

9718 WORLEY DR

11103609

1/11/2008

duponbj

Groundwater and Wastewater Services File Imaging Project
May 2007
Barcode Font = IDAutomationHC39M

FILE NUMBER: 7198B

Revised On: January 3, 2007

APPLICATION NUMBER: 2460

SEPTIC FEE: _____
DATE: _____

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: 111-036-09
STREET ADDRESS: 9718 WORLEY DRIVE
CITY: CHARLOTTE
STATE: NC **ZIP:** 28215
SUBDIVISION NAME: The Preserve @ Kindley Lakes
LOT #: 11 **LOT SIZE (acres):** 0.68
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: 2900 - 3400
NUMBER OF BEDROOMS: 4
NUMBER OF OCCUPANTS: APPROX. 4
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: N/A NUMBER OF ADDITIONAL OCCUPANTS IN THE RESIDENCE: N/A

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: STEVENS LAND DEVELOPMENT, INC.
ADDRESS: 15005 SULLIVAN RIDGE DR.
CITY: CHARLOTTE
STATE: NC ZIP: 28277
HOME PHONE: 704.544.6712 WORK PHONE: 704.400.5040
MOBILE PHONE: 704.400.5040 FAX: 704.544.1023

11. OWNER'S LEGAL REPRESENTATIVE, IF APPLICABLE:

NAME:
ADDRESS:
CITY:
STATE: ZIP:
HOME PHONE: WORK PHONE:
MOBILE PHONE: FAX:

12. WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? _____
13 WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY? Summer 2007

14. SEPTIC SYSTEM PERMIT APPLICATION SIGNATURE SECTION:

If the information in this application is falsified, changed, or the site is altered, then the Improvement Permit and Authorization to Construct 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 either 60 months or is non-expiring depending upon the documentation submitted: complete site plan = 60 months, complete plat = non-expiring.

6/22/07
Property Owner's or Owner's Legal Representative Signature Date

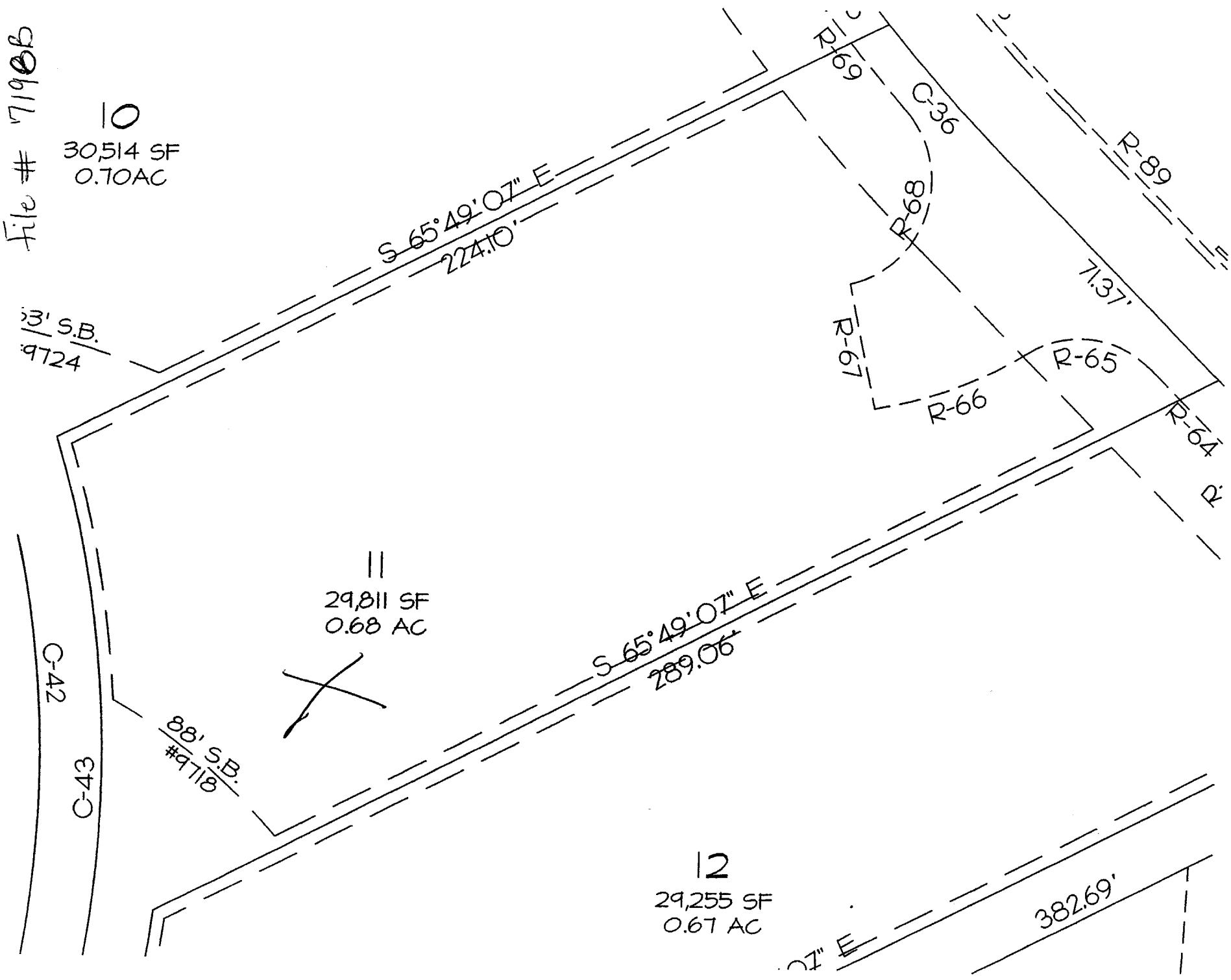
15. WELL PERMIT APPLICATION SIGNATURE SECTION:

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

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


File # 71908
10
30,514 SF
0.70AC
S 65°49'07" E
224.10'
3' S.B.
#9724
R-69
C-36
R-68
R-89
71.37'
R-67
R-65
R-66
R-64
11
29,811 SF
0.68 AC
S 65°49'07" E
289.06'
C-42
C-43
88' S.B.
#9718
12
29,255 SF
0.67 AC
382.69'

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

Sheet: 1 of 2
Property ID: 111-036-09
Lot #: 11
File #: 7198B
AppID: 2460

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

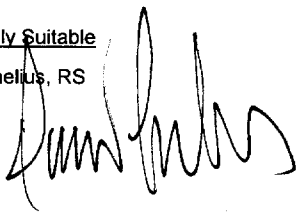
Owner: Stevens Land Development, Inc.
Applicant: Scott Stevens
Address: 15605 Sullivan Ridge Dr., Charlotte, NC 28277
Date Evaluated: 7/11/07
Proposed Facility: Residence
Design Flow (.1949): 480 gpd
Property Size:
Location of Site: 9718 Worley Dr
Property Recorded:
Water Supply: [x] Public [ ] Individual [ ] 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	PROFILE FACTORS .1942 Soil Wetness/ Color	1943 Soil Depth (IN.)	1956 Sapro Class	1944 Restr Horiz	Profile Class & LTAR
1	LS,10	0-8	GR/SL	VFR/NS/NP/SEXP	>36" TO SOIL WETNESS	36	NA	NONE	PS,IV
		8-36	SBK/C	FI/S/P/SEXP					.3 GPD/FT^2
		36+	M/SAP						
2	"	0-3	GR/SL	VFR/NS/NP/SEXP	>32" TO SOIL WETNESS	32	"	"	US,IV
		3-32	SBK/ABK/C	FI/S/P/SEXP					.275 GPD/FT^2
		32+	M/SAP						
3	LS,5	0-2	GR/SL	VFR/NS/NP/SEXP	>48" TO SOIL WETNESS	48	"	"	PS,IV
		2-36	SBK/C	FI/S/P/SEXP					.3 GPD/FT^2
		36-48	SBK/L	FR/SS/SP/SEXP					
4	"	0-2	GR/SL	VFR/SS/SP/SEXP	>30" TO SOIL WETNESS	30	"	"	US,IV
		2-30	SBK/ABK/C	FI/S/P/SEXP					.275 GPD/FT^2
		30+	M/SAP						
5	LS,10	0-6	GR/SL	VFR/NS/NP/SEXP	>36" TO SOIL WETNESS	36	"	"	PS,IV
		6-36	SBK/ABK/C	FI/S/P/SEXP					.275 GPD/FT^2
		36+	M/SAP						
					SITE LTAR				.275 GPD/FT^2

Description	Initial System	Repair System
Available Space (.1945)	PS	PS
System Type(s)	IIIg	Va
Site LTAR	*0.3	*0.27

Other Factors (.1946): None
Soil Evaluation By: Chris Sherrill, RS, LSS
Others Present: No
Site Classification (.1948): Provisionally Suitable
Site Evaluation By: David Cornelius, RS

*LTAR based on KSAT's on file from consultant.



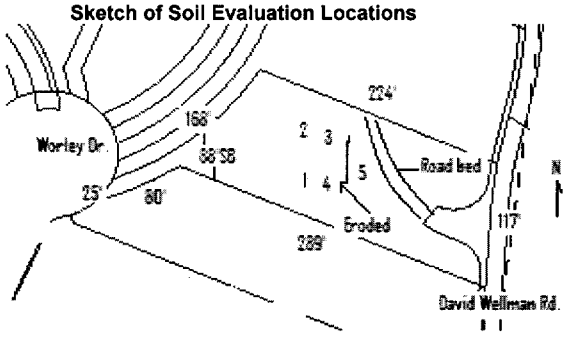
Sheet: 2 of 2

COMMENTS: 100% Repair Area Required FILE #: 7198B

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 #: **30002460** GWS File #: **7198B** Tax Parcel #: **111-036-09**

- 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):** 10/22/2012

Type of Installation: Residential - New System Lot Number: 11

Structure Type: HOUSE Size (ft^2): 3400 # Bedrooms: 4 # Occupants: 4

Building Foundation: Basement With Plumbing Water Supply: Municipal

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

Initial System Specifications:

Design Flow (gpd): 480 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): 1200 Total Trench Length (ft): 400

Maximum Trench Depth (in): 24 Depth of Media (in): N/A Distribution Device: Drop Boxes

III. Repair System Type: Drip Irrigation **System Classification:** Va

Repair System Specifications:

Design Flow (gpd): 480 LTAR (gpd/ft^2): 0.27 Septic Tank Size (gal): 1500 Pump Tank Size (gal): 1000

Trench Width (ft): 0.5 Trench Spacing (ft): 2 Absorption Area (ft^2): 1717 Total Trench Length (ft): 592

Maximum Trench Depth (in): 6 Depth of Media (in): Distribution Device: Headworks (Drip Irr.

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: David Cornelius

Signature:

Date Issued: 10/22/2007

Owner/Legal Agent: CHARLES A. STEVENS II
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 #: **30002460** GWS File #: **7198B**

IV. Permit Conditions/Comments:

- Easement agreement forms shall be on file and the property shall be deeded and recorded prior to issuance of Construction Authorization.
- This Improvement Permit is being issued based on a supplemental soil investigation performed by staff from our office.
- 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 installed in accordance with the required setbacks listed on the corresponding plot plan.
- All components of the septic system must be located at least 100 ft. (50 ft. minimum) from all private wells.
- Permitted LTAR value based on KSAT study provided by soil consultant.
- Install according to plans on file submitted by Larry Thompson and The Catena Group, 9/28/07.

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:

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- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: David Cornelius

Signature: _____

Date Issued: 10/22/2007

Owner/Legal Agent: CHARLES A. STEVENS II
Print Name

Signature: _____

Residential Subsurface Wastewater Treatment and Disposal System Design

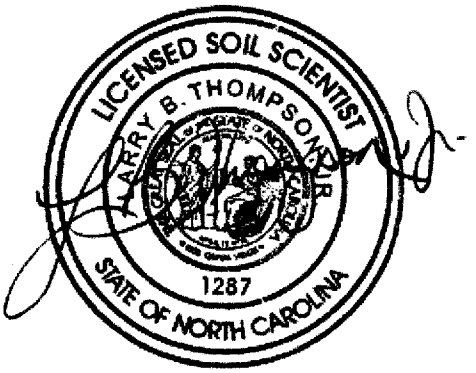
for

Lot 11 – Kinsley Lakes
9718 Worley Drive
Charlotte, North Carolina

Tax Parcel # 111-036-09
Mecklenburg County File # 7198B
September 28, 2007

Prepared for:

Stevens Land Development, Inc.
15805 Sullivans Ridge Drive
Charlotte, NC 28277
704-544-6712



Prepared by:

Larry Thompson, RS, PWS, LSS
Thompson Environmental Consulting, Inc.
114 Orchard Ridge Road
Locust, NC 28097-8748
Phone: 704-301-4881
Fax: 704-888-1496
info@thompsonenv.com



CC: Mr. David Cornelius, RS
Mecklenburg County Environmental Health

GWS Septic System Design Review

GWS File #: 7198B	**Approved**	**Disapproved**
Design Review: JCT 10-18-07	☒	☐
Field Review: DC 10/18/07	☒	☐

***Projects are not considered "APPROVED" until both sections above are completed and indicate an APPROVED status.**

Details

In an application for an Improvement Permit filed with the Mecklenburg County Health Department (MCHD) by Scott Stevens of Stevens Land Development, Inc., the subject property was proposed to be developed with a single family 4-bedroom residence served by public water. Based upon this information, a soil and site evaluation was conducted by the MCHD where the 0.68 acre lot (Lot 11 – Kinsley Lakes) was determined to be "Unsuitable" for the installation of a subsurface wastewater treatment and disposal system in accordance with the *Laws and Rules for Sewage Treatment, and Disposal Systems* 15A NCAC 18A .1900 (North Carolina Department of Environment and Natural Resources, Division of Environmental Health, On-Site Wastewater Section).

Stevens Land Development, Inc. has contracted with Thompson Environmental Consulting, Inc. (TEC) to assist in the development of a proposal for an on-site wastewater treatment and disposal system that might allow for the construction of a 4-bedroom residence. Based upon an investigation performed by TEC it was determined that a sufficient amount of "Suitable" Group IV soils are available for the installation of a shallow placed Type III innovative system at a 0.3 long term acceptance rate (LTAR – based upon Ksats) for a 4-bedroom residence with a drip irrigation repair area.

It is the desire of the owner that the MCHD consider reclassifying this lot as "Provisionally Suitable", allowing for the issuance of a Construction Authorization, based upon the following proposal.

Location

The subject property is located in Kinsley Lakes (Lot 11) off of Worley Drive in Charlotte, North Carolina. From the intersection of Albemarle Road (NC 24-27) and Harrisburg Road, travel north on Harrisburg Road and turn left onto Timbertop Lane. Turn right onto Worley Drive and Lot 11 is located on the right.

References

Laws and Rules for Sewage Treatment and Disposal Systems, 15A NCAC 18A, Section .1900, Department of Environment and Natural Resources, Division of Environmental Health, On-Site Wastewater Section, June, 2006.

Onsite Wastewater Treatment and Disposal Systems; EPA 625/R-00/008 Design Manual, February 2002.

Innovative Wastewater System Approval: IWWS-95-3-R3; North Carolina Department of Environment and Natural Resources, Division of Environmental Health, On-Site Wastewater Section, April 18, 2002.

Innovative Wastewater System Approval: IWWS-93-2-R11; North Carolina Department of Environment and Natural Resources, Division of Environmental Health, On-Site Wastewater Section, December 21, 2006.

Plans and Specifications

The following proposal is for a shallow placed system and extreme care should be given to the stub out elevation for the household plumbing.

Septic Tank

- The septic tank shall be State approved (Section .1953 of 15A NCAC 18A), watertight, structurally sound, and 1500 gallons in capacity.
- The septic tank will be fitted with an approved effluent filter and riser for easy access and periodic maintenance.
- It is the responsibility of the septic contractor to thoroughly inspect the septic tank prior to accepting delivery to assure that the tank has had time to properly cure and is free of cracks or other structural deficiencies.

Pipes and Fittings

- All discharge piping, connectors and supply lines should be made of Sch. 40 PVC.
- All joints must be properly "welded" utilizing the appropriate PVC cement for each application.

Distribution Method

- Wastewater from the septic tank will be directed to a series of "drop boxes" that will fed a total of ~~nine~~ EIGHT (8) drain lines of varying lengths.
- The drop boxes shall be placed level and must be watertight.

Drain Field Installation

- The drain field has been previously laid out on-site utilizing metal stemmed flags. Once this area has been approved by the MCHD, the property owner/builder should mark this area and isolate it as much as possible from construction traffic. Prior to the system installation, the septic contractor shall contact the MCHD and the system designer for a preconstruction conference at which time the drain field area will be re-verified.
- Under no circumstances shall any construction take place within the drain field area while the soil is in a wet condition. If the installer has doubts as to whether or not the drain field area is dry enough to begin construction, the MCHD should be contacted for permission to proceed with the installation.
- The specified system is a shallow placed Type III Innovative system; the **EZ*flow* 1203H** or the **Infiltrator Chamber System** may be used (other innovative systems may be substituted with prior approval by the MCHD).
- The drain field consists of (8) lateral trenches to be constructed 3 foot wide by varying lengths. There are two (2) 75 foot long drain lines, one (1) 55 foot long drain line, two (2) 50 foot long drain lines, one (1) 40 foot long drain line, one (1) 35 foot long drain line and one (1) 25 foot long drain line.

- The maximum trench depth for this system shall be 24 inches.
- The laterals are to be installed on contour with the land, keeping the individual trench bottoms level from beginning to end.
- The trenches should be left open for the final inspection by the MCHD.

Final Landscaping

- Finished soil cover must be at least 6 inches deep over the entire drain field area.
- The drain field shall be shaped to shed rainwater and be free from low spots.
- The drain field area should be planted with grass as soon as possible to prevent erosion. The soil should be properly tilled, limed (if necessary) and fertilized prior to planting. After applying grass seed, the area should be heavily mulched with straw or other suitable material.

Utility Conflicts

- The builder and property owner must take special care in planning for water, power, gas, telephone and cable lines. These utilities shall be kept clear of all parts of the septic system and its proposed repair area. Improper planning for underground utilities can negatively impact the installation and, in some cases, cause irreparable damage. If there are any questions regarding preferred routes, contact the MCHD as soon as possible.
- Lawn irrigation should not be placed over the drain field area.

Maintenance

In General

- The septic and pump tanks shall be pumped every 4 years or when the solids within the septic tank reach an elevation that is equivalent to 1/3 of the volume of the tank. In some situations, the tanks may need to be pumped more frequently. If using a garbage disposal, it is recommended that the homeowner has the septic and pump tanks cleaned out annually.
- When it becomes necessary to clean the effluent filter, the filter should be removed and the accumulated debris washed back into the septic tank – not onto the lawn.
- All piping and valves should be inspected annually for damage and corrections/repairs made immediately.
- The drain field area should be maintained to prevent over growth of vegetation. Any damp areas, leakages or malfunctions should be addressed immediately.
- Divert gutter downspouts and surface water runoff away from the septic and pump tanks.

Suggestions to the Homeowner

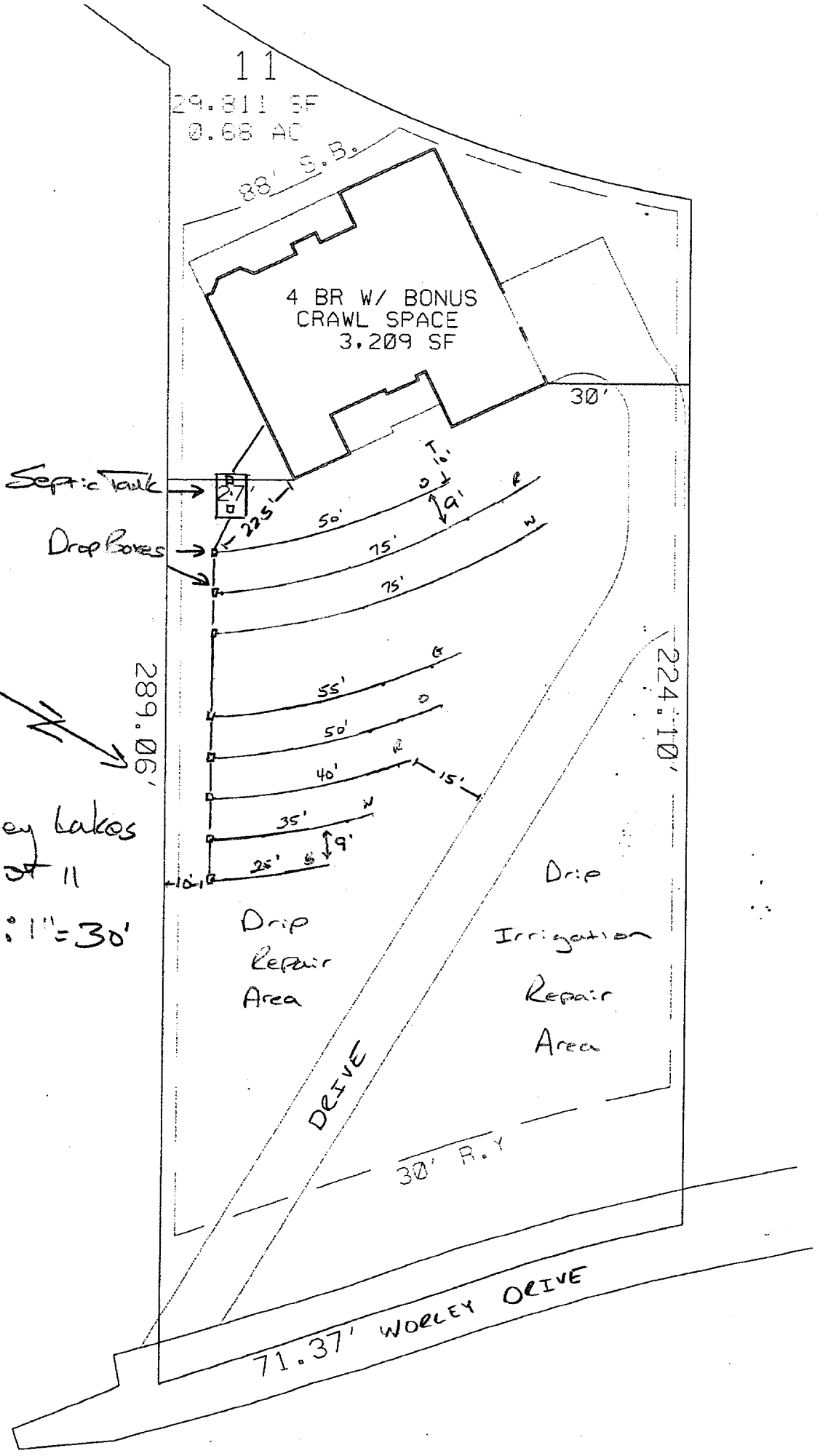
- As previously mentioned, if you plan to use a garbage disposal in your home you should plan to have your septic and pump tanks cleaned out annually. The ground up

garbage adds large amounts of solids into a septic tank that tend to degrade at a very slow rate.

- Grease, cooking oils, coffee grounds and non-degradable solids (disposable diapers, cigarettes and solid paper wastes) should never be put into a septic tank.
- Used motor oil or any oily liquids should not be disposed of in a septic tank.
- Be aware of the amount of water that you are using in your home. Water saving fixtures and devices can be installed on sinks, toilets and showers to reduce the volume of wastewater that you are sending to your drain field.
- Run dishwashers and washing machines only when you have a full load.
- Use liquid detergents. Powdered detergents have binding agents in them that tend to solidify in the wastewater disposal system.
- Repair leaky faucets and toilets. Small drips equal large volumes of water over time and can over burden your drain field.
- Do not use chemical additives in your system. Studies have indicated that they do not increase the biological activity that naturally occurs in the septic system and in some cases certain additives have been found to be detrimental to the life of a system.

Design Specifics ✓TOT

Daily Design Flow:	480 GPD – 4 bedroom house
Septic Tank Size:	1500 gallons (2 compartments)
Effluent Loading Rate:	Design = 0.3 GPD per sq. ft. (based upon measured Ksats)
Drain Field Type:	EZFlow 1203H or Infiltrator Chamber System
Distribution Method:	Gravity – Drop Boxes
Drain Lines:	(9) 3' Wide x 24" Deep
	(2) 75 foot long drain lines (1) 55 foot long drain line (2) 50 foot long drain lines (2) 40 foot long drain lines (1) 35 foot long drain line (1) 25 foot long drain line 405 L.F. ✓


11
29,811 SF
0.68 AC
88' S.B.
4 BR W/ BONUS
CRAWL SPACE
3,209 SF
30'
Septic Tank
Drop Boxes
27'
22.5'
50'
75'
75'
55'
50'
40'
35'
25'
9'
9'
15'
289.06'
224.10'
Kinsley Lakes
Lot 11
Scale: 1"=30'
Drip
Repair
Area
Drip
Irrigation
Repair
Area
DRIVE
30' R.Y
71.37' WORLEY DRIVE

THOMPSON ENVIRONMENTAL CONSULTING, INC.
WATER ♦ WASTEWATER ♦ WETLANDS

HYDRAULIC CONDUCTIVITY EVALUATION

Kinsley Lakes – Lot 11
Tax Parcel No. 111-036-09
Mecklenburg County
Charlotte, North Carolina

REVIEWED BY:
TCT
10-18-07 ✓

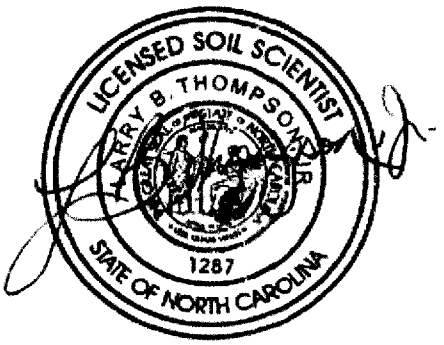
Prepared For:

Stevens Land Development, Inc.
15805 Sullivans Ridge Drive
Charlotte, NC 28277

Prepared By:

Thompson Environmental Consulting, Inc.
114 Orchard Ridge Road
Locust, NC 28097-8748

October 12, 2007



114 ORCHARD RIDGE ROAD• LOCUST, NC • 28097-8748
PHONE: 704-301-4881 • FAX: 704-888-1496
E-MAIL: LARRY@THOMPSONENV.COM
WEB: WWW.THOMPSONENV.COM

INTRODUCTION

This Hydraulic Conductivity Evaluation report is submitted to assist in a site assessment Lot 11 – Kinsley Lakes, Charlotte, North Carolina. This hydraulic assessment was performed in order to establish the long term acceptance rate of wastewater in site specific soils.

Thompson Environmental Consulting, Inc. (TEC) has been retained to re-evaluate the aforementioned tract in order to determine the possibility of designing an innovative or alternative septic system that could be approved based upon the current on-site wastewater rules. To this end, the hydraulic conductivity (Ksat) of the soil was measured to assist with the design; the results of the investigation follow.

SOIL

The lot was investigated on September 28, 2007 and a proposed septic field was identified in the wooded area located immediately in front of the proposed house site. After adjusting the septic area to the configuration shown in the accompanying design plan, three Ksat tests were performed. These tests were performed in the Bt horizon (approximately 36 – 37 inches deep). A compact constant-head permeameter (Amoozemeter) was used to measure the Ksat values.

RESULTS

The results of each of the Ksat tests are attached. Typically TEC will run three to five saturated hydraulic conductivity tests on an individual lot in order to determine the recommended loading rate for the soils. Given the fact that the field values for the tests were almost identical and site conditions were constant, TEC opted to run only the three Ksats.

The result of the combined tests is 3.06 gpd/ft^2. The proposed long-term acceptance rate (LTAR) for the initial system is 0.3 gpd/ft^2, which is approximately 10% of the measured Ksat, a rate that is expected to be well within the assimilation capacity of the soil.

HYDRAULIC CONDUCTIVITY STUDY
Kinsley Lakes - Lot 4

Date: 10/10/2007
Location: Ksat 1

SET UP

	cm	inches
Hole Depth (cm):	91.4	36.0
Reference (cm):	+ 10.2	4.0
Head (cm):	- 17.8	7.0
CHT Tube(s) setting:	= 83.8	

Valve Setting: 1-ON x 2-ON

	cm	inches
Target Water Level:	83.8	33.0
Beginning Water Level:	82.6	32.5
Ending Water Level:	83.8	33.0

Hole diameter (cm): 5.0
Hole radius (r): 2.5
coefficient A: 0.00304021

NOTE: Readings based on Ending Water Level

Coversion Factor (C.F.): 105.0

Water Reading	change in water level	Chamber C.F.	clock time (min)	Elapsed Time (min)	Elapsed Time (hr)	Q (cm3/hr)	K (cm/hr)	K (in/hr)	K (gpd/sq foot)
45	0.0	105.0	0.0						
44.6	0.4	105.0	10.0	10.00	0.167	252.0	0.7661	0.3016	4.513
44.3	0.3	105.0	20.0	10.00	0.167	189.0	0.5746	0.2262	3.385
44	0.3	105.0	30.0	10.00	0.167	189.0	0.5746	0.2262	3.385
43.8	0.2	105.0	40.0	10.00	0.167	126.0	0.3831	0.1508	2.256
43.5	0.3	105.0	50.0	10.00	0.167	189.0	0.5746	0.2262	3.385
43.2	0.3	105.0	60.0	10.00	0.167	189.0	0.5746	0.2262	3.385
						Final Ksat	**0.575**	**0.226**	**3.385**

HYDRAULIC CONDUCTIVITY STUDY
Kinsley Lakes - Lot 4

Date: 10/10/2007
Location: Ksat 2

SET UP

	cm	inches
Hole Depth (cm):	94.0	37.0
Reference (cm):	+ 10.2	4.0
Head (cm):	- 17.8	7.0
CHT Tube(s) setting:	= 86.4	

Valve Setting: x 1-ON 2-ON

	cm	inches
Target Water Level:	86.4	34.0
Beginning Water Level:	87.6	34.5
Ending Water Level:	85.1	33.5

Hole diameter (cm): 5.0
Hole radius (r): 2.5
coefficient A: 0.00246372

NOTE: Readings based on Ending Water Level

Coversion Factor (C.F.): 20.0

Water Reading	change in water level	Chamber C.F.	clock time (min)	Elapsed Time (min)	Elapsed Time (hr)	Q (cm3/hr)	K (cm/hr)	K (in/hr)	K (gpd/sq foot)
43	0.0	20.0	0.0						
42.1	0.9	20.0	5.0	5.00	0.083	216.0	0.5322	0.2095	3.135
41.1	1.0	20.0	10.0	5.00	0.083	240.0	0.5913	0.2328	3.483
40.2	0.9	20.0	15.0	5.00	0.083	216.0	0.5322	0.2095	3.135
39.4	0.8	20.0	20.0	5.00	0.083	192.0	0.4730	0.1862	2.786
38.5	0.9	20.0	25.0	5.00	0.083	216.0	0.5322	0.2095	3.135
37.6	0.9	20.0	30.0	5.00	0.083	216.0	0.5322	0.2095	3.135
						Final Ksat	**0.512**	**0.202**	**3.019**

HYDRAULIC CONDUCTIVITY STUDY
Kinsley Lakes - Lot 4

Date: 10/10/2007
Location: Ksat 3

SET UP

	cm	inches
Hole Depth (cm):	94.0	37.0
Reference (cm):	+ 10.2	4.0
Head (cm):	- 17.8	7.0
CHT Tube(s) setting:	= 86.4	

Valve Setting: x
1-ON 2-ON

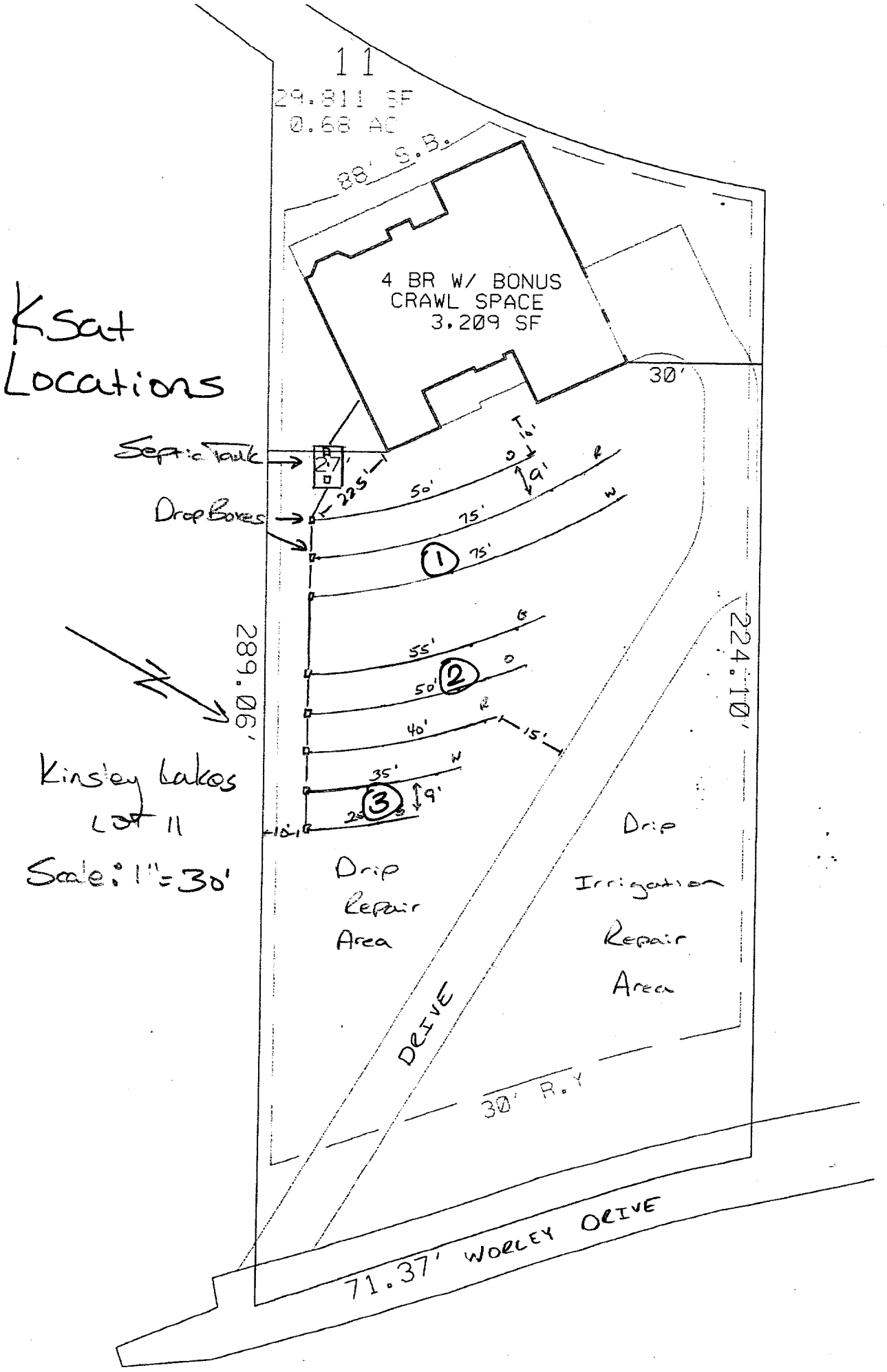
	cm	inches
Target Water Level:	86.4	34.0
Beginning Water Level:	86.4	34.0
Ending Water Level:	85.1	33.5

Hole diameter (cm): 5.0
Hole radius (r): 2.5
coefficient A: 0.00246372

NOTE: Readings based on Ending Water Level

Coversion Factor (C.F.): 20.0

Water Reading	change in water level	Chamber C.F.	clock time (min)	Elapsed Time (min)	(hr)	Q (cm3/hr)	K (cm/hr)	K (in/hr)	K (gpd/sq foot)
36.8	0.0	20.0	0.0						
35.9	0.9	20.0	5.0	5.00	0.083	216.0	0.5322	0.2095	3.135
35	0.9	20.0	10.0	5.00	0.083	216.0	0.5322	0.2095	3.135
34	1.0	20.0	15.0	5.00	0.083	240.0	0.5913	0.2328	3.483
33.2	0.8	20.0	20.0	5.00	0.083	192.0	0.4730	0.1862	2.786
32.4	0.8	20.0	25.0	5.00	0.083	192.0	0.4730	0.1862	2.786
31.6	0.8	20.0	30.0	5.00	0.083	192.0	0.4730	0.1862	2.786
						Final Ksat	**0.473**	**0.186**	**2.786**


11
29,811 SF
0.68 AC
88' S.B.
4 BR W/ BONUS
CRAWL SPACE
3,209 SF
30'
Ksat
Locations
Septic Tank
Drop Boxes
27'
22.5'
50'
75'
75'
1
55'
2
50'
40'
15'
35'
3
9'
10'
289.06'
224.10'
Kinsley Lakes
Lot 11
Scale: 1"=30'
Drip
Repair
Area
Drip
Irrigation
Repair
Area
DRIVE
30' R.Y
71.37' WORLEY DRIVE

ivision of Environmental Health
n-site Wastewater Section

Property ID: 111-036-09
Lot #: 11
File #: 7198B
AppID: 2460

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

wner: Stevens Land Development, Inc.
Applicant: Scott Stevens
ddress: 15605 Sullivan Ridge Dr., Charlotte, NC 28277
Date Evaluated: 7/11/2007
roposed Facility: Residence
Design Flow (.1949): 480 gpd
Property Size:
ocation of Site: 9718 Worley Dr
Property Recorded:
/ater Supply: [x] Public [ ] Individual [ ] Well [ ] Spring [ ] Other
valuation Method: [x] Auger Boring [ ] Pit [ ] Cut
ype of Wastewater: [x] Sewage [ ] Industrial Process [ ] Mixed

			SOIL MORPHOLOGY .1941		PROFILE FACTORS .b				
	1940 Landscape Position/ Slope%	Horizon Depth (IN.)	1941 Structure/ Texture	1941 Consistence Mineralogy	1942 Soil Wetness/ Color	1943 Soil Depth (IN.)	.1956 Sapro Class	1944 Restr Horiz	Profile Class & LTAR
1	LS,10	0-8	GR/SL	VFR/NS/NP/SEXP	>36" TO SOIL WETNESS	36	NA	NONE	PS,IV
		8-36	SBK/C	FI/S/P/SEXP					.3 GPD/FT^2
		36+	M/SAP						
2	"	0-3	GR/SL	VFR/NS/NP/SEXP	>32" TO SOIL WETNESS	32	"	"	US,IV
		3-32	SBK/ABK/C	FI/S/P/SEXP					.275 GPD/FT^2
		32+	M/SAP						
3	LS,5	0-2	GR/SL	VFR/NS/NP/SEXP	>48" TO SOIL WETNESS	48	"	"	PS,IV
		2-36	SBK/C	FI/S/P/SEXP					.3 GPD/FT^2
		36-48	SBK/L	FR/SS/SP/SEXP					
4	"	0-2	GR/SL	VFR/SS/SP/SEXP	>30" TO SOIL WETNESS	30	"	"	US,IV
		2-30	SBK/ABK/C	FI/S/P/SEXP					.275 GPD/FT^2
		30+	M/SAP						
5	LS,10	0-6	GR/SL	VFR/NS/NP/SEXP	>36" TO SOIL WETNESS	36	"	"	PS,IV
		6-36	SBK/ABK/C	FI/S/P/SEXP					.275 GPD/FT^2
		36+	M/SAP						
					SITE LTAR				.275 GPD/FT^2

Description	Initial System	Repair System
vailable Space (.1945)		
ystem Type(s)		
te LTAR		

Other Factors (.1946): None
Soil Evaluation By: Chris Sherrill, RS, LSS
Others Present: No
Site Classification (.1948):
Site Evaluation By:
Others Present:

FEE: 300.00
DATE: 11/29/2007

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

MECKLENBURG COUNTY
GROUNDWATER & WASTEWATER SERVICES

FILE NUMBER: 7198B

PERMIT NUMBER: 30002460

PARCEL NUMBER: 11103609

JOB LOCATION INFORMATION

ADDRESS: 9718 WORLEY DR

CITY: CHARLOTTE **STATE: NC** **ZIP:** 28215

ISSUED TO: STEVENS LAND DEVT INC

CONSTRUCTION AUTHORIZATION ISSUANCE DATE: 11/29/2007

CONSTRUCTION AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NUMBER 30002460, 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: 10/22/2012

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

NC DENR
Division of Environmental Health
On-Site Wastewater Section

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

File #: 7198B Permit #: _____ Tax Parcel #: 111-036-09

Property Owner: STEVENS LAND DEVELOPMENT

Job Location Address: 9718 WORLEY DRIVE

City: CHARLOTTE State: NC Zip Code: 28215

Installation Approval Issuance Date: 4/8/08

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 5/8/08, 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: 480 GPD

Site LTAR: 0.3 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 INNOVATIVE 25% REDUCTION

Trench Depth: 24 inches

Trench Width: 3 feet

Line Spacing: 9 feet (O.C.) (50', 75', 75', 55' / 50', 40', 35', 25')

Total line length: 400 feet

# of Lines: 8 @ VAR feet

Depth of Media: N/A inches (Type) IIIa

Distribution Device: DROP BOX

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: 5 feet

Distance from Property Line: 10 feet

Distance from Water Supply Source: 7100 feet

SKETCH OF SYSTEM LAYOUT
(Proposed Layout)

INSTALL ACCORDING TO PLANS ON FILE SUBMITTED BY LARRY THOMPSON 9/28/07

Comments: System Classification & Type: IIIa, INNOVATIVE, 25% REDUCTION. INSTALL 8 LINES @ (50', 75', 75', 55', 50', 40', 35', 25')

DENR Authorized Agent: DAVID CORNELIUS Signature: David Cornelius, RS

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 #: 7198B Permit #: _____ Tax Parcel #: 111-036-09

Property Owner: STEVENS LAND DEVELOPMENT

Job Location Address: 9718 WORLEY DRIVE

City: CHARLOTTE State: NC Zip Code: 28215

Operation Permit Issuance Date: 4/9/08 Contractor Name: READE EUDY

Permitted Design Flow: 480 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 INNOVATIVE 25% REDUCTION

Trench Depth: 24 inches

Trench Width: 3 feet

Line Spacing: 9 feet (O.C.)

Total line length: 400 feet

# of Lines: 8 @ VAR feet

Depth of Media: N/A inches (Type) IIIg

Depth of Cover: 12 inches

Distribution Device: Drop Box

Inspection Dates

Tank(s) Inspected: 4/9/08

Excavation Inspected: 4/9/08

Pump & Controls Inspected: N/A

SKETCH OF SYSTEM INSTALLATION
(As-Built Drawing)

INSTALLED ACCORDING TO PLANS ON FILE SUBMITTED BY LARRETT. 9/28/07

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: 5 feet

Distance from Property Line: 10 feet

Distance from Water Supply Source: >100 feet

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: IIIg, INNOVATIVE, 25% REDUCTION. INSTALLED ACCORDING TO PLANS ON FILE.

DENR Authorized Agent: DAVID CORNELIUS, RS Signature: DAVID CORNELIUS, RS

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

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

File #: 7198B Permit #: _____ Tax Parcel #: 111-036-09

Property Owner: STEVENS LAND DEVELOPMENT

Job Location Address: 9718 WORLEY DRIVE

City: CHARLOTTE State: NC Zip Code: 28215

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: III

*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: DAVID CORNELIUS Date: 4/9/08

Signature: _____, RS

Groundwater & Wastewater Services
Septic Project File & Data Review Worksheet

GWS File #: 7198 B WASPS App #: _____

Primary ES assigned to project: DC

Secondary ES assigned to project: _____

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

Pose D

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: 6			
	Were sufficient auger borings made?	Yes ☑	No ☐	N/A ☐
.1939(d), .1955, .1956, .1957	LTAR .7	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 ☐

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: 4-8-08

OP issued date: 4-9-08

Review performed by: IR

Date performed: 10-25-07