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

OPERATION PERMIT for an
ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 3173B Permit #: 30005901 Tax Parcel #: 019·171·03

Property Owner: Michael Needleman

Job Location Address: 11409 Trails End Lane

City: Huntersville State: NC Zip Code: 28078

Operation Permit Issuance Date: 10/11/2013 Contractor Name: Russell Williams

Permitted Design Flow: 360 GPD

Liquid Capacity of Septic Tank: 1500 gallons

Liquid Capacity of Dosing Tank: n/a gallons

Effluent Pump Model: n/a

Drainfield Installation ☐ N/A

Trench Depth: 24 inches

Trench Width: 3 feet

Line Spacing: 9 feet (O.C.)

Total line length: 300 feet

# of Lines: 4 @ 90,90,60,60 feet

Depth of Media: 12 inches (Type) Chambers

Depth of Cover: 12 inches

Distribution Device: End Caps

Bed Installation *(For Repair Installations ONLY.)* ☒ N/A

Bed Depth: _____ inches

Bed Width: _____ feet

Total line length: _____ feet

# of Lines: _____ @ _____ feet

Depth of Media: _____ inches (Type) _____

Depth of Cover: _____ inches

Distribution Device: _____

Water Supply Source

☒ Municipal ☐ Private Well ☐ Community Well

☐ Other _____

System Installation Setbacks

Distance from Building Foundation: >10 feet

Distance from Property Line: >10 feet

Distance from Water Supply Source: >50 feet

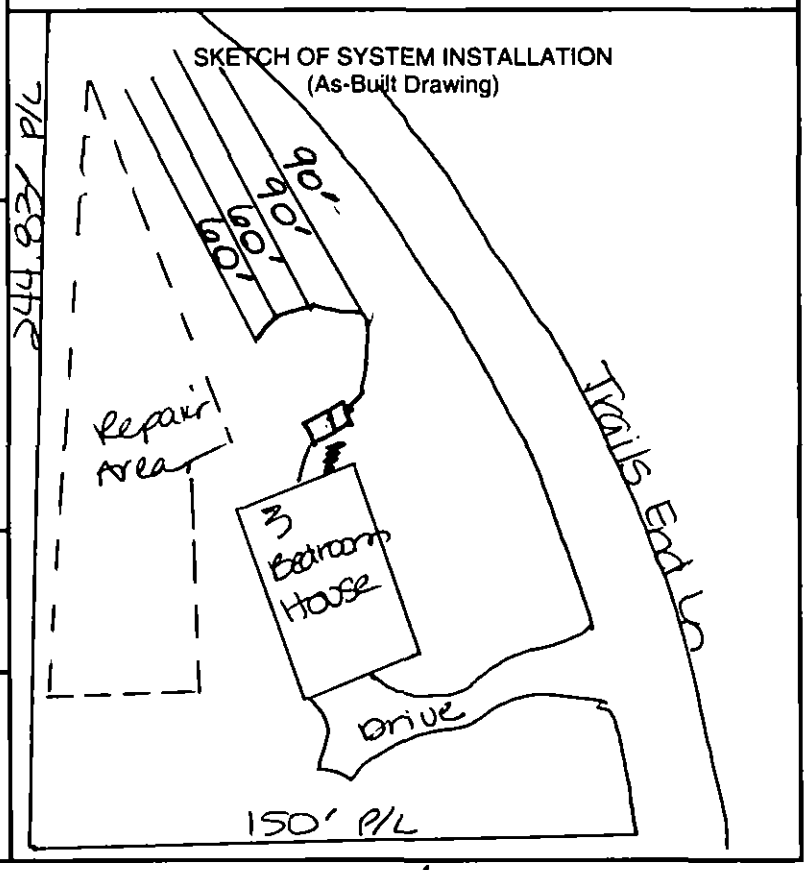
Inspection Dates

Tank(s) Inspected: 10/11/13

Excavation Inspected: 10/11/13

Pump & Controls Inspected: na

SKETCH OF SYSTEM INSTALLATION
(As-Built Drawing)



The undersigned has inspected the Septic Tank System described above, and certifies it has been ☒ installed ☐ altered ☐ repaired ☒ as detailed in the plot above ☒ in accordance with the permit issued and meets the provisions of 15A NCAC 18A. 1900, "Laws and Rules for Sewage Treatment and Disposal Systems" in effect on the date of issuance of the permit. The issuance of this Operation Permit does not in any way guarantee that the system will operate properly or relieve any person now or hereafter owning, controlling, or using such system from any liability resulting from the failure of the system to operate properly. This document is issued subject to those restrictions and conditions shown on the permit(s) and the provisions of 15A NCAC 18A. 1900 in addition to those listed below under "Comments." This document shall be null and void if any information contained in the application is untrue or if any additions are made to the property which would increase the requirements for said system.

Notice: Disturbance of the designated repair area may result in the Suspension or Revocation of this permit.

Comments: System Classification & Type: III, g, 25% reduction, approved, gravity IQ4W, gravity, n/a, n/a KG

DENR Authorized Agent: Kim Garrett, REHS Signature: Kim Garrett, REHS

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NC DENR
Division of Environmental Health
On-Site Wastewater Section

OPERATION PERMIT for an
ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 31736 Permit #: 30005901 Tax Parcel #: 019-171-03

Property Owner: Michael Needleman

Job Location Address: 11409 Trails End Ln

City: Huntersville State: NC Zip Code: 28078

OPERATION PERMIT CONDITIONS:

I. Performance: System shall perform in accordance with 15A NCAC 18A .1961.

II. Monitoring: System shall be monitored as required by 15A NCAC 18A .1961.

III. Maintenance: Ground absorption sewage treatment and disposal systems shall be checked, and the contents of the septic tank removed, periodically from all compartments, to ensure proper operation of the system. The contents shall be pumped whenever the solids level is found to be more than 1/3 of the liquid depth in any compartment.

IV. Operation: System shall be operated in accordance with 15A NCAC 18A .1961.

System Classification: Type V

*Operation Permits for Type V and VI systems expire five (5) years from the date of issuance (in accordance with Table V(a)). The system owner must contact GWS six (6) months prior to expiration for permit renewal.

Subsurface system operator required: Yes ☐ ~~No~~ ☒

☐ This type of system requires the system owner to maintain a contract with a certified operator to perform system inspection, maintenance, and reporting as required in 15A NCAC 18A .1961. and Table V(a). The system owner is responsible for all fees associated with these services.

☒ System does not require inspection by GWS on a routine frequency.

☐ System requires inspection by GWS once every five (5) years. The system owner is responsible for all fees associated with the inspection.

☐ System requires inspection by GWS once every three (3) years. The system owner is responsible for all fees associated with the inspection.

☐ System requires inspection by GWS once every twelve (12) months. The system owner is responsible for all fees associated with the inspection.

☐ System requires inspection by GWS once every six (6) months. The system owner is responsible for all fees associated with the inspection.

V. Other:

DENR Authorized Agent: Kim Garrett, REHS Date: 10/11/2013

Signature: Kim Garrett, REHS

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700 N. Tryon St., Suite 211 Charlotte, NC 28202
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NC DENR
Division of Environmental Health
On-Site Wastewater Section

INSTALLATION APPROVAL for an
ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 31736 Permit #: 30005901 Tax Parcel #: 019-171-03

Property Owner: Michael Needleman

Job Location Address: 11409 Trails End Ln

City: Charlotte/Huntersville State: NC Zip Code: 28078

Installation Approval Issuance Date: 10/11/2013

Permission is hereby given to ☒ install ☐ alter ☐ repair an on-site wastewater treatment & and disposal system, with subsurface soil absorption and effluent discharge, as specified herein at the described location. This approval is granted based upon the application information submitted to our office. All work shall be completed on or before 11/11/2013 after which date this approval shall be null and void. *The system shall meet all of the construction requirements of 15A NCAC 18A .1900 which are in effect on the date of* granting this approval. An **Operation Permit** must be obtained from the Mecklenburg County Health Department before any system can be covered up or placed into service. The issuance of this permit does not in any way guarantee that the system anticipated to be constructed will operate properly, or relieve any person now of hereafter owning, controlling or using such system from any liability resulting from the failure of the system to operate properly.

***NOTICE: This system shall not be installed while soils are in a wet condition.**

Permitted Design Flow: 360 GPD

Site LTAR: .3 GPD/ft² (For new installations only.)

Liquid Capacity of Septic Tank: 1500 gallons

Liquid Capacity of Dosing Tank: n/a gallons

Drainfield Design ☐ N/A

Trench Depth: 24 inches

Trench Width: 3 feet

Line Spacing: 9 feet (O.C.)

Total line length: 300 feet

# of Lines: 4 @ 40, 60, 90, 110 feet

Depth of Media: 12 inches (Type) chambers

Distribution Device: drop boxes

Bed Design *(For Repair Installations ONLY.)* ☒ N/A

Bed Depth: _____ inches

Bed Width: _____ feet

Total line length: _____ feet

# of Lines: _____ @ _____ feet

Depth of Media: _____ inches (Type) _____

Distribution Device: _____

Water Supply Source

☒ Municipal ☐ Private Well ☐ Community Well

☐ Other _____

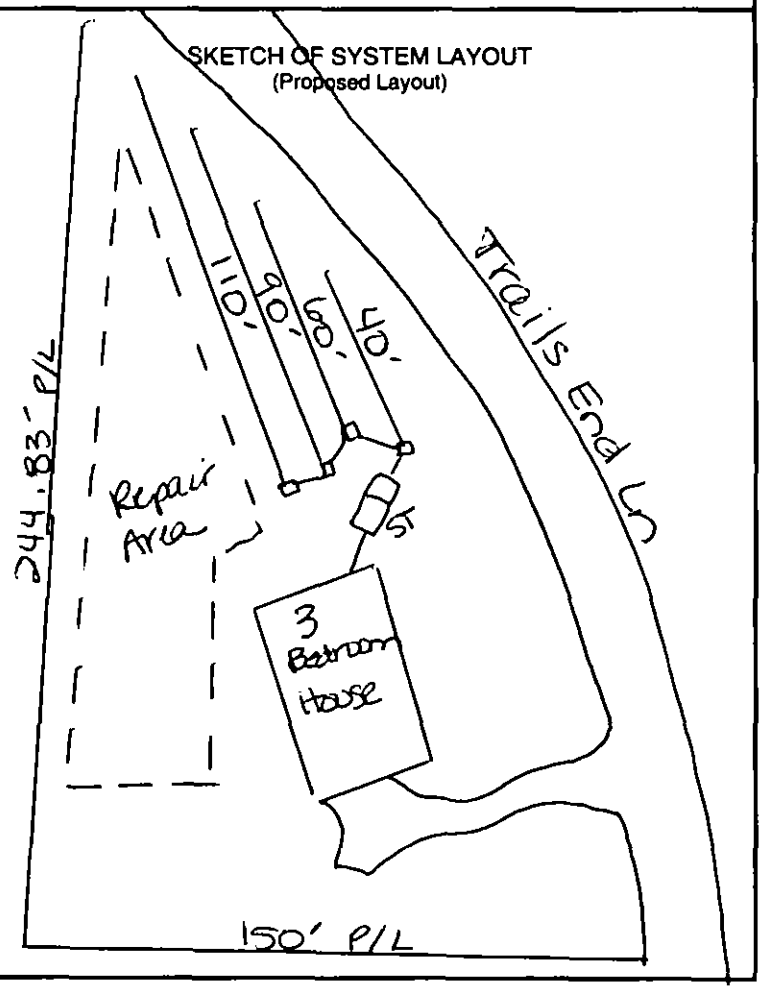
Minimum System Setbacks

Distance from Building Foundation: >10 feet

Distance from Property Line: > _____ feet

Distance from Water Supply Source: >50 feet

SKETCH OF SYSTEM LAYOUT
(Proposed Layout)



Comments: System Classification & Type: TIIg, 25% reduction, gravity

DENR Authorized Agent: Kim Garrett, REHS Signature: Kim Garrett, REHS

3173B

MECKLENBURG COUNTY HEALTH DEPARTMENT App# 5901

APPLICATION FOR A RESIDENTIAL SITE IMPROVEMENT PERMIT/ CONSTRUCTION AUTHORIZATION FOR AN ON-SITE WASTEWATER SYSTEM, NEW WELL INSTALLATION, OR REPAIR OF EXISTING WELL

1. **SEPTIC / TYPE APPLICATION:** ○ N/A ◉ NEW SYSTEM ○ ALTERATION ○ REPAIR ○ MODIFIED PLOT PLAN

2. **WELL / TYPE APPLICATION:** ◉ N/A ○ NEW WELL ○ MAJOR REPAIR ○ ABANDONMENT

3. **JOB LOCATION INFORMATION:**

TAX PARCEL NUMBER: 01917103

STREET ADDRESS: 11409 Trails End Lane

CITY: Huntersville

STATE: NC ZIP: 28078

SUBDIVISION NAME: N/A

LOT #: 1 LOT SIZE (acres): 0.56

TOWNSHIP:

○ MECKLENBURG ○ CORNELIUS ◉ HUNTERSVILLE
○ DAVIDSON ○ CHARLOTTE ○ PINEVILLE
○ MATTHEWS ○ MINT HILL

4. **BUILDING INFORMATION:**

BUILDING TYPE:

○ SINGLE MOBILE HOME ○ MODULAR HOME
○ DOUBLE WIDE ○ MULTIPLE FAMILY
◉ HOUSE ○ OTHER _____

HEATED SQUARE FOOTAGE: 1,575

NUMBER OF BEDROOMS: 3

NUMBER OF OCCUPANTS: 3

FOUNDATION TYPE:

◉ CONCRETE SLAB ○ BASEMENT WITH PLUMBING
○ CRAWL SPACE ○ BASEMENT WITH NO PLUMBING

5. **IF PLANNING TO EXPAND OR ALTER THE EXISTING SEPTIC 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 ○ PRIVATE WELL ○ PUBLIC WELL ○ SHARED WELL ○ OTHER _____

7. **PROPOSED USE OF WELL:** ◉ N/A ○ IRRIGATION ○ POTABLE (DRINKING WATER) ○ OTHER _____

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

☐ N/A ☐ ANY TYPE ☑ CONVENTIONAL ☑ ACCEPTED ☐ INNOVATIVE ☐ ALTERNATIVE ☐ OTHER _____

8A. **RANK:** 1 2 ____ ____ ____

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 (SEPTIC) 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
CHEMICAL/PETROLEUM STORAGE TANKS	○ YES ○ NO	KNOWN UNDERGROUND CONTAMINATION	○ YES ◉ NO
WASTE STORAGE	○ YES ◉ NO	GROUNDWATER USE RESTRICTIONS/VARIANCES	○ YES ◉ NO

10. **WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED?** 11/6/12 ☐ UNKNOWN

11. **WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY?** _____ ☑ N/A

12. **PROPERTY OWNER:**

NAME: Michael Ronald Needleman

ADDRESS: 11401 Trails End Lane

CITY: Huntersville

STATE: NC ZIP: 28078

WORK PHONE: (704) 779-7006

MOBILE PHONE: (704) 219-9836

FAX: (704) 960-1810

E-MAIL: mikeneedleman@msn.com

13. **OWNER'S LEGAL REPRESENTATIVE, IF APPLICABLE:**

NAME: _____

ADDRESS: _____

CITY: _____

STATE: _____ ZIP: _____

WORK PHONE: _____

MOBILE PHONE: _____

FAX: _____

E-MAIL: _____

MECKLENBURG COUNTY – GROUNDWATER & WASTEWATER SERVICES
700 N. TRYON ST. SUITE 211 CHARLOTTE, NC 28202, OFFICE: 704-336-5103, FAX: 704-336-6894

700 N. TRYON ST. SUITE 211 CHARLOTTE, NC 28202, OFFICE: 704-336-5103, FAX: 704-336-6894
Revised on: 12/15/10

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

Sheet: 1 of 2
Property ID: 1917103
Lot #:
File #: 3173B
AppID: 5901

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

Owner: Michael Needleman
Address: 11401 Trails End Lane Huntersville, NC 28078
Proposed Facility: Residence Design Flow (.1949) 360 GPD
Location of Site: 11409 Trails End Lane Huntersville, NC 28078
Water Supply: [X] Public [ ] Individual [ ] Well [ ] Spring [ ] Other
Evaluation Method: [X] Auger Boring [ ] Pit [ ] Cut
Type of Wastewater: [X] Sewage [ ] Industrial Process [ ] Mixed

Applicant: Michael Needleman
Date Evaluated: 11/20/2012
Property Size: .56 ac
Property Recorded: 11/6/2012

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	0-4	wfg L	ss sp fr sexp	>51	51	NA	PS	PS IV
	3%	4-37	mmsbk C	ss sp fi sexp					0.3
		37-51	wfsbk CL	ss sp fr sexp					
2	LS	0-2	wfg L	ss sp fr sexp	37"	44	NA	PS	PS IV
	3%	2-32	mmsbk C	ss sp fi sexp	2.5 YR 7/2				0.3
		32-44	wfsbk C	ss sp fi sexp					
3	LS	0-2	wfg L	ss sp fr sexp	>53	53	NA	PS	PS IV
	4%	2-28	mmsbk C	ss sp fi sexp	28-41 Yellow and red				0.3
		28-41	mmsbk C	ss sp fi sexp	mottles				
		41-53	wfsbk CL	ss sp fr sexp					
4	LS	0-2	wfg L	ss sp fr sexp	>48	48	NA	PS	PS IV
	5%	2-9	wfsbk SCL	ss sp fi sexp					0.3
		9-34	mmsbk C	ss sp fi sexp					
		34-48	wfsbk CL	ss sp fr sexp					

Description	Initial System	Repair System
Available Space (.1945)	PS	PS
System Type(s)	III g	III e
Site LTAR	0.3	0.3

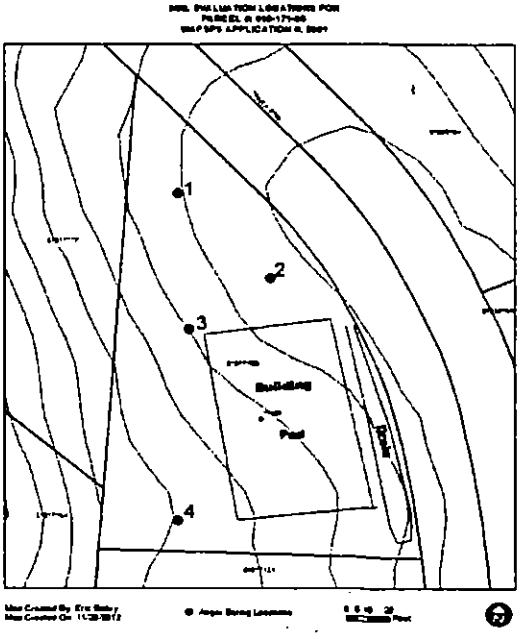
Other Factors (.1946):
Soil Evaluation By: Eric Bailey LSS
Others Present: Jacob Presley LSS
Site Classification (.1948): PS
Site Evaluation By: Jeremy Michelone, REHS
Others Present: Michael Needleman

COMMENTS:

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		
D-Drainage Way		SCL-Sandy Clay Loam		
		SiL- (Silt 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	NEXP-(Non-expansive)
FR-Friable	SS-Slightly Sticky	SEXP-Slightly Expansive
FI-Firm	S-Sticky	EXP-Expansive
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



FEE: 200.00

DATE: 2/21/2013

CONSTRUCTION AUTHORIZATION FOR AN ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

MECKLENBURG COUNTY

GROUNDWATER & WASTEWATER SERVICES

FILE NUMBER: 3173B

PERMIT NUMBER: 30005901

PARCEL NUMBER: 01917103

JOB LOCATION INFORMATION

ADDRESS: 11409 TRAILS END LN

CITY: HUNTERSVILLE **STATE: NC** **ZIP:** 28078

ISSUED TO: Michael Ronald Needleman

CONSTRUCTION AUTHORIZATION ISSUANCE DATE: 12/4/2012

CONSTRUCTION AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NUMBER 30005901, AND THE ATTACHED SITE PLAN WITH SYSTEM DETAILS. CONSTRUCTION AND INSTALLATION MUST ALSO MEET ALL REQUIREMENTS SET FORTH IN THE RULES GOVERNING SANITARY SEWAGE COLLECTION, TREATMENT, AND DISPOSAL AND ANY OTHER APPLICABLE RULES AND LAWS.

2. AN INSTALLATION APPROVAL MUST BE *SECURED PRIOR TO* INSTALLATION OF THE SEPTIC TANK SYSTEM. THE INSTALLER OF THE SYSTEM SHALL BE A REGISTERED SEPTIC TANK CONTRACTOR WITH THE MECKLENBURG COUNTY HEALTH DEPARTMENT.

3. ANY ALTERATION IN SITE OR SOIL CONDITIONS (INCLUDING LOCATION OF STRUCTURES AND APPURTENANCES) OR MODIFICATION IN USE, DESIGN WASTEWATER FLOW, OR WASTEWATER CHARACTERISTICS AS SPECIFIED IN THE ASSOCIATED IMPROVEMENT PERMIT AND APPLICATION, MAY SUBJECT THIS CONSTRUCTION AUTHORIZATION AND ASSOCIATED PERMIT(S) TO REVOCATION.

4. THIS CONSTRUCTION AUTHORIZATION AS PROVIDED IN G.S. 130A-335(f) AND G.S. 130A-336(b) SHALL BE VALID FOR A PERIOD EQUAL TO THE VALIDITY OF THE IMPROVEMENT PERMIT, NOT TO EXCEED 60 MONTHS.
   *CONSTRUCTION AUTHORIZATION EXPIRATION DATE: 12/4/2017

Mecklenburg County Groundwater & Wastewater Services
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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 #: 30005901 GWS File #: 3173B Tax Parcel #: 019-171-03

- 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): 12/4/2017

Type of Installation: Residential - New System Lot Number: 1

Structure Type: HOUSE Size (ft^2): 1575 # Bedrooms: 3 # Occupants: 3

Building Foundation: Concrete Slab Water Supply: Municipal

II. Initial System Type: Approved System Classification: IIIg

Initial System Specifications:

Design Flow (gpd): 360 LTAR (gpd/ft^2): 0.3 Septic Tank Size (gal): 1500 Pump Tank Size (gal): N/A

Trench Width (ft): 3 Trench Spacing (ft): 9 Absorption Area (ft^2): 900 Total Trench Length (ft): 300

Maximum Trench Depth (in): 24 Depth of Media (in): 12 Distribution Device: Drop Boxes

III. Repair System Type: PPBPS (gravity) System Classification: IIIe

Repair System Specifications:

Design Flow (gpd): 360 LTAR (gpd/ft^2): 0.3 Septic Tank Size (gal): 1500 Pump Tank Size (gal): N/A

Trench Width (ft): 3 Trench Spacing (ft): 9 Absorption Area (ft^2): 600 Total Trench Length (ft): 200

Maximum Trench Depth (in): 30 Depth of Media (in): N/A Distribution Device: Distribution Box

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: Jeremy Michelone Owner/Legal Agent: Michael R. Needleman
Print Name

Signature: Jeremy Michelone 12/4/2012 Signature:

Date Issued: 12/4/2012

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700 N. Tryon St, Suite 211 Charlotte, NC 28202
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NC DENR
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On-Site Wastewater Section

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

Permit #: 30005801 GWS File #: 3173B

IV. Permit Conditions/Comments:

- The invert of the sewer pipe exiting the structrue should be kept as high as possible in order to achieve gravity flow to the drain field. A dosing tank will be required if gravity flow to the drain field can not be achieved.
- Flow from all gutters and downspouts shall be directed not to discharge water onto or across 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: Jeremy Michalone

Signature: [signature] 2012

Date Issued: 12/4/2012

Owner/Legal Agent: [signature] RN re Hanna
Print Name

Signature: [signature]

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

Permit #: **30005901** GWS File #: **3173B** Tax Parcel #: **019-171-03**

- 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):** 12/4/2017

Type of Installation: Residential - New System Lot Number: 1

Structure Type: HOUSE Size (ft^2): 1575 # Bedrooms: 3 # Occupants: 3

Building Foundation: Concrete Slab Water Supply: Municipal

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

Initial System Specifications:

Design Flow (gpd):	360	LTAR (gpd/ft^2):	0.3	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	N/A
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	900	Total Trench Length (ft):	300
Maximum Trench Depth (in):	24	Depth of Media (in):	12	Distribution Device:	Drop Boxes		

III. Repair System Type: PPBPS (gravity) **System Classification:** IIIe

Repair System Specifications:

Design Flow (gpd):	360	LTAR (gpd/ft^2):	0.3	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	N/A
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	600	Total Trench Length (ft):	200
Maximum Trench Depth (in):	30	Depth of Media (in):	N/A	Distribution Device:	Distribution Box		

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: Jeremy Michelone Owner/Legal Agent: _____
Print Name

Signature: _____ Signature: _____

Date Issued: 12/4/2012

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

NC DENR
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On-Site Wastewater Section

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

Permit #: **30005901** GWS File #: **3173B**

IV. Permit Conditions/Comments:

- The invert of the sewer pipe exiting the structrue should be kept as high as possible in order to achieve gravity flow to the drain field. A dosing tank will be required if gravity flow to the drain field can not be achieved.
- Flow from all gutters and downspouts shall be directed not to discharge water onto or across 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: Jeremy Michelone

Signature: Jeremy Michelone REHS

Date Issued: 12/4/2012

Owner/Legal Agent: _____
Print Name

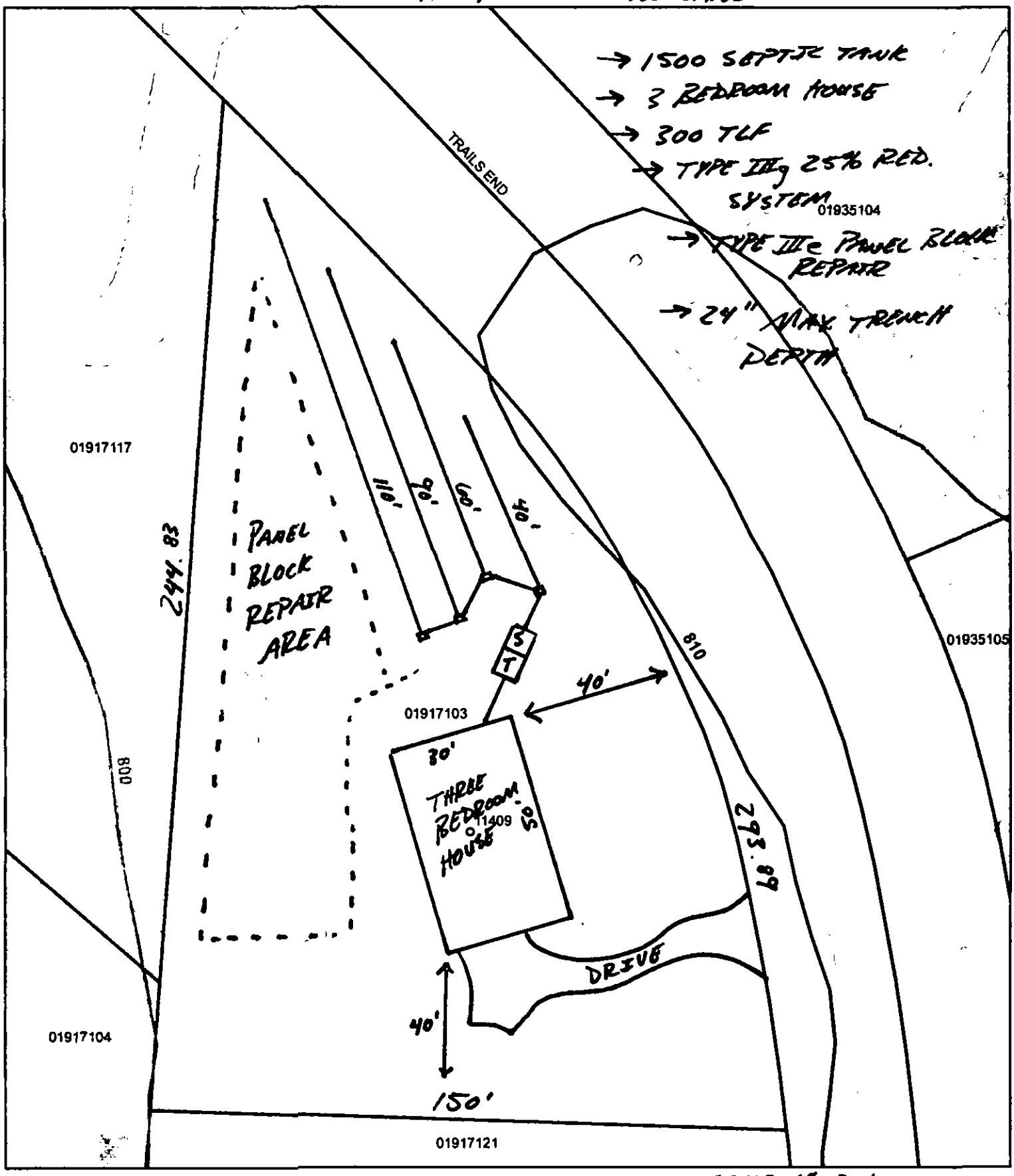
Signature: _____

3173B

5901

019-171-03

11409 TRAILS END LANE



Map Created By: JEREMY MICHELONE, REHS
Map Created On: 12/4/12

Jeremy Michelone, REHS 12/4/12

SCALE: 1" = 30'

0 10 20 40 Feet

N

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

Sheet: 1 of 2
Property ID: 1917103
Lot #:
File #: 3173B
AppID: 5901

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

Owner: Michael Needleman
Applicant: Michael Needleman
Address: 11401 Trails End Lane Huntersville, NC 28078
Date Evaluated: 11/20/2012
Proposed Facility: Residence
Design Flow (.1949): 360 GPD
Property Size: .56 ac
Location of Site: 11409 Trails End Lane Huntersville, NC 28078
Property Recorded: 11/6/2012
Water Supply: [X] Public [ ] Individual [ ] Well [ ] Spring [ ] Other
Evaluation Method: [X] Auger Boring [ ] 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	0-4	wfg L	ss sp fr sexp	>51	51	NA	PS	PS IV
	3%	4-37	mmsbk C	ss sp fi sexp					0.3
		37-51	wfsbk CL	ss sp fr sexp					
2	LS	0-2	wfg L	ss sp fr sexp	37"	44	NA	PS	PS IV
	3%	2-32	mmsbk C	ss sp fi sexp	2.5 YR 7/2				0.3
		32-44	wfsbk C	ss sp fi sexp					
3	LS	0-2	wfg L	ss sp fr sexp	>53	53	NA	PS	PS IV
	4%	2-28	mmsbk C	ss sp fi sexp	28-41 Yellow and red				0.3
		28-41	mmsbk C	ss sp fi sexp	mottles				
		41-53	wfsbk CL	ss sp fr sexp					
4	LS	0-2	wfg L	ss sp fr sexp	>48	48	NA	PS	PS IV
	5%	2-9	wfsbk SCL	ss sp fi sexp					0.3
		9-34	mmsbk C	ss sp fi sexp					
		34-48	wfsbk CL	ss sp fr sexp					

Description	Initial System	Repair System
Available Space (.1945)		
System Type(s)		
Site LTAR	0.3	0.3

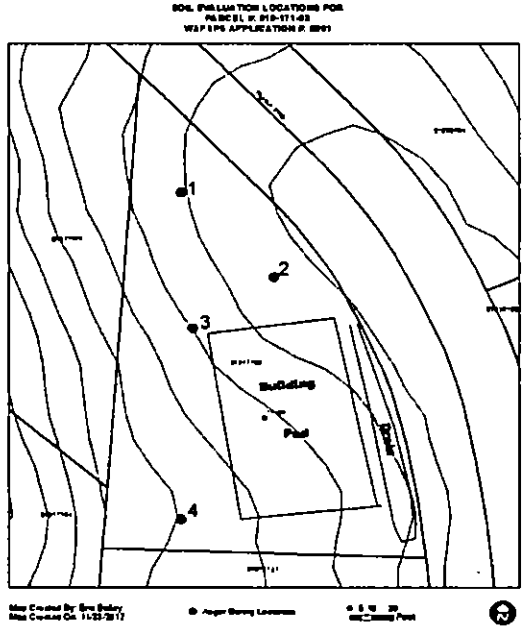
Other Factors (.1946):
Soil Evaluation By: Eric Bailey LSS Eric Bailey
Others Present: Jacob Presley LSS
Site Classification (.1948):
Site Evaluation By:
Others Present:

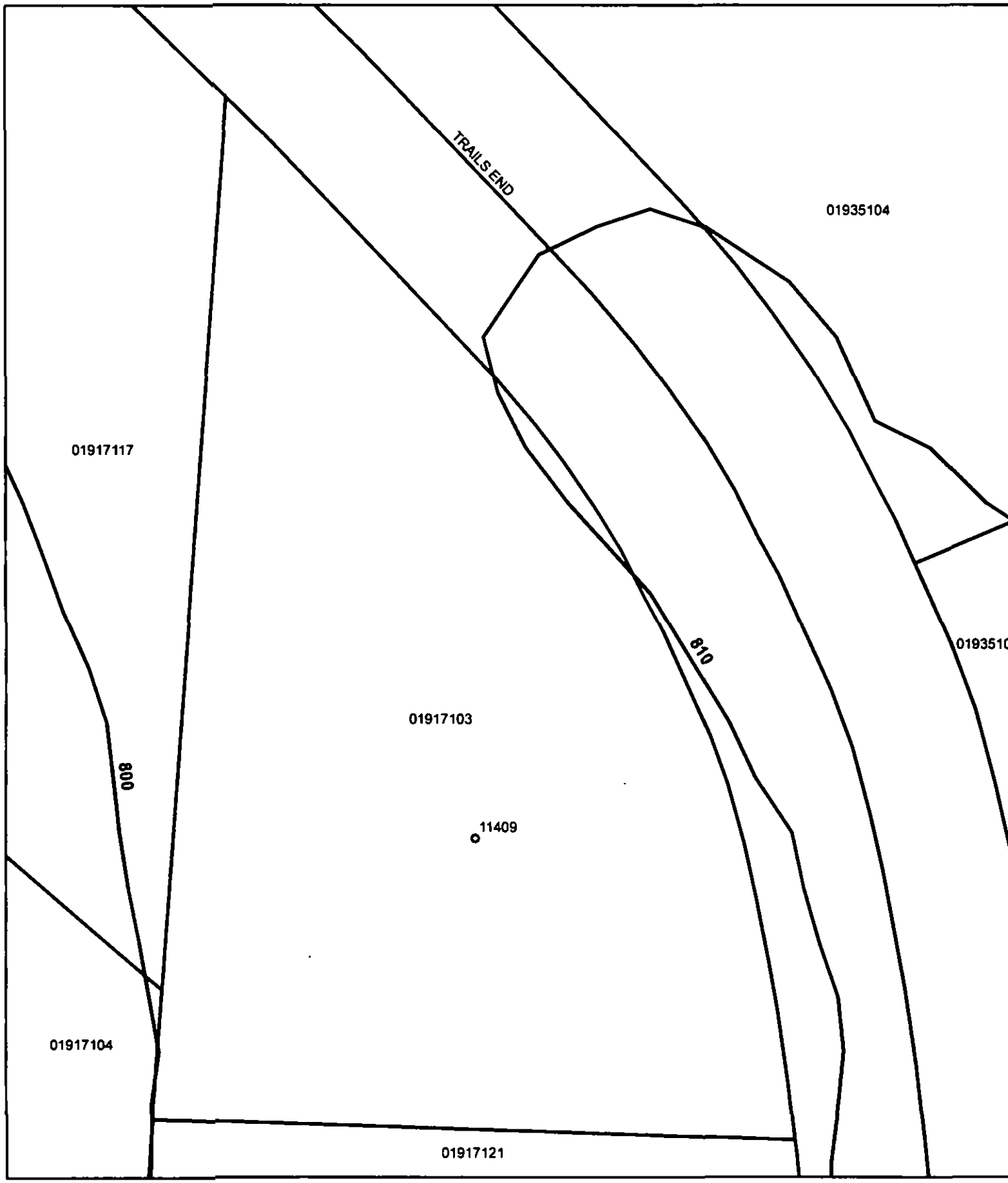
COMMENTS:

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		
D-Drainage Way		SCL-Sandy Clay Loam		
		SiL- (Silt 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	NEXP-(Non-expansive)
FR-Friable	SS-Slightly Sticky	SEXP-Slightly Expansive
FI-Firm	S-Sticky	EXP-Expansive
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





Map Created By: JEREMY MICHELONE, REHS
Map Created On: 12/4/12

0 10 20 40
Feet

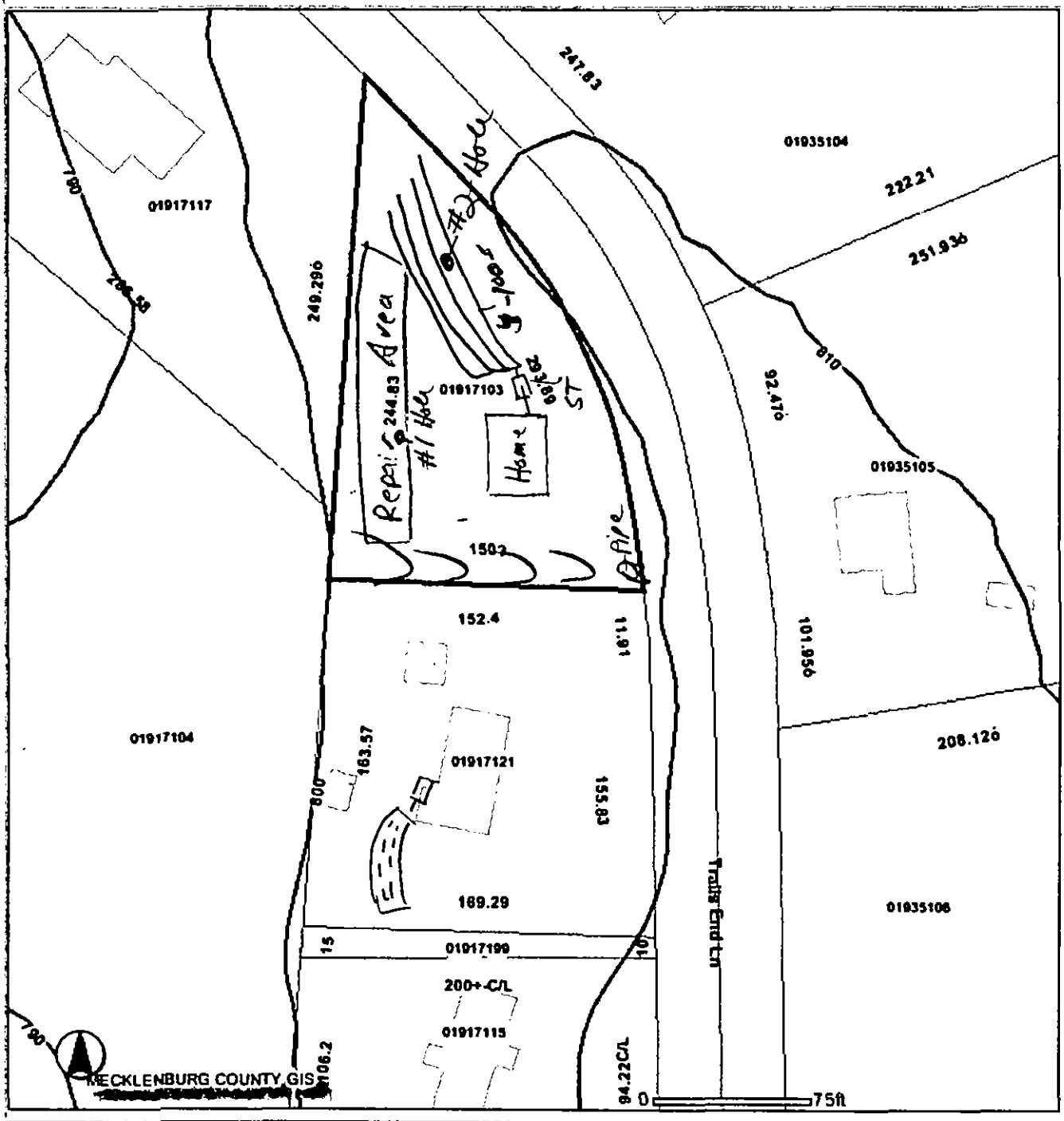
Mecklenburg County, North Carolina

POLARIS

Property Ownership Land Records Information System

Date Printed: Fri Oct 19 08:01:41 EDT 2012

Soil Evaluation



This map is prepared for the inventory of real property within Mecklenburg County and is compiled from recorded deeds, plats, tax maps, surveys, planimetric maps, and other public records and data. Users of this map are hereby notified that the aforementioned public primary information sources should be consulted for verification. Mecklenburg County and its mapping contractors assume no legal responsibility for the information contained herein.

