

STATE OF NORTH CAROLINA  
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
DIVISION OF WASTE MANAGEMENT

**PERMIT TO OPERATE A SEPTAGE LAND  
APPLICATION SITE**

Atlantic OBX, Inc.  
dba Atlantic Sewage Control  
PO Box 2560  
Kitty Hawk, NC 27949

is hereby issued a permit to operate a Septage Land Application Site with permit # **SLAS-27-18** on SR 1124 in Currituck County at approximate position 36.1972° N latitude and -75.8822° W longitude. The site is to be operated in accordance with 15A NCAC 13B .0800 Septage Management, the information stated in the approved application, and the conditions of this permit. The unauthorized disposal of any liquid or solid wastes other than those specified in the conditions of this permit will be considered a violation of the conditions of this permit. Failure to comply with the conditions of this permit may result in permit suspension, permit revocation, action for injunctive relief, administrative penalties, or other remedies as provided in G.S. 130A, Article 1., Part 2.

This permit shall be reviewed annually to determine if soil test results and management activities are in compliance with the Septage Management Rules and the conditions of this permit. Modifications, where necessary, shall be made in accordance with rules in effect at the time of review.

Date Issued 3/21/2012

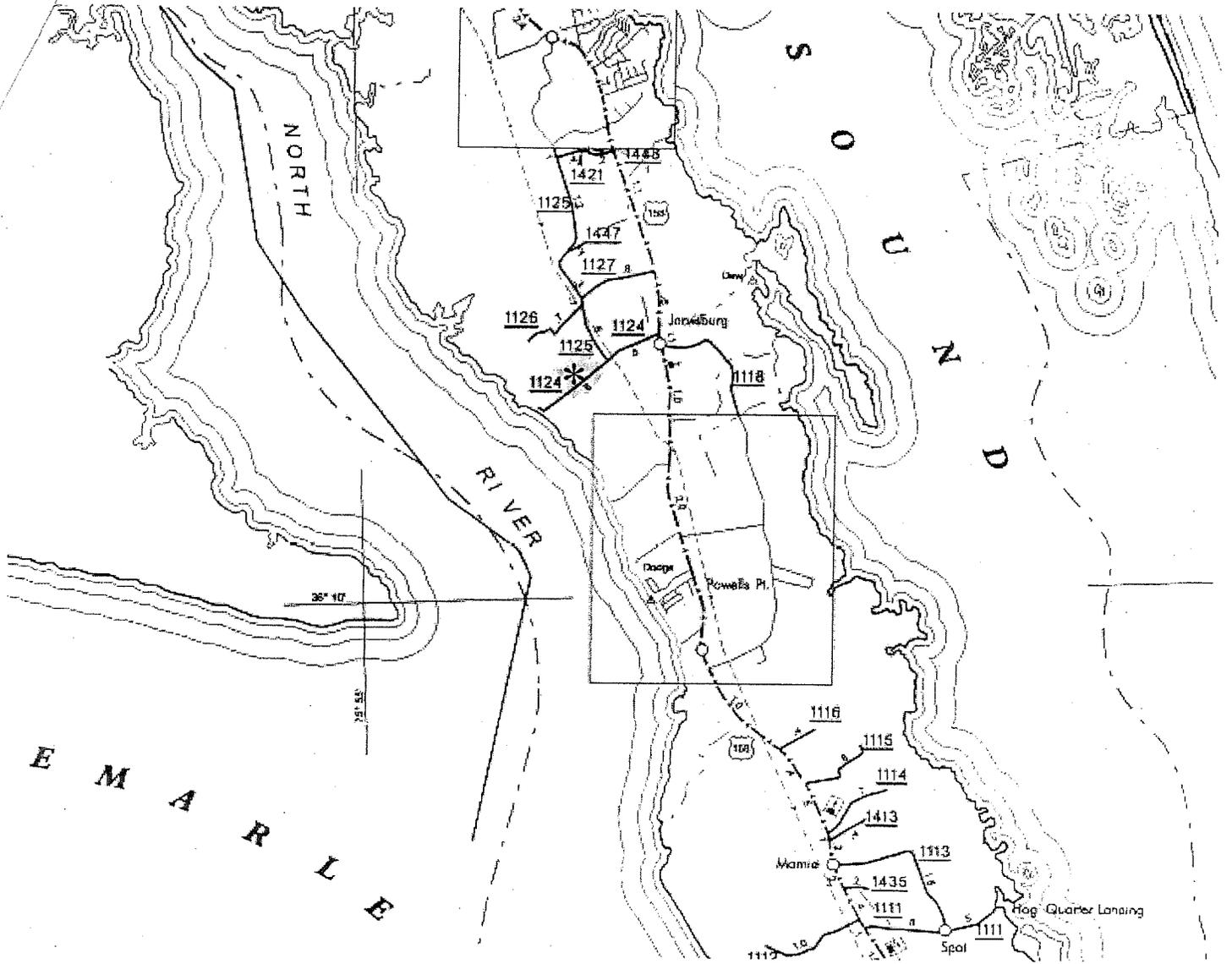
Martin A. Gallagher  
Martin A. Gallagher, Branch Head  
Solid Waste Section

**Permit Conditions:**

1. This permit shall become void if the soils fail to adequately assimilate the septage and shall be rescinded unless the site is maintained and operated in a manner which will protect the assigned water quality standards of both surface and ground waters.
2. This site shall be operated and maintained in accordance with the nutrient management plan submitted by Atlantic OBX, Inc. and approved by the Division of Waste Management. The 13-acre site has been established in Common Bermudagrass and has been divided into three fields, known as Field 1 (4.5 acres), Field 2 (4.5 acres) and Field 3 (4.0 acres). If the bermudagrass stand falls below 80%, the damaged areas shall be re-planted in Common Bermudagrass between March 1 to May 1 at a rate of 6 to 8 lbs/ac if broadcasted or 5 to 7 bu/ac if drilled. Rye (grain) shall be overseeded into the bermudagrass during September of each year at a seeding rate of 120 lbs/ac if broadcasted or 100 lbs/ac if drilled. The bermudagrass shall be cut as hay and baled whenever it reaches approximately 12 inches in height or roughly every 4 to 6 weeks beginning in June. The rye shall be cut as hay and baled in March of each year. The 30-day waiting period between the last application of septage and the harvest of any crop shall be met by alternating septage applications between the three fields or other permitted septage land application sites. All discharges shall be at locations on the site consistent with the crop rotation in the approved plan.
3. This site shall be operated and maintained in accordance with the erosion and runoff control plan submitted by Atlantic OBX, Inc and in such a manner as to prevent as to prevent migration of wastes off of the designated waste receiving site. A 25 to 50 feet buffer of bermuda and rye shall be maintained around the perimeter of the permitted site. Any site improvements noted in the plan must be installed within 30 days of plan approval. The installation of groundwater monitoring wells shall be required as deemed necessary by the Division.
4. The issuance of this permit does not preclude the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other local, state, and federal government agencies which have jurisdiction. It is the responsibility of the Permittee to be in compliance with the Federal Regulations listed in the Code of Federal Regulations, 40 CFR Part 503.
5. This permit may be modified or reissued at any time to incorporate any conditions, limitations and/or monitoring requirements the Division deems necessary to adequately protect the environment and public health.
6. **This site is only permitted for the land application of domestic septage, grease trap pumpings, portable toilet waste, and commercial/industrial septage. Commercial/industrial septage shall only be land applied after the waste from each source is tested and the results approved by the Solid Waste Section.** Domestic septage pH shall be raised to 12 or higher by alkali addition and, without the addition of additional alkali, shall remain at 12 or higher for 30 minutes prior to land application. Grease septage or grease septage mixed with domestic septage shall be raised to pH 12 or higher by alkali addition and, without the addition of additional alkali, shall remain at 12 or higher for 2 hours prior to land application.
7. **This site contains approximately 13.0 acres that are available for the land application of septage.** The maximum annual application rate shall be 100,000 gallons per acre per year. Of the 100,000 gal/ac/yr, the rye may receive up to 27,500 gal/ac/yr during October through March 15<sup>th</sup>. The bermudagrass may receive up to 72,500 gal/ac/yr. The monthly rates shall be 0 gal/ac for none, 5,000 gal/ac for low, 10,000 gal/ac for medium, and 15,000 gal/ac for high as defined in the nutrient management plan. The maximum annual application amount for this site is 1,300,000 gallons. This application rate assumes equal septage distribution, on an annual basis, over the entire permitted area. Application amounts to the fields shall not exceed the maximum annual application rate or the monthly rates as listed in the approved nutrient management plan.
8. An approved above ground septage detention system with a minimum design capacity of 25,000 gallons shall be available prior to operation of this site unless an approved wastewater treatment plant is available for use during periods of adverse weather. The storage capacity may be adjusted if it is demonstrated during the operation of the site that this volume of storage is inappropriate.

Operator: Atlantic OBX, Inc  
SLAS #: 27-18  
County: Currituck

9. Only the area designated on the attached site map(s) shall be utilized for septage disposal. Uniform coverage of septage across the permitted fields shall be obtained through the use of a hard hose traveler irrigation system and pump truck. Septage shall be distributed in such a manner that there is no standing water when the discharge is complete. Applications from a stationary irrigation gun can result in standing water, runoff, and over application of nutrients. Therefore, the speed of the irrigation gun is crucial in maintaining agronomic and hydraulic loading rates for the site.
10. Septage shall not be applied during any precipitation event, or if there is standing water on the soil surface, if the soil surface is frozen, or if the soil surface is snow covered. The Permittee shall consider pending weather conditions when making the decision to land apply in order to prevent any discharge of septage outside of the permitted boundary.
11. Septage shall not be applied during periods of high soil moisture. Septage applications that will result in ruts greater than three inches in the soil surface are prohibited.
12. Any discharge of septage outside of the permitted boundaries via runoff, aerial drift, etc. is prohibited. The site operator must monitor wind velocity and direction while applying septage. High winds can lead to aerial drift and uneven land application across the permitted area.
13. This permit shall become voidable unless the land application activities are carried out in accordance with the conditions of this permit and in the manner approved by this Division. No one other than the Permittee or an employee of the firm named in this permit shall discharge septage at this site without prior appropriate notification and written approval from the Division.
14. Prior to any transfer of this land, a notice shall be given to the new owner that gives full details of the materials applied or incorporated at this site. The Division shall be notified prior to site closure. This permit is non-transferable.
15. **This permit shall expire on April 1, 2014.** Modifications, when necessary, shall be made in accordance with the rules in effect at the time of renewal. An application for permit renewal shall be submitted at least ninety (90) days prior to the permit renewal date. A septage application log for the period of time this permit was valid shall be submitted along with an application for permit renewal or modification. The information required in the log is described in Rule 15A NCAC 13B .0838 (e) (1) of the NC Septage Management Rules and the Code of Federal Regulations, 40 CFR Part 503.17 (b).
16. Records shall be kept in accordance with 40 CFR 503.17(b). These records shall be made available to a representative of the Division upon request.
17. Any duly authorized officer, employee, or representative of the Division may, upon presentation of credentials, enter and inspect any property, premises, or place on or related to the disposal site and facility at any reasonable time for the purpose of determining compliance with this permit; may inspect or copy any records that must be kept under the conditions of this permit; or may obtain samples of groundwater, surface water, or leachate.
18. Field separations in the nutrient management plan and all pertinent setbacks shall be clearly located on the site. Boundaries of the permitted septage land application fields shall be clearly marked on the ground.
19. The areas that can be used for land application of septage shall be maintained at least 500 feet from any existing wells, residences, places of business, or places of public assembly. Septage shall not be disposed of within 50 feet of any property line or within 100 feet of any ditch.
20. The total nitrogen applied to a field shall not exceed the recommended nitrogen amount needed to obtain the realistic yield expectation for the specific crop grown on that field. The total nitrogen amount shall include the plant available nitrogen from septage and any supplemental inorganic nitrogen applied for that year.



## SLAS-27-18

- Atlantic OBX, Inc
- Atlantic Sewage Control
- Off of SR 1124
- Position:     36.1972° N latitude   -75.8822° W longitude





North Carolina Department of Environment and Natural Resources  
Division of Waste Management

Beverly Eaves Perdue  
Governor

Dexter R. Matthews  
Director

Dee Freeman  
Secretary

March 26, 2012

Mr. J. Bryan Smith  
Atlantic Sewage Control  
PO Box 2560  
Kitty Hawk, NC 27949

**RE: SLAS-27-18 Permit Renewal  
Atlantic Sewage Control  
SR 1124 in Currituck County**

Dear Mr. Smith:

The NC Division of Waste Management has reviewed your application for renewal of septage land application site permit, **SLAS-27-18**, in Currituck County. Your application has been approved in accordance with NC Septage Management Rules and your permit, **SLAS-27-18**, is enclosed. Please read all permit conditions carefully. The nutrient management and soil erosion and runoff control plans you submitted have been incorporated into your permit. In particular, pay close attention to **Permit Conditions 2, 6, 7, 10, 11, 12, and 15**. The following is a summation of those Conditions.

- **Condition 2.** This condition lists the acres of the fields and incorporates crop management details listed in the submitted nutrient management plan.
- **Condition 6.** States that this site is only permitted to receive domestic septage, grease trap pumpings, portable toilet waste, and commercial/industrial septage. Disposal of any other type of septage or waste at this site is prohibited.
- **Condition 7.** States that there are approximately 13 acres available at this site for land application of septage. **The maximum annual application rate for this site is 100,000 gallons per acre per year for a total, maximum annual application of 1,300,000 gallons.** These rates along with the monthly rates listed in the nutrient management plan are not to be exceeded.
- **Condition 10.** Septage shall only be applied when soil and weather conditions are favorable for application.
- **Condition 11.** Soil conditions must be monitored such that any septage application will not result in ruts greater than three inches in the soil surface.
- **Condition 12.** Any discharge, including aerial drift, of septage outside of the permitted boundaries is prohibited.

**CONTINUE ON BACK**

- **Condition 15. This permit is set to expire on April 1, 2014.** Ninety (90) days prior to the expiration of your permit, you must submit an application for permit renewal along with your septage land application logs for the entire time your current permit was valid.

Again, please pay close attention to all of the conditions within the enclosed permit. Remember that violations to the NC Septage Management Rules or this permit could subject you to administrative penalties of up to \$15,000 per violation per day. If you have any questions concerning your permits or septage in general, please do not hesitate to contact me at (919) 707-8283. When communicating to the Division about this permit, please refer to it as "**SLAS-27-18**"

Sincerely,



Chester R. Cobb, Soil Scientist  
Composting & Land Application Branch

Enclosures

cc: Central Office  
John Marvin Fisher; Landowner  
Currituck County Health Department

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APPLICATION FOR A PERMIT TO OPERATE A SEPTAGE LAND APPLICATION SITE

North Carolina Department of Environment and Natural Resources
Division of Waste Management - Solid Waste Section
401 Oberlin Rd., Ste. 150, Raleigh, N.C. 27605

I. Site and Operator Information

1. Applicant Atlantic Sewage Control
Address PO Box 2560
Kitty Hawk, NC 27949
Phone 252-255-2030

2. Contact person for site operation (if different from applicant): G. Scott Carpenter J. Bryon Smith
Title or position Agronomist/Soil Scientist Phone 252-917-4288
Address Soil Plus, LLC
208 Williams St
Greenville, NC 27858

3. Landowner John Marvin Fisher
Address PO Box 23
Jarvisburg, NC 27947

4. Site Location: County Currituck State Road Number 1124
Directions to site: US 158 East to Jarvisburg West on Fisher
Landing Rd. SR1124 1 mile Right onto soil path to site

5. Indicate whether request is: new renewal X modification
(Name Change Only)
For a permit renewal or modification, provide the following information:
Existing site permit number: SLAS-27-18 permit expiration date: 01/7/2012

6. Number of acres meeting the requirements of the N.C. Septage Management Rules: 13.0 acres.

7. Substances other than septage or grease trap pumpings previously disposed of on the site:
(a) None X, or (b) Attach a list indicating other substances, the amounts discharged, and the dates of discharge.

8. Attach written, notarized landowner authorization to operate a septage disposal site signed by the landowner (if the permit applicant does not own the property). If a corporation owns the land use a corporate landowner authorization form. If limited liability company owns the land, use a limited liability company landowner authorization form.

9. Attach site evaluation report, including aerial photograph and soil analysis with metals results, unless the Division prepared the report.

10. Attach a vicinity map (county road map showing site location).

(over)

II. Site Management Information:

The following information shall be included with the application form:

1. Nutrient Management Plan
2. Soil Erosion and Runoff Control Plan
3. Alternative plan for disposal (detention facility permit number or wastewater treatment plant authorization): SDTF-27- 18; SDTF-27-16 or Elizabeth City WWTP
4. Types of septage proposed to be discharged at the site (check all that apply):
  - (a) Domestic septage pumped from septic tanks X
  - (b) Grease trap pumping X
  - (c) Portable toilet waste X
  - (d) Commercial / Industrial septage X
5. Proposed treatment method of each type of septage to be land applied (use additional paper to explain if necessary):All septage, grease & toilet waste will be stabilized with lime prior to land application so that the pH will be >12.0 for at least 30 minutes for domestic septage and at least 2 hours for grease or grease/septage mixture
6. Proposed method of applying septage to land, including septage distribution plan if required \* (use additional paper to explain if necessary):By driving pumper truck equipped with spreader plates, airactivated valves through field with evenly spreading material without overlaps and without creating pools at the ends of rows; also by use of hose reel continuously moving spray irrigation gun
7. Demonstration from the appropriate state or federal government agency that the land application site complies with the Endangered Species Law \*\* or if any part of the site specified is not agricultural land (use additional paper to explain if necessary):Since the site is agricultural, the Endangered Species Law does not apply

III. Certification

I hereby certify that:

1. The information provided on this application is true, complete, and correct to the best of my knowledge.
2. I have read and understand the N.C. Septage Management Rules, and
3. I am aware of the potential consequences, including penalties and permit revocation, for failing to follow all applicable rules and the conditions of a Septage Land Application Site permit.

J. Bryan Smith  
Signature\*\*\*

1-9-12  
Date

~~C. Scott Carpenter~~ J. Bryan Smith  
Print name

Owner  
~~Agronomist/Soil Scientist~~  
Title

Note: This application will not be reviewed until all parts of the application are complete.

\* Refer to Section .0821(e) of the N.C. Septage Management Rules.

\*\* Refer to Section .0821(g) of the N.C. Septage Management Rules.

\*\*\*Signature of company official required.

**Landowner's Authorization to Operate a Septage Land Application Site  
SLAS 27-12**

North Carolina Department of Environment and Natural Resources  
Division of Waste Management - Solid Waste Section  
401 Oberlin Rd, Ste. 150, Raleigh, N.C. 27605



I, John Marvin Fisher (name of site owner) hereby certify that I am the owner of 13.0 acres of land located on SR 1124 on right off US 158 in Currituck Co. and identified by Parcel no.  
0096-000-019A-0000 (book and page of recorded deed or tax map parcel) and that I agree to allow Atlantic OBX, Inc. dba Atlantic Sewage Control ( J. Bryan Smith )  
(name of site operator) to use said land for septage land application for a period of Five (5) Years  
(length of time), beginning April 1, 2009 (month, day and year) and that I have read the North Carolina Septage Management Rules \*. I further understand that no septage may be stored or treated on the land until the Division of Waste Management has issued a permit for a detention or treatment facility. The above described property is owned solely by me or jointly with None  
(names of all co-owners, or state none).

Signature of landowner [Handwritten Signature] Date 2/22/10

Signature of landowner \_\_\_\_\_ Date \_\_\_\_\_

Sworn to and subscribed before me this 22<sup>nd</sup> day of February, 20 10.

Audrey Draine Kent  
(Notary Public) (OFFICIAL SEAL)

My Commission expires: 11/29/2014

\* 15A N.C. Admin. Code 13B Section .0800

\*\* As required by Rule .0826



VIRGINIA CAROLINE WRIGHT

SHAAKIRA MUHAMMAD

GEORGE R WALKER

4.0 Ac.

27-18 3

JACQUELINE D DAILY-WALKER

JOHN M FISHER

JOHN M FISHER

1  
4.5 Ac.

27-18 2

4.5 Ac.

JENNIFER W PITTMAN

JOHN HOWARD FORBES JR

Fisher Landing Road



**Legend**

-  Property Boundary
-  Field Boundary

Scale: 1 inch equals 300 feet
Drawn by: CSC
Reviewed by:
Date: January '12



<b>SLAS 27-18 FIELD MAP</b>
Permit Renewal
Powells Point, North Carolina
Soil Plus Project # 201007.A13

<b>Figure</b>
2



**ATLANTIC OBX SEPTAGE/GREASE MASTER SPREADING & HARVESTING SCHEDULE (REV. JUNE '12)**

Site	Field	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
27-16	1												
27-17	1	No App		No App/ Harvest Rye April 15 <sup>th</sup>		No App/ Harvest Bermuda June 15 <sup>st</sup>	15 Days	No App/Harvest Bermuda Aug 15 <sup>th</sup>	15 Days	Harvest Bermuda Oct 15 <sup>th</sup> / Plant Rye			
	2	No App		No App/ Harvest Rye April 15 <sup>th</sup>		No App/ Harvest Bermuda June 15 <sup>st</sup>	15 Days	No App/Harvest Bermuda Aug 15 <sup>th</sup>	15 Days	Harvest Bermuda Oct 15 <sup>th</sup> / Plant Rye			
27-18	1		No App/ Harvest Rye April 15 <sup>th</sup>			No App/Harvest Bermuda July 1 <sup>st</sup>	15 Days	Harvest Bermuda Sept 1 <sup>st</sup> /Plant Rye				No App	
	2		No App/ Harvest Rye April 15 <sup>th</sup>			No App/Harvest Bermuda July 1 <sup>st</sup>	15 Days	Harvest Bermuda Sept 1 <sup>st</sup> /Plant Rye				No App	
	3		No App/ Harvest Rye April 15 <sup>th</sup>			No App/Harvest Bermuda July 1 <sup>st</sup>	15 Days	Harvest Bermuda Sept 1 <sup>st</sup> /Plant Rye				No App	
27-19	1		No App	15 Days	No App/ Harvest Rye May 15 <sup>th</sup>		No App/ Harvest Bermuda Aug 1 <sup>st</sup>			Harvest Bermuda/Plant Rye Oct 15 <sup>th</sup>			
	2		No App	15 Days	No App/ Harvest Rye May 15 <sup>th</sup>		No App/ Harvest Bermuda Aug 1 <sup>st</sup>			Harvest Bermuda/Plant Rye Oct 15 <sup>th</sup>			
27-20	1		No App	15 Days	No App/ Harvest Rye May 15 <sup>th</sup>		No App/ Harvest Bermuda Aug 1 <sup>st</sup>			Harvest Bermuda/Plant Rye Oct 15 <sup>th</sup>			
	2		No App	15 Days	No App/ Harvest Rye May 15 <sup>th</sup>		No App/ Harvest Bermuda Aug 1 <sup>st</sup>			Harvest Bermuda/Plant Rye Oct 15 <sup>th</sup>			
	3		No App	15 Days	No App/ Harvest Rye May 15 <sup>th</sup>		No App/ Harvest Bermuda Aug 1 <sup>st</sup>			Harvest Bermuda/Plant Rye Oct 15 <sup>th</sup>			
	4	No App			Harvest Rye/ Plant Millet June 1 <sup>st</sup>	Start Applying June 15 <sup>th</sup>	No App/Harvest Millet August 15 <sup>th</sup>	15 Days		Harvest Millet/ Plant Rye Oct 15 <sup>th</sup>			
27-21	1	No App		No App/ Harvest Rye May 1 <sup>st</sup>	15 Days	No App/ Harvest Bermuda July 1 <sup>st</sup>		Harvest Bermuda Sept 15 <sup>th</sup> /Plant Rye				No App	
	2A	No App		No App/ Harvest Rye May 1 <sup>st</sup>	15 Days	No App/ Harvest Bermuda July 1 <sup>st</sup>		Harvest Bermuda Sept 15 <sup>th</sup> /Plant Rye				No App	
	2B	No App		Harvest Rye/ Plant Millet June 1 <sup>st</sup>	Start Applying June 15 <sup>th</sup>	No App/Harvest Millet August 15 <sup>th</sup>	15 Days	Harvest Millet/Plant Rye Oct 15 <sup>th</sup>				No App	
	3	No App		No App/ Harvest Rye May 1 <sup>st</sup>	15 Days	No App/ Harvest Bermuda July 1 <sup>st</sup>		Harvest Bermuda Sept 15 <sup>th</sup> /Plant Rye				No App	

Site	Field	Jan (Gal./Ac.)		Feb (Gal./Ac.)		March (Gal./Ac.)		April (Gal./Ac.)		May (Gal./Ac.)		June (Gal./Ac.)		July (Gal./Ac.)		Aug (Gal./Ac.)		Sept (Gal./Ac.)		Oct (Gal./Ac.)		Nov. (Gal./Ac.)		Dec. (Gal./Ac.)		Total (Gal./Ac./Yr.)		
		Rate	Cumu	Rate	Cumu	Rate	Cumu	Rate	Cumu	Rate	Cumu	Rate	Cumu	Rate	Cumu	Rate	Cumu	Rate	Cumu	Rate	Cumu	Rate	Cumu	Rate	Cumu	Rate	Cumu	
27-16	1																											
27-17	1	NA	0	10,000	10,000	NA	10,000	10,000	20,000	15,000	35,000	NA	35,000	25,000	60,000	NA	60,000	20,000	80,000	NA	80,000	10,000	90,000	10,000	100,000	100,000	100,000	
	2	NA	0	10,000	10,000	NA	10,000	10,000	20,000	15,000	35,000	NA	35,000	25,000	60,000	NA	60,000	20,000	80,000	NA	80,000	10,000	90,000	10,000	100,000	100,000	100,000	
27-18	1	10,000	10,000	NA	10,000	NA	10,000	20,000	30,000	20,000	50,000	NA	50,000	30,000	80,000	NA	80,000	10,000	90,000	10,000	100,000	NA	100,000	NA	100,000	100,000	100,000	
	2	10,000	10,000	NA	10,000	NA	10,000	20,000	30,000	20,000	50,000	NA	50,000	30,000	80,000	NA	80,000	10,000	90,000	10,000	100,000	NA	100,000	NA	100,000	100,000	100,000	
	3	10,000	10,000	NA	10,000	NA	10,000	20,000	30,000	20,000	50,000	NA	50,000	30,000	80,000	NA	80,000	10,000	90,000	10,000	100,000	NA	100,000	NA	100,000	100,000	100,000	
27-19	1	NA	0	NA	0	NA	0	10,000	10,000	NA	10,000	30,000	40,000	NA	40,000	20,000	60,000	20,000	80,000	NA	80,000	10,000	90,000	10,000	100,000	100,000	100,000	
	2	NA	0	NA	0	NA	0	10,000	10,000	NA	10,000	30,000	40,000	NA	40,000	20,000	60,000	20,000	80,000	NA	80,000	10,000	90,000	10,000	100,000	100,000	100,000	
27-20	1	10,000	10,000	NA	10,000	NA	10,000	10,000	20,000	NA	20,000	30,000	50,000	NA	50,000	20,000	70,000	20,000	90,000	NA	90,000	NA	90,000	10,000	100,000	100,000	100,000	
	2	10,000	10,000	NA	10,000	NA	10,000	10,000	20,000	NA	20,000	30,000	50,000	NA	50,000	20,000	70,000	20,000	90,000	NA	90,000	NA	90,000	10,000	100,000	100,000	100,000	
	3	10,000	10,000	NA	10,000	NA	10,000	10,000	20,000	NA	20,000	30,000	50,000	NA	50,000	20,000	70,000	20,000	90,000	NA	90,000	NA	90,000	10,000	100,000	100,000	100,000	
	4	NA	0	NA	0	10,000	10,000	10,000	20,000	NA	20,000	30,000	50,000	30,000	80,000	NA	80,000	10,000	90,000	NA	90,000	NA	90,000	10,000	100,000	100,000	100,000	
27-21	1	NA	0	10,000	10,000	10,000	20,000	NA	20,000	15,000	35,000	NA	35,000	30,000	65,000	25,000	90,000	NA	90,000	10,000	100,000	NA	100,000	NA	100,000	100,000	100,000	
	2A	NA	0	10,000	10,000	10,000	20,000	NA	20,000	15,000	35,000	NA	35,000	30,000	65,000	25,000	90,000	NA	90,000	10,000	100,000	NA	100,000	NA	100,000	100,000	100,000	
	2B	NA	0	NA	0	10,000	10,000	10,000	20,000	NA	20,000	15,000	35,000	30,000	65,000	NA	65,000	25,000	90,000	NA	90,000	10,000	100,000	NA	100,000	100,000	100,000	
	3	NA	0	10,000	10,000	10,000	20,000	NA	20,000	15,000	35,000	NA	35,000	30,000	65,000	25,000	90,000	NA	90,000	10,000	100,000	NA	100,000	NA	100,000	100,000	100,000	
Monthly Available Total Volume (Gal./Ac.)		80,000		80,000		80,000		115,000		185,000		165,000		180,000		160,000		95,000		170,000		120,000		70,000				

Site	Field	Jan (Total Gal)		Feb (Total Gal)		March (Total Gal)		April (Total Gal)		May (Total Gal)		June (Total Gal)		July (Total Gal)		Aug (Total Gal)		Sept (Total Gal)		Oct (Total Gal)		Nov. (Total Gal)		Dec. (Total Gal)		Total (Total Gal/Yr.)
		Rate	Cumu	Rate	Cumu	Rate	Cumu	Rate	Cumu	Rate	Cumu	Rate	Cumu	Rate	Cumu	Rate	Cumu	Rate	Cumu	Rate	Cumu	Rate	Cumu	Rate	Cumu	Cumulative
27-16	1																									
27-17	1 (1.5 Ac.)	NA	0	10,000	15,000	NA	0	10,000	15,000	15,000	22,500	NA	0	25,000	375,000	NA	0	20,000	30,000	NA	0	10,000	15,000	10,000	15,000	150,000
	2 (3.0 Ac.)	NA	0	10,000	30,000	NA	0	10,000	30,000	15,000	45,000	NA	0	25,000	75,000	NA	0	20,000	60,000	NA	0	10,000	30,000	10,000	30,000	300,000
27-18	1 (4.5A c.)	10,000	45,000	NA	0	NA	0	20,000	90,000	20,000	90,000	NA	0	30,000	135,000	NA	0	10,000	45,000	10,000	45,000	NA	0	NA	0	450,000
	2 (4.5 Ac.)	10,000	45,000	NA	0	NA	0	20,000	90,000	20,000	90,000	NA	0	30,000	135,000	NA	0	10,000	45,000	10,000	45,000	NA	0	NA	0	450,000
	3 (4.0 Ac.)	10,000	40,000	NA	0	NA	0	20,000	80,000	20,000	80,000	NA	0	30,000	120,000	NA	0	10,000	40,000	10,000	40,000	NA	0	NA	0	400,000
27-19	1 (9.9 Ac.)	NA	0	NA	0	NA	0	10,000	99,000	NA	0	30,000	297,000	NA	0	20,000	198,000	20,000	198,000	NA	0	10,000	99,000	10,000	99,000	990,000
	2 (9.3 Ac.)	NA	0	NA	0	NA	0	10,000	93,000	NA	0	30,000	279,000	NA	0	20,000	186,000	20,000	186,000	NA	0	10,000	93,000	10,000	93,000	930,000
27-20	1 (4.3 Ac.)	10,000	43,000	NA	0	NA	0	10,000	43,000	NA	0	30,000	129,000	NA	0	20,000	86,000	20,000	86,000	NA	0	NA	0	10,000	43,000	430,000
	2 (4.3 Ac.)	10,000	43,000	NA	0	NA	0	10,000	43,000	NA	0	30,000	129,000	NA	0	20,000	86,000	20,000	86,000	NA	0	NA	0	10,000	43,000	430,000
	3 (7.1 Ac.)	10,000	71,000	NA	0	NA	0	10,000	71,000	NA	0	30,000	213,000	NA	0	20,000	142,000	20,000	142,000	NA	0	NA	0	10,000	71,000	710,000
	4 (6.4 Ac.)	NA	0	NA	0	10,000	64,000	10,000	64,000	NA	0	30,000	192,000	30,000	192,000	NA	0	10,000	64,000	NA	0	NA	0	10,000	64,000	640,000
27-21	1 (6.6 Ac.)	NA	0	10,000	66,000	10,000	66,000	NA	0	15,000	99,000	NA	0	30,000	198,000	25,000	165,000	NA	0	10,000	66,000	NA	0	NA	0	660,000
	2A (14.5 Ac.)	NA	0	10,000	145,000	10,000	145,000	NA	0	15,000	217,500	NA	0	30,000	435,000	25,000	362,500	NA	0	10,000	145,000	NA	0	NA	0	1,450,000
	2B (7.5 Ac.)	NA	0	NA	0	10,000	75,000	10,000	75,000	NA	0	15,000	112,500	30,000	225,000	NA	0	25,000	187,500	NA	0	10,000	75,000	NA	0	750,000
	3 (2.0 Ac.)	NA	0	10,000	20,000	10,000	20,000	NA	0	15,000	30,000	NA	0	30,000	60,000	25,000	50,000	NA	0	10,000	20,000	NA	0	NA	0	200,000
Monthly Available Total Volume (Gal/Month)		287,000		276,000		370,000		793,000		674,000		1,351,500		1,612,500		1,275,500		1,169,500		361,000		312,000		458,000		8,940,000

89.4 Total Permitted Acres x 100,000 Gallons per Acre = 8,940,000 Allowable Gallons

Site	Field	Jan		Feb		March		April		May		June		July		Aug		Sept		Oct		Nov.		Dec.		Total	
		Rate Gal	N App #/Ac.	Crop 1 #/Ac.	Crop 2 #/Ac.																						
27-16	1																										
27-17	1 (1.5 Ac.)	NA	0	10,000	26.4 (Crop 2)	NA	0	10,000	26.4 (Crop 1)	15,000	39.6 (Crop 1)	NA	0	25,000	66 (Crop 1)	NA	0	20,000	52.8 (Crop 1)	NA	0	10,000	26.4 (Crop 2)	10,000	26.4 (Crop 2)	184.8	79.2
	2 (3.0 Ac.)	NA	0	10,000	26.4 (Crop 2)	NA	0	10,000	26.4 (Crop 1)	15,000	39.6 (Crop 1)	NA	0	25,000	66 (Crop 1)	NA	0	20,000	52.8 (Crop 1)	NA	0	10,000	26.4 (Crop 2)	10,000	26.4 (Crop 2)	184.8	79.2
27-18	1 (4.5A c.)	10,000	26.4 (Crop 2)	NA	0	NA	0	20,000	52.8 (Crop 1)	20,000	52.8 (Crop 1)	NA	0	30,000	79.2 (Crop 1)	NA	0	10,000	26.4 (Crop 2)	10,000	26.4 (Crop 2)	NA	0	NA	0	184.8	79.2
	2 (4.5 Ac.)	10,000	26.4 (Crop 2)	NA	0	NA	0	20,000	52.8 (Crop 1)	20,000	52.8 (Crop 1)	NA	0	30,000	79.2 (Crop 1)	NA	0	10,000	26.4 (Crop 2)	10,000	26.4 (Crop 2)	NA	0	NA	0	184.8	79.2
	3 (4.0 Ac.)	10,000	26.4 (Crop 2)	NA	0	NA	0	20,000	52.8 (Crop 1)	20,000	52.8 (Crop 1)	NA	0	30,000	79.2 (Crop 1)	NA	0	10,000	26.4 (Crop 2)	10,000	26.4 (Crop 2)	NA	0	NA	0	184.8	79.2
27-19	1 (9.9 Ac.)	NA	0	NA	0	NA	0	10,000	26.4 (Crop 2)	NA	0	30,000	79.2 (Crop 1)	NA	0	20,000	52.8 (Crop 1)	20,000	52.8 (Crop 1)	NA	0	10,000	26.4 (Crop 2)	10,000	26.4 (Crop 2)	184.8	79.2
	2 (9.3 Ac.)	NA	0	NA	0	NA	0	10,000	26.4 (Crop 2)	NA	0	30,000	79.2 (Crop 1)	NA	0	20,000	52.8 (Crop 1)	20,000	52.8 (Crop 1)	NA	0	10,000	26.4 (Crop 2)	10,000	26.4 (Crop 2)	184.8	79.2
27-20	1 (4.3 Ac.)	10,000	26.4 (Crop 2)	NA	0	NA	0	10,000	26.4 (Crop 2)	NA	0	30,000	79.2 (Crop 1)	NA	0	20,000	52.8 (Crop 1)	20,000	52.8 (Crop 1)	NA	0	NA	0	10,000	26.4 (Crop 2)	184.8	79.2
	2 (4.3 Ac.)	10,000	26.4 (Crop 2)	NA	0	NA	0	10,000	26.4 (Crop 2)	NA	0	30,000	79.2 (Crop 1)	NA	0	20,000	52.8 (Crop 1)	20,000	52.8 (Crop 1)	NA	0	NA	0	10,000	26.4 (Crop 2)	184.8	79.2
	3 (7.1 Ac.)	10,000	26.4 (Crop 2)	NA	0	NA	0	10,000	26.4 (Crop 2)	NA	0	30,000	79.2 (Crop 1)	NA	0	20,000	52.8 (Crop 1)	20,000	52.8 (Crop 1)	NA	0	NA	0	10,000	26.4 (Crop 2)	184.8	79.2
	4 (6.4 Ac.)	NA	0	NA	0	10,000	26.4 (Crop 2)	10,000	26.4 (Crop 2)	NA	0	30,000	79.2 (Crop 1)	30,000	79.2 (Crop 1)	NA	0	10,000	26.4 (Crop 1)	NA	0	NA	0	10,000	26.4 (Crop 2)	184.8	79.2
27-21	1 (6.6 Ac.)	NA	0	10,000	26.4 (Crop 2)	10,000	26.4 (Crop 2)	NA	0	15,000	39.6 (Crop 1)	NA	0	30,000	79.2 (Crop 1)	25,000	66 (Crop 1)	NA	0	10,000	26.4 (Crop 2)	NA	0	NA	0	184.8	79.2
	2A (14.5 Ac.)	NA	0	10,000	26.4 (Crop 2)	10,000	26.4 (Crop 2)	NA	0	15,000	39.6 (Crop 1)	NA	0	30,000	79.2 (Crop 1)	25,000	66 (Crop 1)	NA	0	10,000	26.4 (Crop 2)	NA	0	NA	0	184.8	79.2
	2B (7.5 Ac.)	NA	0	NA	0	10,000	26.4 (Crop 2)	10,000	26.4 (Crop 2)	NA	0	15,000	39.6 (Crop 1)	30,000	79.2 (Crop 1)	NA	0	25,000	66 (Crop 1)	NA	0	10,000	26.4 (Crop 2)	NA	0	184.8	79.2
	3 (2.0 Ac.)	NA	0	10,000	26.4 (Crop 2)	10,000	26.4 (Crop 2)	NA	0	15,000	39.6 (Crop 1)	NA	0	30,000	79.2 (Crop 1)	25,000	66 (Crop 1)	NA	0	10,000	26.4 (Crop 2)	NA	0	NA	0	184.8	79.2

**NUTRIENT MANAGEMENT PLAN FOR SLAS 27-18  
SEPTAGE APPLICATIONS TO BERMUDA GRASS AND RYE**



**A. General Information**

1. Field 1 contains approximately 4.5 acres, Field 2 contains approximately 4.5 acres, and Field 3 contains approximately 4.0 acres. The attached copy of the aerial photograph for the site shows field boundaries and identifications.
2. The dominant soil series on the site is Conetoe (Currituck County).
3. Septage will not be applied where the site is untrafficable (untrafficable is defined as soil that will allow a loaded truck to leave a depression in sod greater than 3 inches in depth).
4. All nitrogen recommendations for forages will be 75% of the realistic yield expectation nitrogen rate should the forage to be grazed.
5. Septage storage shall be provided to account for the average volume of septage pumped per week, or an alternative plan, such as disposal at a waste treatment plant, should be in place.

**B. Crops to be grown and approximate planting times: October 1<sup>st</sup> – March 15<sup>th</sup> Rye (Grain); Common Bermudagrass March 15<sup>th</sup> – October 1<sup>st</sup>**

1. Field 1, including buffer zones, will be seeded in Common Bermudagrass at a rate of 6 – 8 lbs/ac (if broadcasted) or 5 – 7 lbs/ac (if drilled) in March month in order to establish a permanent stand. To promote stand establishment the following steps will be taken the first year: Upon harvest of the Rye, a foliar herbicide will be immediately applied will the Bermuda grass is still in its dormant stage.

Areas that develop with less than 80% groundcover by Bermuda will be re-seeded with Bermuda at a rate of 4 – 6 lb/acre in March.

Each year thereafter, the field will be overseeded with Rye (Grain) at a rate of approximately 120 lbs per acre if broadcasted and 100 lbs per acre if drilled in September.

2. Field 2 will be treated the same as Field 1.

**C. Nitrogen needs for crops grown**

RYE = Realistic Yield Expectations

N App. Rate + Suggested N application rate based on RYE for soil type.

Crop (hay)	RYE	N App. Rate	lbs N/acre
Common Bermuda grass (Hay)	3.9 tons/acre x	49 lbs N/dry ton =	191
Rye (Grain; Harvested as Hay)	39 Bu/acre x	2.32 lbs N/Bu =	73*
Total =			264

R.Y.E. was obtained from <http://nutrients.soil.ncsu.edu/yields/> (April '11)

\* Rate was determined based upon Hydraulic Rate Table Listed below; actual Nitrogen is higher

**Hydraulic Rate Table (No Grazing)**

Month	Crop	Rate (Gal./Ac.)	Quantitative Rate	Hydraulic Cumulative Total (Gal./Ac.)	Nitrogen Rate (lbs./Ac.)	Nitrogen Cumulative Total (lbs.)
October (Winter Cover Start)	Rye	5,000	Low	5,000	13.2	13.2
November	Rye	5,000	Low	10,000	13.2	26.4
December	Rye	5,000	Low	15,000	13.2	39.6
January	Rye	5,000	Low	20,000	13.2	52.8
February	Rye	5,000	Low	25,000	13.2	66.0
March (Harvest March 15 <sup>th</sup> )	Rye	2,500	Low	27,500	6.6	72.2
March (Summer Cover Start; March 15 <sup>th</sup> )	CB	2,500	Low	2,500	6.6	6.6
April	CB	15,000	High	17,500	39.6	46.2
May	CB	10,000	Medium	27,500	26.4	72.6
June	CB	15,000	High	42,500	39.6	112.2
July	CB	15,000	High	57,500	39.6	151.8
August	CB	10,000	Medium	67,500	26.4	178.2
September (Last Application Sept. 15 <sup>th</sup> )*	CB	10,000	Medium	72,500	13.2	191.4
			<b>Annual Total Summary</b>	<b>100,000</b>		<b>263.6</b>

Standard Plant Available Nitrogen Rate is 2.64 lbs per 1,000 gallons

\* Stop "Summer Application" to allow time for Fall Planting and to start Fall application by October 1<sup>st</sup>

NOTE: Cumulative application rate is not to exceed the permitted application rate. Annual application rate is not to exceed 100,000 gallons per acre.

**E. Application Method**

The preceding information is based on septage being evenly applied over the entire permitted site by a pressurized vacuum truck or a hose cart on the surface

**F. Additional Fertility Requirements**

Phosphorus and potassium will be added in accordance with the soil test results for the crops grown.

NOTE: If a septage analysis is available, the phosphorus fertilizer requirement can be reduced by accounting for the amount of phosphorus in the septage.

OR

Approximately 150 lbs/acre of 0-0-60 N-P-K fertilizer will need to be added to the land application area in March to maintain fertility levels.

The buffer areas will be fertilized with 200 lbs/acre of 20-5-20 N-P-K fertilizer to maintain production based on soil test results.

**G. Harvest of the crops and their use**

1. The Bermuda grass will be cut as hay and baled whenever it reaches approximately 12 inches in height, or roughly every 4 to 6 weeks beginning in June. At least three harvests will be made from each field each year.
2. The rye grass will be cut as hay and baled in March of each year from Fields 1 and 2, respectively.
3. A 30-day waiting period must be observed between the last application of septage and harvest. Beginning about the first of March each year, septage will be applied strictly to Field 2 while the rye on Field 1 is undisturbed for 30 days. After 30 days the rye in Field 1 will be harvested and septage application switched to Field 1. After an additional 30 days, in late April to early May, the rye will be harvested from Field 2. By early May, a rotation will be established which can cycle every 30 to 45 days between Bermuda grass harvests. By the end of October, rye will have been planted and the entire site will be available for septage application until the end of February the following year.
4. The hay will be sold to a local farmer to feed his beef cows and horses.
5. The fields could be grazed if a three-field rotation is established. The rotation is such that Field 1 is grazed while Field 2 is undisturbed and Field 3 receives septage. After 30 days, Field 2 will be grazed while Field 3 left undisturbed and Field 1 receives septage. For the third phase of the rotation, Field 3 is grazed while Field 1 is undisturbed and Field 2 receives septage. The following table shows the rotation pattern:

Month	Field 1	Field 2	Field 3
January	Graze	Wait	Apply
February	Apply	Graze	Wait
March	Wait	Apply	Graze
April	Graze	Wait	Apply
May	Apply	Graze	Wait
June	Wait	Apply	Graze
July	Graze	Wait	Apply
August	Apply	Graze	Wait
September	Wait	Apply	Graze
October	Graze	Wait	Apply
November	Apply	Graze	Wait
December	Wait	Apply	Graze

## SOIL EROSION AND RUNOFF CONTROL PLAN

Given that slopes on this site do not exceed five percent, a 50 foot buffer, planted in Bermuda grass and rye, should suffice to prevent septage waste from migrating off of the fields. (More severe site conditions could require that soil erosion structures be installed before septage can be applied).

Submitted by: J. Bryan Smith  
Site Operator

Date: 1-9-12

Plan prepared by: C. Scott Carpenter (TSP-09-6152)

Date: 01/9/2012

Address: 208 Williams Street  
Greenville, NC 27858

Phone: (252) 917-4288



# Septage Land Application Log Cover Sheet

Site Operator: Sammy Smith  
SLAS Permit #: 27-18  
Site Location : \_\_\_\_\_  
(street address for the site or latitude and longitude)  
Number of acres permitted: 13  
Permitted application rate: 100,000 Gallons Per Acre-Yr  
(gallons septage per acre per year)  
Crop(s) : Bermuda Grass (Summer)/Rye (Winter)  
Crop nitrogen requirement(s): 264  
(pounds nitrogen per acre)

### CERTIFICATION:

"I certify, under penalty of law, that the pathogen requirements in (insert either 503.32 (c)(1) or 503.32 (c)(2)) and the vector attraction reduction requirements in (insert 503.33 (b)(9), 503.33 (b)(10) or 503.33 (b)(12)) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

*Sammy Smith*  
(signature)

1-9-12  
(date)