 | SBK/C | FI/SEXP/S/P | | | | | |
| 2 | " | 0-43 | SBK/C | " | " | " | " | " | " |
| | | 43-48 | SBK/CL | FR/SEXP/SS/SP | | | | | |
| 3 | " | 0-20 | SBK/CL | " | " | " | " | " | " |
| | | 20-48 | WK/SBK/CL | " | | | | | |
| 4 | " | 0-19 | SBK/C | FI/SEXP/S/P | " | " | " | " | " |
| | | 19-48 | WKSBK/C | " | | | | | |
| | | | | | SITE LTAR .35GPD/FT$^2$ | | | | |

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

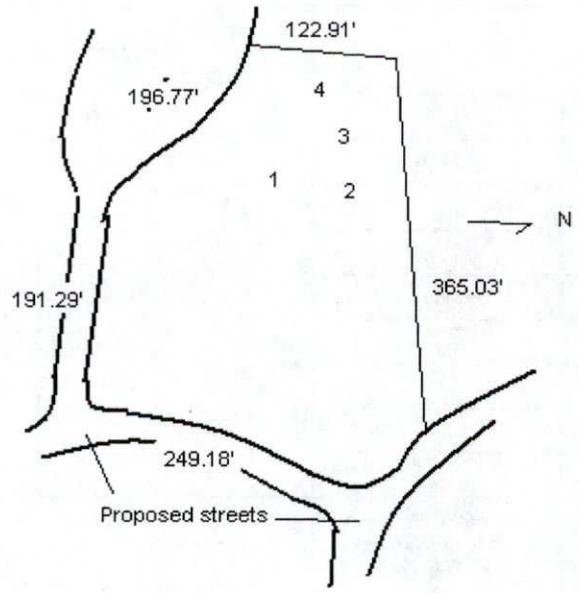
Other Factors (.1946):
Soil Evaluation By: W. R. Marlin, LSS, 12/17/2007.
Others Present: A. Rollans
Site Classification (.1948):
Site Evaluation By:
Others Present:

**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 |
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| 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 #: **30002976** GWS File #: **7475B** 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):** 1/29/2013

Type of Installation: Residential - New System Lot Number: 27

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

Building Foundation: Basement With Plumbing Water Supply: Private Well

**II. Initial System Type:** Approved **System Classification:** IIIg

Initial System Specifications:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Design Flow (gpd): | 720 | LTAR (gpd/$ft^2$): | 0.35 | Septic Tank Size (gal): | 1500 | Pump Tank Size (gal): | 1500 |
| Trench Width (ft): | 3 | Trench Spacing (ft): | 9 | Absorption Area ($ft^2$): | 1543 | Total Trench Length (ft): | 514 |
| Maximum Trench Depth (in): | 36 | Depth of Media (in): | N/A | Distribution Device: | Drop Boxes | | |

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

Repair System Specifications:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Design Flow (gpd): | 720 | LTAR (gpd/$ft^2$): | 0.35 | Septic Tank Size (gal): | 1500 | Pump Tank Size (gal): | 1500 |
| Trench Width (ft): | 3 | Trench Spacing (ft): | 9 | Absorption Area ($ft^2$): | 1029 | Total Trench Length (ft): | 343 |
| Maximum Trench Depth (in): | 36 | 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

Date Issued: 1/29/2008

Owner/Legal Agent: _____
Print Name

Signature: _____

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 #: **30002976** GWS File #: **7475B**

**IV. Permit Conditions/Comments:**

- This type of repair system requires the installation of a pump tank and all associated components. This type of system will require routine inspections by our office. The system owner is responsible for all fees associated with these inspections.
- This type of repair system requires the property owner to obtain a contract with a Certified Operator to perform routine inspections and maintenance on the system.
- 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

Date Issued: 1/29/2008

Owner/Legal Agent: _____
Print Name

Signature: _____

# ROLLANS *Soil & Environmental Services, Inc.*

*470 North Broad St., Suite D, Mooresville, NC 28115* *Phone: (704) 658-1723* *Fax: (704) 658-1724*

**Ashley Rollans**, NC Licensed Soil Scientist
Mobile: (704) 746-5046
E-mail: Rollansfortcj@aol.com

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


**Attached is a proposed design for an Accepted (25% reduction) Septic System with Gravity distribution for a 6 bedroom single family residence on Lot # 27 Abersham Subdivision, Mecklenburg County, North Carolina.**

**Contents:** **Page**


Information for the Installer---------- 1

Design Information
- Design Specifications---------- 2-3
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**January 9, 2008**
**Project #: 01-1044**
**Design By: Rollans Soil and Environmental Services**

**GWS Septic System Design Review**

| | Approved | Disapproved |
|---|---|---|
| **GWS File #:** 7475B | | |
| **Design Review:** TCT 1-15-08 | ☒ | ☐ |
| **Field Review:** JLW 1/16/08 | ☒ | ☐ |

*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.
- Septic tank riser shall be a minimum of 6" above finished grade.
- System is specified as a serial distribution innovative 25% reduction installation.
- Repair is specified as a PPBPS with low pressure distribution installation.
- Rake trench walls, lime sidewalls, install trenches 36" wide and have no more than 1/4" fall in 10 feet.

# GRAVITY SYSTEM
# FOR WASTEWATER TREATMENT

| | |
|---|---|
| **Owner:** | William Brewster Company |
| **Address:** | PO Box 99 Davidson NC 28036 |
| **Phone:** | 704 895 0556 |
| **County:** | Mecklenburg |
| **Location:** | Abersham LOT # 27 |
| **Source of Wastewater Flow:** | 6 Bedroom Single Family Residence |
| **Estimated Gallons Per Day Flow:** | 720 |
| **System Flow:** | N/A |

## Design Specifications

| | |
|---|---|
| **Drainfield Size:** | 605 |
| **Loading Rate (gpd/ft.$^2$):** | 0.3 |
| **Depth of Gravel in Trench:** | NA (25% reduction ) |
| **Gravel Size:** | NA (25% reduction ) |
| **Trench Depth:** | 36 in. |
| **Trench Width:** | 36 in. |
| **Septic Tank Size:** | 1500 gal |
| **Pump Tank Size:** | N/A |
| **Estimated Supply Line Length:** | 48 |
| **Supply Line Diameter:** | 3 in. SCH 40 PVC |
| **Supply Line Volume:** | 8.35 |
| **Dosing Volume:** | NA |
| **Supply Manifold:** | SERIAL DROP BOX |
| **Supply Manifold Length:** | N/A |
| **Supply Manifold Volume:** | N/A |
| **Recommended Float Controls:** | N/A |
| **Recommended Control Panel:** | N/A |
| **Pressure Head:** | NA |
| **Friction Head:** | NA |
| **Elevation Head:** | NA |
| **Total Dynamic Head:** | NA |
| **Threaded Union:** | NA |
| **Gate Valves:** | NA |
| | NA |
| **Check Valves:** | NA |
| **Anti-Siphon Hole:** | NA |
| **Additional Comments:** | Soil suitability was performed by Mecklenburg County Health Department |

## Abersham LOT # 27
## GRAVITY SYSTEM DESIGN

| | |
|---|---|
| DESIGN FLOW (gpd): | 720 |
| SOIL APPLICATION RATE (gpd/ft.$^2$): | 0.3 |
| TOTAL AREA TRENCH BOTTOM: | 1815 |
| | |
| TOTAL LATERAL LENGTH: | 605 |
| NUMBER OF FIELDS: | 1 |
| LATERAL LENGTH REQUIRED PER FIELD: | 600 |
| | |
| SUPPLY LINE LENGTH: | 48 |
| TOTAL DYNAMIC HEAD: | NA |
| MANIFOLD SIZE: | NA |
| | |
| DOSING VOLUME: | NA |
| PUMP TANK DRAW DOWN*: | NA |
| SEPTIC TANK SIZE: | 1500 gal. |
| PUMP TANK SIZE: | 1500 gal. |

**Pump tank draw down based on a volume basis of 29 gallons per inch. Draw down may vary among pump tank manufacturers.*

# Abersham LOT # 27

Project #: 01-1044

LAYOUT FOR 6 BEDROOM HOME

January 9, 2008

| LINE # | FLAG COLOR | BS | HI | FS | ELEVATION | FLAGGED LINE LENGTH | DESIGN LINE LENGTH |
|---|---|---|---|---|---|---|---|
| TBM | | NA | | | NA | | |
| INSTR. 1 | | | NA | | | | |
| HOUSE CNR | | | | NA | NA | | |
| P. TANK | | | | NA | NA | | |
| *1* | *ORANGE* | | | *NA* | *NA* | *80* | *80* |
| *2* | *BLUE* | | | *NA* | *NA* | *103* | *100* |
| *3* | *PINK* | | | *NA* | *NA* | *125* | *125* |
| *4* | *RED* | | | *NA* | *NA* | *182* | *150* |
| *5* | *ORANGE* | | | *NA* | *NA* | *176* | *150* |
| 6 | BLUE | | | NA | NA | 172 | 172 |
| 7 | PINK | | | NA | NA | 161 | 161 |
| 8 | RED | | | NA | NA | 136 | 136 |
| 9 | ORANGE | | | NA | NA | 124 | 124 |
| 10 | BLUE | | | NA | NA | 97 | 97 |
| 11 | PINK | | | NA | NA | 90 | 90 |
| 12 | RED | | | NA | NA | 80 | 80 |
| 13 | ORANGE | | | NA | NA | 70 | 70 |
| 14 | BLUE | | | *NA* | *NA* | 64 | 64 |
| | | | | | Total | 1660 | 1599 |

| | LINE LENGTH | LTAR GPD/FT² | SYSTEM TYPE | SOIL LTAR GPD/FT² | TRENCH SYSTEM | DISTRIBUTION |
|---|---|---|---|---|---|---|
| ** System* | *605* | *0.30* | *ACCEPT.* | *0.30* | *25% RED.* | GRAVITY |
| Repair | 994 | 0.30 | *MOD.* | 0.30 | PPBPS | DISTRIBUTION LOW PRESSURE |

**Notes:**

**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


COMMENTS
Scale 1"=60'
6 Bedroom House
Keep the septic system
>100'(50' min) from
any wells
LOT 22
RESERVE
SEPTIC
FIELD
6,907 SF
LOT 27
100.2.04 acres
WELL
OPEN SPACE
0.243c
Septic Area
35'x35'
Sign: R1-1
LOT 27
SEPTIC FIELD
19,775 SF
Setback
DRIVE
30' setback
N64°24'19"W
119.44'
N64°24'20"W
119.59'
N44°40'29"E
1"=60'
365.03'
N75°02'06"W
S25°48'00"W
122.91'
N07°47
104.6
L=196.07
R=190.00
L=204.18'
R=175.00
R=20.00
R=250.00
L=73.52
R=265.00
L=27.12
R=585.00
L=44.75
35'x35'
L=76.38'
R=165.00
R=150.00
L=134.55'
R=135.00
L=121.09'
R=340.00
L=248.49'
L=292.58'
R=340.00
60' setback
PM

## CALCULATIONS

Location ABERSHAM

Project Number 01-1044

Lot No. Lot 27

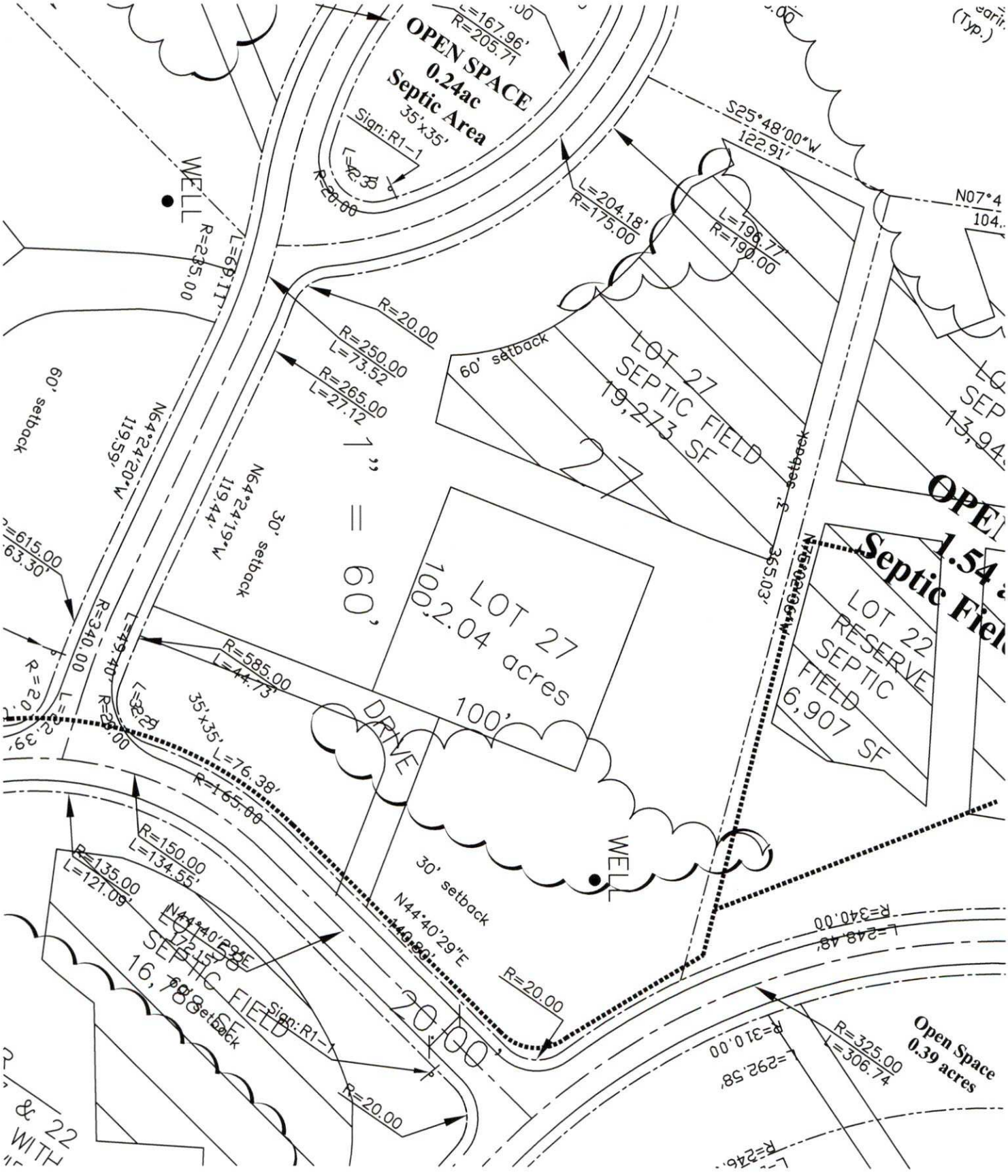
| | | |
|---|---|---|
| No. of Bedrooms | 6 | |
| Design Flow | 720 | $^{gal}/_{day}$ |
| LTAR | 0.3 | $^{gpd/ft^2}$ |
| 25% RED.? (YES OR NO) | YES | |
| Supply Line Length | 48 | ft. |
| Supply Line Volume | 8.352 | gal. |
| Required Feet of Line | 600 | ft. |
| Amount of Line from Layout | 605 | ft. |
| Gallons per Minute | N/A | $^{gal}/_{min}$ |
| Required Septic Tank Capacity | 1500 | gal. |
| Minimum Standard Tank Size | 1500 gal. | |
| Lateral Line Volume | 395.065 | gal. |
| Dosing Volume | NA | gal. |

*Note: Dosing Volume based on70% of lateral line volume*

| | | |
|---|---|---|
| Tank Draw Down | NA | *Generic Draw Down of 29 gal.per in.* |
| Pump Run Time | NA | minutes |
| Elevation Head | NA | ft. |
| Pressure Head | NA | ft. |
| Friction Factor | NA | ft./100 ft. *(From the interpolater.)* |
| Friction Head | NA | ft. |
| Total Dynamic Head (+15%) | NA | ft. |

FRICTION FACTOR INTERPOLATER
2" SCH 40 PVC

| GPM | *f* |
|---|---|
| 20 | 0.84 |
| **-0.86** | |
| 25 | 1.27 |
| **-1.28** | |
| 30 | 1.78 |
| **-1.75** | |
| 35 | 2.37 |
| **-2.25** | |
| 40 | 3.03 |
| **43.07** | **3.48** |
| 45 | 3.77 |
| **46.14** | **4.28** |
| 50 | 4.58 |
| **57.11** | **5.80** |
| 60 | 6.42 |


OPEN SPACE
0.24ac
Septic Area
35'x35'
Sign: R1-1
L=167.96'
R=205.71
L=42.39'
R=20.00
WELL
L=168.11'
R=235.00
R=20.00
R=250.00
L=73.52'
R=265.00
L=27.12'
60' setback
LOT 27
SEPTIC FIELD
19,273 SF
27
L=204.18'
R=175.00
L=196.77'
R=190.00
S25°48'00"W
122.91'
N07°4
104.
3' setback
N25°20'06"W
35.03'
OPE
1.54
Septic Fiel
LOT 22
RESERVE
SEPTIC
FIELD
6,907 SF
60' setback
N64°24'20"W
119.59'
30' setback
N64°24'19"W
119.44'
1" = 60'
LOT 27
100.2.04 acres
100'
DRIVE
R=615.00
63.30'
R=240.00
L=49.40'
R=585.00
L=44.73'
L=32.29'
R=20.00
35'x35'
L=76.38'
R=165.00
R=150.00
L=134.55'
R=135.00
L=121.09'
N44°40'29"E
140.80'
30' setback
N44°40'29"E
R=20.00
LOT 28
SEPTIC FIELD
16,788 SF
Setback
Sign: R1-1
20.00'
R=20.00
WELL
L=248.48'
R=340.00
R=310.00
L=292.58'
R=325.00
L=306.74
Open Space
0.39 acres
(Typ.)