

NCSI

KEEPING NORTH CAROLINA'S ENVIRONMENT CLEAN
"ONE TANK AT A TIME!"

INSPECTION REPORT:

PROPERTY ADDRESS: 109 Old Watkins Road
Henderson, NC 27537

DATE OF INSPECTION: November 09, 2022



NORTH CAROLINA SEPTIC INSPECTIONS

VENICE "DAN" PINER

NCOWCICB Certification #: 3434I

Grade IV Septic Tank Contractor / Installer

KEVIN HOSKINS, Certified Inspector

NCOWCICB Certification #: 5712I

PHONE: 919-880-1590

EMAIL:

dan@ncsepticinspections.com

A. CONTACT INFORMATION

Inspection requested by: Sonya Longmire (Purchaser)
Cameron Saemann (Realtor / Broker)

Phone: 919-348-5131 E-mail: sonyalongmire@gmail.com
919-324-1991 cameron@secondstoryrealty.com

Current Owner: *Owner of Record*

Site Address: 109 Old Watkins Road, Henderson, NC 27537

Operator in Responsible Charge: **(ORC):** ☐ Required ☒ Not Required

Current contract expiration date: ☒ N/A

Required O&M service frequency: ☒ N/A

Date of last service: ☒ N/A

B. SYSTEM INSPECTION

Inspection Performed on: Date: *November 9, 2022* Time: *11:00 AM To 2:00 PM*

Estimated Design Flow: ☒ 360 Gal/Per/Day (Consistent for 3 Bedrooms)

Indicate Source of Design Flow:

☒ Permit from Vance County **was not** available at time of inspection.

Design Flow based on Permit: **(Permit not available)**

Number of Permitted Bedrooms: (Could not Confirm)

Designed Flow Based on Permit: (Could not Confirm)

Design Flow Based on Real Estate Listing:

Number of bedrooms per real estate listing: ☒ 3 Bedrooms

Design flow per real estate listing: ☒ 360 Gal/Per/Day

☒ MLS ☒ Realtor.com ☒ Zillow

Present Estimated Daily Flow:

Home is Occupied: ☒ No (Home is Vacant)

Daily Flow: ☒ 0 to 5 gallons/per/day

Slow Drip ☒ No

SYSTEM SUMMARY:

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At the conclusion of the Septic Tank Inspection and the Wastewater Evaluation, it was determined that the following maintenance and repair items are recommended for your consideration. Additional information pertaining to the operation of this system, in addition to a suggested improvement item is also included in this report. This summary is not the entire report. The complete report may include additional information of interest or concerns to you. It is strongly recommended that you read the complete report. Warning...The attached pictures of septic system may also be considered graphic in nature.

Suggested Repairs Items:

- 1). Considering the current depth of mixed solids, sludge, and the thickness of surface scum, in addition to **non-biodegradable materials**, it is recommended that septic tank be pumped and cleaned of roots. FYI: Systems of this age may require pumping more frequently than newer systems. Subject tank should be pumped on a 3-to-5-year rotation, or sooner if necessary (see page 8 for additional information and pictures).
- 2). The outlet access lid has a broken wire handle. Concrete lids without handles are very difficult to remove for the purpose of general maintenance. It is recommended that lid be replaced if an adequate and acceptable repair cannot be made (see page 9 for additional information and pictures).
- 3). Root growth was present around both the inlet and outlet wastewater supply pipes. It is recommended that Service Provider re-seal these areas with non-expansion grout or with the appropriate hydro-cement sealant (see page 10 for additional information and pictures).
- 4). Extensive corrosion and deterioration was present around outlet baffle tee. Because of the extensive corrosion and deterioration, pre-cast concrete outlet baffle should be replaced with a PVC Sanitary tee. Effluent strainer is an option, however, strainer is recommended (see page 11 for additional information and pictures).
- 5). Age related stress cracks were present around outlet access opening. It is recommended that Service Provider, seal the cracks with hydro-cement or the appropriated cement sealant to prevent the infiltration of surface water. FYI: To determine if cracks extend or advance past the openings, additional soil over the top of tank would have to be removed (see page 12 for additional information and pictures).

SYSTEM SUMMARY (Continued):

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Repair Items (Continued):

6). At time of inspection, effluent level in tank was approximately 12 inches below invert of outlet. For your information, it is not unusual for liquid levels to be low when tanks have been dormant or not in use for extended periods of time. However, the visual inspection discovered root infiltration. Tank could possibly be leaking around the mid-seam and areas of root infiltration. It is recommended that the Pumping Service Provider re-evaluate the tank to determine if there is a breach in the sidewalls. A leak down test maybe necessary to determine if tank is leaking (see page 13 for additional information and pictures).

7). The inspection of the distribution box discovered corrosion and deterioration, in addition to accumulated sand, sludge, and mixed solids. Lid to distribution box also has corrosion and age-related deterioration. At time of inspection, distribution box was partially cleaned, however, not all the debris could be removed. Because of the present condition, it is recommended that Septic Tank Service Provider replace the distribution box and its lid (see page 14 for additional information and pictures).

Suggested Improvement Items:

8). Because of the depth that tank is buried beneath the soil surface and the amount of time and difficulty in uncovering the inlet or outlet access lids to pump and clean the tank, it is recommended installing risers over one or both these access openings. FYI: Installing a riser over the outlet access opening would make it easier to remove and clean the effluent strainer, when soiled, if one is added with the addition of an outlet PVC Sanitary Tee (see page 15 for additional information and pictures).

SYSTEM INSPECTION REPORT:

On-site Wastewater Inspection

Feet from Foundation: <i>NC Code (No Less than 5 Feet)</i>	☒ 15 Feet 6 Inches
Is Foundation of home an encroachment?	☒ No
Feet from Deck? Acceptable distance <i>NC Code (No Less than 5 Feet)</i>	☒ 4 Feet 6 Inches
Is Driveway an encroachment?	☐ Yes ☒ No ☐ Non-applicable
Feet from well if applicable: <i>NC Code (No Less than 50 feet)</i>	☒ 115 Plus Feet
Community water or county water available?	☐ Yes ☐ No ☒ Could not Confirm
Feet from main water line if applicable: <i>NC Code (No Less than 10 Feet)</i>	☒ 10 Plus Feet ☐ Less Than 10 Feet ☐ Non-applicable
Is there and irrigation system?	☐ Yes ☒ No ☐ Non-applicable
Distance tank is located from property line: <i>NC Code (No Less than 10 Feet)</i>	☒ 10 Plus Feet ☐ Less Than 10 Feet ☐ Non-applicable
Were property lines flagged?	☐ Yes ☒ No ☐ Non-applicable
Average depth of tank below finished grade?	☒ 18 to 19 Inches ☐ Non-applicable
Were Risers present?	☒ No, However, a Riser is Recommended
Type of Riser (material used)?	☒ Non-applicable
Condition of inlet riser lid?	☒ Non-applicable
Condition of inlet riser base?	☒ Non-applicable
Condition of outlet riser lid?	☒ Non-applicable
Condition of outlet riser base?	☒ Non-applicable
Condition of inlet access tank lid?	☒ Single Chamber (Access through Outlet Lid)
Condition of inlet access lid handle?	☒ Did not Confirm
Condition of outlet access tank lid?	☒ Age related Chips (Broken Handle)
Condition of outlet access lid handle?	☒ No Handle Present (Older System)
Condition of center baffle wall lid?	☒ Non-applicable
Condition of baffle wall handle?	☒ Non-applicable
Condition of baffle wall?	☒ Single Chamber Tank (No Baffle Wall)
Were stress cracks present?	☒ Yes (Age-related)
Does tank have an outlet baffle tee?	☒ Yes
If baffle tee is present, what type of tee?	☒ Concrete
Condition of outlet baffle tee? (Concrete)	☒ Poor (Should be Replaced)
Should existing tee be replaced with pvc tee?	☒ Yes (Recommend Retro-fitting)
Should effluent strainer/filter be installed?	☒ Yes (Filter/Strainer is Recommended)
Condition of filter/strainer if present?	☒ Non-applicable
Are roots present in tank?	☒ Large Fibrous Roots
Does tank appear to be watertight?	☒ No
Water level in tank relative to tank outlet?	☒ Below (10 to 11 Inches Below Invert of Outlet)
Single chamber tank with no baffle wall?	☒ Yes

SYSTEM INSPECTION REPORT:

<i>Is leakage suspected?</i>	☒ Yes (Low Effluent)
<i>Is concrete etching present at static water line?</i>	☒ Yes (Extensive, however, Age-related)
<i>Is interior corrosion present?</i>	☒ Normal Age-related Corrosion Present
<i>Evidence of multiple inlet wastewater pipe connections?</i>	☒ None Were Visible
<i>Inlet wastewater supply pipe visible?</i>	☒ Yes
<i>Outlet wastewater supply pipe visible?</i>	☒ Yes
<i>Inlet primary chamber floating scum measurement?</i>	☒ Non-applicable (Single Chamber Tank)
<i>Inlet primary chamber bottom sludge measurement?</i>	☒ Non-applicable (Single Chamber Tank)
<i>Outlet secondary chamber floating scum measurement?</i>	☒ Non-applicable (Single Chamber Tank)
<i>Outlet secondary chamber bottom sludge measurement?</i>	☒ Non-applicable (Single Chamber Tank)
<i>Date tank was last pumped (if known)?</i>	☒ Unknown
<i>Should tank be pumped at this time?</i>	☒ Yes
<i>If single chamber tank, average sludge, and scum depth?</i>	☒ 24 to 26 Inches

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For your information:

At time of inspection, a copy of the septic permit from the Vance County Department of Environmental Health was not available. Installation of septic tank, distribution device and nitrification area may not be exactly as shown on original issued permit from County. Risers were not present on either the inlet or outlet access openings. Tank is buried between 18 to 19 inches beneath soil surface. Septic tank is located approximately 15 feet 6 inches from the foundation which meets the current 5 feet minimum required separation distance between a septic tank and homes built over a crawl space. Septic tank was not pumped at time of inspection, therefore, the inspection of the interior of tank was only done from the liquid level up to and including the free boarding area. Septic tank is a single chamber tank with no interior dividing baffle wall. Visual inspection of exposed areas of interior sidewalls did not reveal any cracks, however, root infiltration was present. At time of inspection, liquid level in tank was approximately 18 inches below invert of outlet. Tank could possibly be leaking (see suggested repair items for additional information). Inside/outside measurements estimate the size of the septic tank to be approximately **900 gallons**.

Existing tank is constructed with a pre-cast concrete outlet baffle tee. Outlet baffle tee has extensive deterioration and is not performing the function it was intended to do. For your information baffle tees are designed to restrict the movement of mixed solids, sludge, and surface scum from tank area to nitrification field. Portions of the baffle tee have disintegrated and is no longer restricting the movement of surface scum and solids. Because of the extensive corrosion and deterioration, outlet baffle should be replaced with a PVC Sanitary tee. FYI: Effluent strainer is not required, however, is recommended. Invert of inlet wastewater supply line and invert of outlet wastewater supply line appear to be at the correct height. Column sampling revealed surface scum, bottom sludge, and mixed solid measurement to be approximately 24 to 26 inches in depth. These measurements are consistent with tanks that **have not had recent general pumping maintenance performed**.

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For your maintenance records, it is recommended that seller provide the date of the last scheduled pumping and the service provider that performed the service. Approximately 30 gallons of water was added to the outlet wastewater supply pipe to confirm liquid flow from the septic tank to the distribution box and nitrification soil absorption area. Distribution box was located by probing, uncovered, and inspected. It was discovered that the distribution box had approximately 3 to 4 inches of sludge, sand, and mixed solid, in addition to a broken and deteriorated lid. At time of inspection, distribution box was partially cleaned, however, not all the sludge, sand, mixed solids, and roots could be removed. The inspection of the distribution box discovered that the sidewalls had extensive corrosion and deterioration. The infiltration of sand, mud, and root growth is through these deteriorated areas. Because of its present condition, it is recommended that Septic Tank Service Provider replace the distribution box and its lid.

Portions of the nitrification (leach) field were located, and a visual inspection was performed. Nitrification field consists of two (2) lines installed over gravel aggregate laterals, approximately 100 feet in length. Probing confirmed the depth, however, the exact length, number or configuration of lines was not confirmed. **Septic systems are subterranean, without exposing the actual nitrification lines and the soil absorption area beneath the lines it is impossible to make an accurate assessment of their overall condition, especially in systems that are, or have been dormant for lengthy periods of time. More accurate assessments are done in homes that are occupied.** Caution should be observed to discourage vehicular traffic or disturbing the soil in and around the nitrification field. A copy of the Septic Permit was not available at time of inspection. A copy of the original Operational Permit, if available, or any records of a previous repair permit should be obtained from the Vance County Department of Environmental Health to verify the number of permitted bedrooms and to confirm the length of each nitrification line. Properties deeded before, April 01, 1983, do not require a designated repair area, however, there appears to be adequate space available if a repair were to become necessary.

Summary of overall system condition:

Per MLS, Zillow, and Realtor.com, subject property is listed as a 3 bedroom home. Systems permitted for 3 bedrooms are designed to allow 360 gallons of (ATAR gpd/ft) long-term acceptance rate/gallons per day/sq/ft of nitrification area. Property lines were not flagged at time of inspection, therefore, the setback distance for nitrification lines could not be conclusively determined. Nitrification area does appear to be greater than the 10 feet minimum required separation distance from adjoining property, however, the exact distance could not be confirmed. Routine maintenance is recommended. Because of the age, septic tank should be pumped and cleaned on a 3-to-5-year rotation or sooner if needed, in addition to removing and cleaning the effluent strainer, when soiled, if one is added with the addition of an outlet PVC sanitary baffle tee. Periodic inspections of the replaced distribution box should also be done so that any accumulation of sand, sludge, or the infiltration of roots can be removed.

It is recommended to avoid planting shrubbery or large trees around septic systems. Roots from trees can infiltrate septic tanks and cause irreversible damage. Trees or shrubbery should not be planted in or around nitrification field.

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Excessive root growth can penetrate the orifices and contribute to nitrification lines not functioning at their full capacity. It is always recommended to properly maintain the vegetation growth over nitrification areas. Planting appropriate vegetation over the drain field is key to allowing a septic system to properly treat household wastewater and ensure the safety of your family and the environment. Caution should be observed when watering the area directly over the nitrification lines. Excessive watering in some cases can cause nitrification field to become oversaturated and restrict the flow of effluent. Continuous drips of water into septic systems from leaking faucets or flappers on commodes can contribute to the oversaturation of nitrification ditches resulting in system malfunctioning.

Gutters downspouts should always be diverted away from nitrification areas, in addition, all permanent structures should be a minimum of 5 feet from any or all portions of a septic tank and its connecting nitrification lines. Food waste disposal systems are not recommended in homes that are on septic systems. Garbage disposals increase the need for routine pumping.

Eggshells, bones, and vegetables do not digest well and add more sludge to the tank. Baby or adult wipes, female hygiene products, plastics, and all non-biodegradable materials, should not be introduced to septic systems. Do not use sinks or toilets as trashcans. Dumping cooking oil, paper towels, household chemicals, paint, kitty litter, coffee grounds or even cigarette butts into sinks or toilets will increase the sludge layer in the tank resulting in the tank requiring more frequent pumping maintenance.

FYI: If a water softener is present or if one is installed in the future, it is recommended that the backwash water from the softener not be discharged directly into the wastewater dispersal system. In addition, the backwash should also not be discharged on the ground in and around the septic tank and the nitrification soil absorption area. These items have been linked directly to systems that have failed earlier than their normal life expectancy.

SUGGESTED MAINTENANCE AND REPAIR ITEMS:

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- 1). Because of the depth of surface scum, mixed solids, and bottom sludge, in addition to **non-biodegradable materials**, it is recommended that tank be pumped and cleaned. Septic tank should be pumped on a 3 to 5 year rotation, or sooner if necessary. FYI: Systems of this age may require pumping maintenance more frequent. For your maintenance records, it is recommended that seller provide the date of the last scheduled pumping and the service provider that performed the service.

Scum and Non-Biodegradable Materials:



Extensive Root Infiltration:

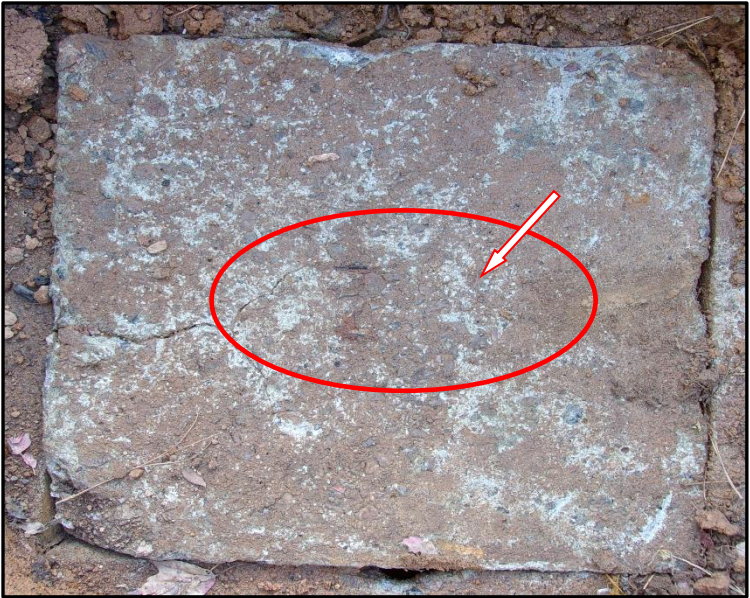


SUGGESTED MAINTENANCE AND REPAIR ITEMS:

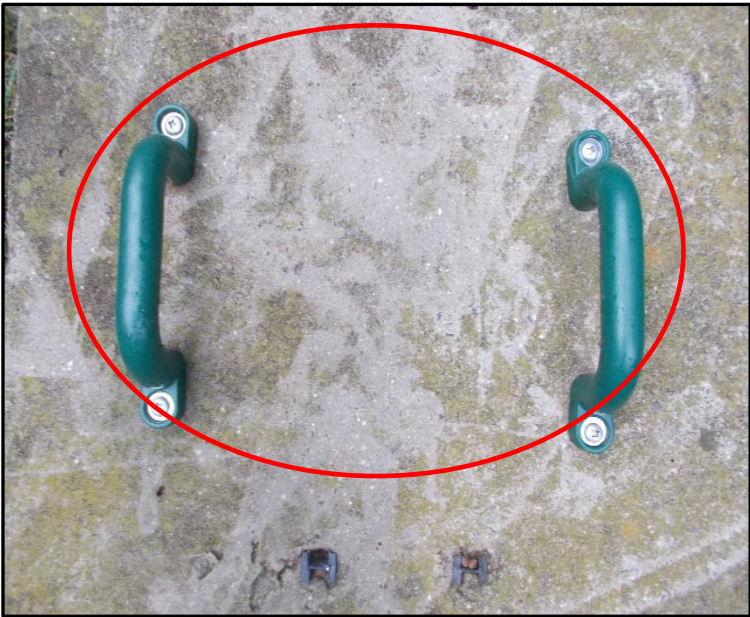
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- 2). The outlet access lid has a broken wire handle, in addition to stress cracks. FYI: Concrete lids without handles are very difficult to remove for the purpose of general maintenance. It is recommended that lid be replaced if and adequate an acceptable repair cannot be made.

Broken Wire Handle:



Example of Repaired Handles:



SUGGESTED MAINTENANCE AND REPAIR ITEM:

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- 3). To prevent the infiltration of roots, ground water, and possible leakage of effluent. It is recommended that Service Provider re-seal around the inlet and outlet wastewater supply pipes with non-expansion grout or with the appropriate hydro-cement sealant.

Existing Inlet Wastewater Supply Pipe:



Outlet Wastewater Supply Pipe (Root Infiltration):



SUGGESTED MAINTENANCE AND REPAIR ITEM:

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- 4). Extensive corrosion and deterioration were present on outlet baffle tee. Outlet baffle tee is not performing the function it was intended to do. For your information baffle tees are designed to restrict the movement of mixed solids, sludge, and surface scum from tank area to nitrification field. Baffle tee has disintegrated and is no longer restricting the movement of solids. **Because of the corrosion and deterioration, outlet baffle should be replaced with a PVC Sanitary tee with an effluent strainer.**

Existing Pre-Cast Outlet Baffle Tee (Extensive Corrosion):



Example of Retro-fitted with PVC Sanitary Tee with Effluent Strainer:



SUGGESTED MAINTENANCE AND REPAIR ITEM:

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- 5). Stress cracks were present around outlet secondary chamber access openings. To prevent infiltration of surface water, it is recommended at time of pumping that Service Provider seal the cracks with hydro-cement or the appropriate sealant to prevent the infiltration of surface water. FYI: Cracks extending outside of the perimeter of the opens should also be checked and sealed if necessary. **FYI: To determine if cracks extend past the openings, addition soil over the top of tank would have to be removed.**

Secondary Chamber Stress Cracks:

SUGGESTED MAINTENANCE AND REPAIR ITEM:

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- 6). At time of inspection, effluent level in tank was approximately 18 inches below invert of outlet. For your information, it is not unusual for liquid levels to be low when a tank has been dormant or not in use for an extended period of time, however, it is unusual for effluent level to be as low as in subject tank. Pumping Service Provider should re-evaluate the tank to determine if there is a breach in the sidewalls. A leak down test maybe necessary to determine if tank is leaking. A leak down test consists of filling the tank to the invert of the outlet. System would remain unused for a minimum of 24 to 36 hours. A re-evaluation would then be necessary to confirm if effluent level remained the same or had lowered. If the effluent level in tank lowers by more than $\frac{3}{4}$ of an inch in a 24 hour period or more than $1\frac{1}{2}$ inches in 36 hours a leak or breach in the sidewalls of tank is probable. To further confirm, tank should be refilled to the invert of outlet and be observed for an additional hour. If effluent lowers $\frac{1}{2}$ inch or more, a repair or replacement would be necessary. FYI: If it is determined that tank is leaking, a replacement will be necessary if an adequate repair cannot be made.

Interior of Subject Septic Tank:



SUGGESTED MAINTENANCE AND REPAIR ITEM:

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- 7). The inspection of the distribution box discovered excessive accumulation of sludge, sand, mixed solids, and root infiltration, in addition the sidewalls have extensive corrosion and deterioration. Distribution box could possibly be leaking around the static water line. At time of inspection, distribution box was partially cleaned, however, not all the sludge, sand, and mixed solids could be removed. It is recommended that a NC Licensed Septic Contractor replace the existing distribution box and its lid. FYI: Speed levelers should be installed to assure that effluent is being equally distributed to each individual nitrification line.

Distribution Box (Corrosion and Deterioration):



Broken and Deteriorated Lid:



SUGGESTED IMPROVEMENT ITEM:

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- 8). Because of the depth that tank is buried beneath the soil surface and the amount of time and difficulty in uncovering the inlet or outlet access lids to pump and clean the tank, it is recommended installing risers over one or both these access openings. FYI: Installing a riser over the outlet access opening would make it easier to remove and clean the effluent strainer, when soiled, if one is added with the addition of an outlet PVC Sanitary Tee.

Existing Access Openings:



Example of Risers:



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Portions of the nitrification (leach) field were located, and a visual inspection was performed. Nitrification field consists of two (2) lines installed over gravel aggregate laterals, approximately 100 feet in length. Probing confirmed the depth, however, the exact length, or the configuration of nitrification lines were not confirmed. **Septic systems are subterranean, therefore, without exposing the actual nitrification lines and the soil absorption area beneath the lines it is impossible to make an accurate assessment of their overall condition, especially in systems that are, or have been dormant for lengthy periods of time. More accurate assessments are done in homes that are occupied.** Caution should be observed not to disturb the soil in and around the nitrification field and its adjoining repair area. It is always recommended to properly maintain the vegetation growth over nitrification areas. Planting appropriate vegetation over the leaching field is key to allowing a septic system to properly treat household wastewater and ensure the safety of your family and the environment.

Nitrification Area (Diagram of lines may not be exact):



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Because of the age, no warranties or opinions are hereby given, written, or expressed otherwise, as to the past or future performance of the on-site wastewater system described herein. Septic systems are subterranean; therefore, it is impossible to determine their overall condition. This report comments on the condition of the system on the day of inspection only. For your information, the condition of this septic system can be altered by factors such as excessive rainfall, heavy water usage, faulty plumbing, physical damage, in addition to neglect. NC Septic Inspections makes no assurance for the continued performance of this or any on-site wastewater system. This on-site wastewater inspection is a presentation of system facts in place on the date of inspection and is not intended for use in negotiating a sale price. If this system or its components malfunction at any time during occupancy, a local Service Provider should be contacted so immediate repairs can be made. If at any time there is evidence of surfacing waste around septic tank or evidence of surfacing effluent over the nitrification field, the local Environmental Health Department should be notified so the appropriate permits can be issued, and immediate repairs can be made. Proper care and maintenance of a septic system will save time and money while also providing protection to our environment.

Helpful information pertaining to septic system management can be found on this North Carolina State University Web Site (www.soil.ncsu.edu).

Signature of Inspector: Kevin Hoskins Date: November 9, 2022

Kevin Hoskins, Certified Inspector
NCOWCICB Certification #: 5712I

Report Prepared By: Venice D. Piner Date: November 11, 2022

Venice D Piner, Certified Inspector
NCOWCICB Certification #: 3434I

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System Inspection Pictures

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Location of Tank:



Distance from Foundation:



Interior of Tank:



Distance:



Distribution Box:



Re-covered Access Openings:



(Additional Pictures are Available if Requested)