

HAL OWEN & ASSOCIATES, INC.

SOIL & ENVIRONMENTAL SCIENTISTS

P.O. Box 400, Lillington, NC 27546-0400

Phone (910) 893-8743 / Fax (910) 893-3594

www.halowensoil.com

Project Name: _____

County: _____ LHD Reference: _____

Provided to:

Name: _____

Address: _____

I, _____, acknowledge receipt of the

Licensed Soil Scientist Report which includes:

- Signed and sealed copy of the AOWE's report that includes the information in G.S. 130A-336.2(k)
- Operation and Management Program
- Authorization to Operate

I accept the septic system installation and understand that I will be responsible for continued adherence to the Operations and Management program established by the AOWE.

Drew Brody
Signature

Date

HAL OWEN & ASSOCIATES, INC.

SOIL & ENVIRONMENTAL SCIENTISTS

P.O. Box 400, Lillington, NC 27546-0400

Phone (910) 893-8743 / Fax (910) 893-3594

www.halowensoil.com

25 February 2025

Mattamy Homes, LLC
11000 Regency Parkway, Suite 110
Cary NC 27518

Reference: LSS Report for Authorization to Operate (ATO)
23 Barrow Ct, Angier, NC
Riverfall SD PH 1, Lot 1
LHD # SFD2412-0043

Dear Mattamy Homes, LLC,

This LSS Report is being provided pursuant to and meets the requirements of G.S. 130A-336. This report is based on information provided by the property owner or their representative. Hal Owen & Associates, Inc. is not responsible for false or misleading information that may have been provided to us in pursuit of this permit, nor for concealed conditions on the property. Hal Owen & Associates Inc. does not warrant that the septic system will continue to function satisfactorily in the future.

The septic system for the above referenced property has been installed and was inspected by Hal Owen & Associates staff on 18 February 2025. The system has been installed in compliance with applicable NC General Statutes, Rules for Sewage Treatment and Disposal, and all conditions of the AOWE Permit. The system was installed in conformance with the Permit design and specifications. Enclosed with this report are the *Septic System Final Inspection Report*, *As-Built map* (Figure 1), and *Operation and Management Program*.

You will need to sign a document confirming receipt of this report and acceptance of the installed system (pg 1) and submit this report to the Local Health Department (LHD). The LHD shall issue a certificate of occupancy upon receipt of a complete ATO.

I appreciate the opportunity to provide this service. If you have any questions or need additional information, please contact me at your convenience.



Sincerely,

Hal Owen
Licensed Soil Scientist
Authorized Onsite Wastewater Evaluator

Contacts

APPLICANT

Applicant Name	Mattamy Homes, LLC
Mailing Address	11000 Regency Parkway, Suite 110 Cary NC 27518
Telephone Number	919-625-9546
E-mail Address	Drew.Brody@mattamycorp.com

SOIL SCIENTIST

Company Name	Hal Owen & Associates, Inc.
Mailing Address	PO Box 400, Lillington, NC 27546
Telephone Number	910-893-8743 Fax: 910-893-3594
E-mail Address	hal@halowensoil.com
Licensed Soil Scientist	Hal Owen, LSS#1102 and AOWE# 10036E
System Designer	Jocelyn Proulx
System Inspector	Jocelyn Proulx #9943I

INSTALLER

Company Name	David Brantley and Sons
Mailing Address	37 Pine Ridge Rd, Zebulon, NC 27597
Telephone Number	(919) 404-9511
Installer & Certification #	Cory J. Brantley #1036

LOCAL HEALTH DEPARTMENT

Agency Name	Harnett County Health Department Environmental Health Division
Mailing Address	307 W Cornelius Harnett Blvd, Lillington, NC 27546
Telephone Number	(910) 893-7547
LHD Application #	SFD2412-0043

Septic System Final Inspection Report

Property Identifiers

County	Harnett	PIN	0682-29-4945.000
Size (Acre)	0.97	County PID	
Site Address	23 Barrow Ct, Angier, NC		
S/D Name and Lot#	Riverfall SD, Ph 1, Lot 1		

System Description

Facility Type	Single Family Residence
Basement	No
Basis of flow	3 bedrooms
Wastewater Strength	Domestic
Design Wastewater Flow	360 gpd
Water Supply	Public
.0403 Eng Low Flow	No
Soil LTAR	0.40
System Type	IIIbg

Installation

Date	18 February 2025
System Inspector	Jocelyn Proulx, #9943I
Installer	Cory J. Brantley #1036

Septic Tank:

Volume (gallons)	1000
Brand and Tank ID#	DB STB 502
Date of Manufacture	12/31/24
Certified watertight	NA
Distance to Structure	10'
Elevation of tank inlet	6' 4 ½"
Elevation of tank outlet	6' 6 ½"

Effluent Filter:

Make and Model	SIMTECH STF-110
----------------	-----------------

Pump Tank:

Volume (gallons)	1000
Brand and Tank ID#	DB PT 53
Date of Manufacture	11/6/24
Certified watertight	NA
Elevation of tank inlet	7' 1 ½"
Elevation of tank outlet	7' 3"

Pump:

Make and Model	Ashland EP-30
Pump Sys- Elevation Head	6.96
Pump Sys- Friction Loss	1.30
Pump Sys- Design Head	2.0
Pump Sys- TDH	10.26
GPM (actual)	26.52

Control Panel:

Manufacturer	SJE Rhombus Model# 1121W114H6A8AC10E15A17C
--------------	--------------------------------------------

Distribution:

Supply Line Length to Distribution	26'
Supply Line Diameter	2"
Distribution Device:	Pressure Manifold
Number of outlets (laterals)	3

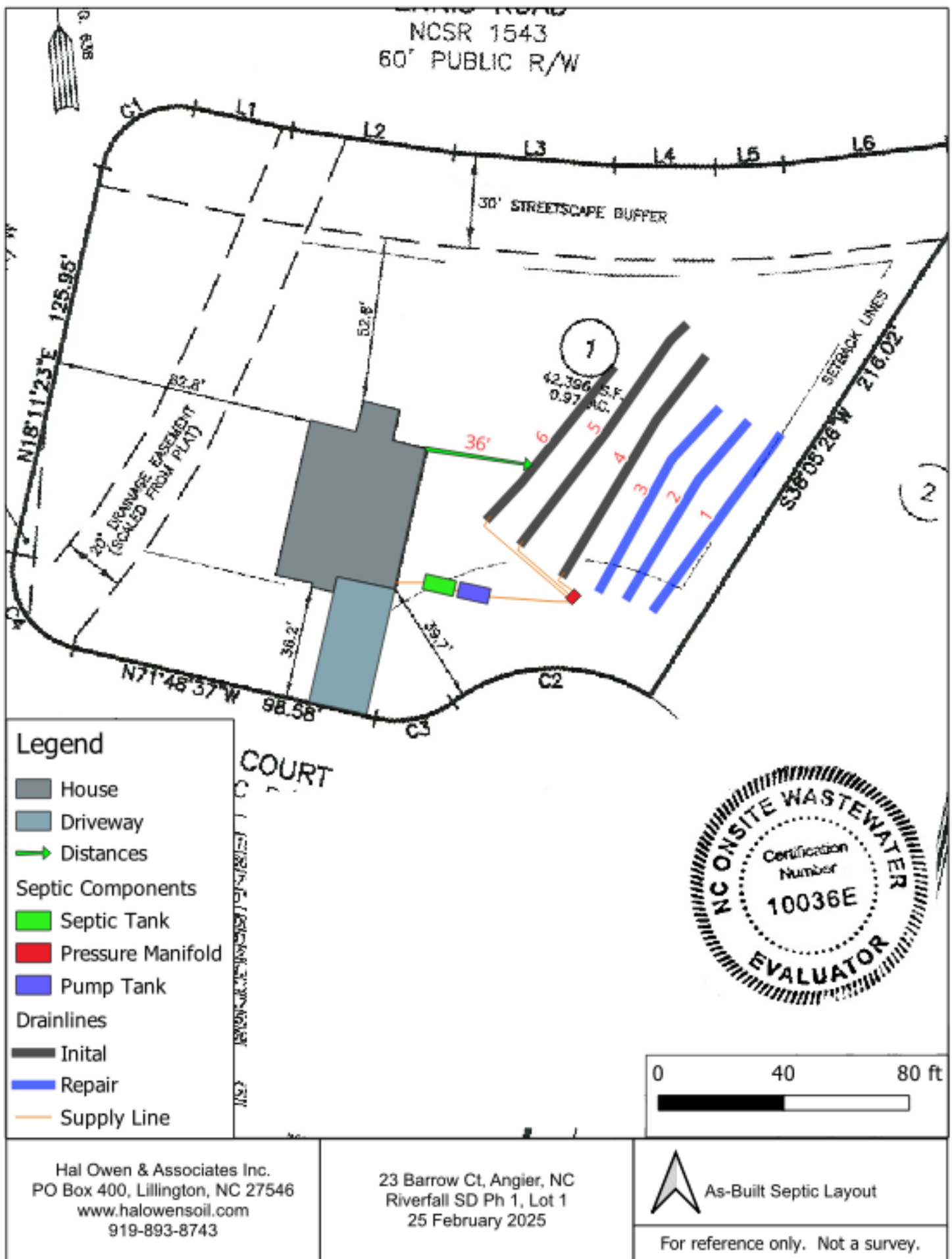
Drainfield:

Type	Quick4 Standard Chamber
Distance to Structure	36'
Distance to Well	NA

Trench Depth		21-24”	Trench width	36”
Trench Spacing		9’	Aggregate	chamber
	<u>Length (ft)</u>	<u>Start</u>	<u>Middle</u>	<u>End</u>
Line 4	82	5’ 1 ¼”	5’ 1 ¼”	5’ 1 ¼”
Line 5	86	5’ 10”	5’ 10”	5’ 10”
Line 6	62	6’ 3 ½”	6’ 3 ½”	6’ 3 ½”
Total	230			

All elevations are given as relative grade rod reading.

Notes:



LSS Report for Authorization to Operate (ATO)

23 Barrow Ct, Angier, Harnett Co., NC

LHD # SFD2412-0043

25 February 2025

5

Installation pictures









Operation and Management Program

In accordance with G.S. § 130A-336.2, the owner is responsible for continued adherence to the operations and management program. Septic systems safely treat and dispose of wastewaters produced in the bathroom, kitchen, and laundry. These wastewaters may contain disease-causing germs and pollutants that must be treated to protect human health and the environment. Septic systems must be properly used, operated, and maintained by the homeowner to assure the long-term performance of the system.

PERMIT CONDITIONS:

I. Performance: System shall perform in accordance with Section .1300.

II. Monitoring: As required by Section .1300.

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.

Other: _____

Subsurface system operator required? Yes _____ No X

If yes, see attached sheet for additional operation conditions, maintenance and reporting.

IV. Operation: _____

V. Other: _____

TABLE XXXII. Management responsibilities based on wastewater system classification type and description.

System Classification Type and Description	LHD Compliance Inspection Frequency	Management Entity	Management Entity Minimum Maintenance Inspection Frequency
IIb- Accepted wastewater gravity system	N/A	Owner	N/A
IIIg- Other non-conventional systems	N/A	Owner	N/A

KNOW WHERE YOUR SEPTIC SYSTEM IS LOCATED

Your property has an onsite subsurface sewage waste disposal system. Familiarize yourself with the location of the system including the tanks, distribution devices, and disposal fields (including repair area). These areas shall be protected from excavation, building additions, outbuildings, pool construction, and soil disturbing activities. Prohibit vehicular traffic over the ground absorption field.

DAY-TO-DAY MANAGEMENT

Don't use too much water.

- ◆ The drainfield does not have unlimited capacity.
- ◆ Typical daily water use is 50 gallons per person.
- ◆ The soil drainfield usually has a maximum daily design capacity of 120 gallons per bedroom, even for short periods of time.
- ◆ Overloads can occur seasonally, daily, or on the weekend.
- ◆ Water conservation will extend the life of your system.
- ◆ Repair dripping faucets and toilets.

Limit disposal to sewage.

- ◆ Don't use your septic tank as a trash can for cigarette butts, tissues, sanitary napkins, cotton swabs, cat box litter, coffee grounds, or disposable diapers.
- ◆ Restrict the use of your garbage disposal. These add quite a lot of extra solids.
- ◆ Don't pour grease or cooking oil down the drain.
- ◆ Don't poison your system with harmful chemicals such as solvents, oils, paints, thinners, discarded medications, disinfectants, pesticides, poisons, and other substances.
- ◆ Save money. Commercial septic tank additives are usually not necessary.

Protect the system from physical damage (site maintenance).

- ◆ Keep the soil over the drainfield covered with vegetation to prevent soil erosion.
- ◆ Don't drive vehicles over the system.
- ◆ Avoid construction over the system and repair area.
- ◆ Don't cover the tank or drainfield with asphalt or concrete.
- ◆ Do not install irrigation systems over your drainfield as these could damage the system and/or hydraulically overload the soils.

Dispose of all wastewater in an approved system.

- ◆ Don't put in a separate pipe to carry wash waters to a side ditch or the woods. This is illegal.
- ◆ Don't connect pipes from air conditioners or ice makers to the septic system.

PERIODIC MAINTENANCE AND REPAIR

Home and yard (site maintenance):

- ◆ Protect and maintain the site of your septic tank and drainfield.
- ◆ In the drainfield area, cut down and remove trees that like wet conditions. This includes willows, elms, sweetgums, and some maples.
- ◆ Landscape the yard to divert surface waters away from the tank and drainfield. Eliminate depressional areas within the drainfield.
- ◆ Be sure that the water from the roof, gutters, and foundation drains does not flow over the system.
- ◆ Maintain drainage ditches, subsurface tiles, and drainage outlets so that water can flow freely from them.

Septic tank:

- ◆ Ensure tank risers remain accessible for measuring and pumping solids as well as cleaning the effluent filter.
- ◆ Measure how quickly sludge and scum accumulate in the tank. Pump septage when solids occupy 1/3 to 1/4 of the liquid capacity of the tank (frequency 1 to 3 years).
- ◆ Don't wait until your drainfield fails to have your tank pumped. By then, the drainfield may be ruined. With septic systems, an ounce of prevention is worth a ton of cure!

Table 1. Estimated septic tank inspection and pumping frequency (in years). Tank Size (gallons)

	Number of People Using the System				
Tank Size (gallons)	1	2	4	6	8
900	11	5	2	1	<1
1000	12	6	3	2	1
1250	16	8	3	2	1
1500	19	9	4	3	2

Experience and study have shown that pressure manifold systems require routine maintenance in order to function properly. Items 1, 4, and 6 are also recommended for conventional septic systems. The maintenance schedule frequency is as follows:

<u>System Component</u>	<u>Frequency</u>	<u>Maintenance</u>
Septic Tank	6-12 months 1-3 years	Check riser condition (must be accessible from ground surface), excess in/exfiltration, entry of water at riser, and solids accumulation. Check and clean septic tank filter. Pump septage when 1-3 to ¼ of the liquid capacity of the tank is occupied by solids.
Pump or Dosing Tank	6-12 months	Check riser conditions (must be accessible from ground surface), excess in/exfiltration, entry of water at riser, and solids accumulation. Pump sludge accumulation as required and when septic tank is pumped. Check pump(s), controls, floats, electrical connections, and alarm for proper operation. Wash (hose) sludge accumulation from pump housing.
Supply Lines (Manifold)	6-12 months	Check for settling, pipe exposure and leakage
Ground Absorption Field	1-4 weeks 6-12 months	Maintain vegetative cover (mow grass and remove weeds and brush). Check for settling, erosion and surfacing effluent. Check site drainage, eliminate low or settled areas and divert surface or shallow groundwater movement around fields.
Pressure Manifold	6-12 months	Flush sludge from pressure manifold (any discharge sludge and effluent is to be treated with a chlorine solution). Check and reset pressure head.
General	At all times	Prohibit vehicular or equipment traffic on ground absorption field. Prohibit tillage (gardening) or other soil disturbance over septic field. Practice water conservation to reduce wastewater load on system. Do not permit entry of grease and non-domestic waste to system. Use of garbage disposal is prohibited. Addition of chemical or biological additives has <u>not</u> been demonstrated to be necessary to maintain proper system function. Prevention of root intervention on lateral lines and trenches may be necessary on certain sites. Surface and groundwater diversion structures must be maintained.

SIGNS OF POSSIBLE SEPTIC SYSTEM PROBLEMS

- ◆ Sewage backing up into your toilets, tubs, or sinks.
- ◆ Slowly draining fixtures, particularly after it has rained.
- ◆ The smell of raw sewage accompanied by soggy soil or sewage discharged over the ground or in nearby ditches or woods.
- ◆ Note: pump systems sewage may come to the ground surface when the pump is turned on and then disappear after the pump turns off. This is still a system failure and must be repaired.
- ◆ An alarm flashing (red light) or beeping in the house or in the yard indicating a pump is not working properly or that the water level in a pump tank is too high and close to failure.
- ◆ Don't attempt to repair a failing system yourself. Get a repair permit and hire an experienced contractor.

REGULATIONS AND PRECAUTIONS:

- ◆ Sewage contains germs that can cause diseases. Never enter a septic tank. Toxic and explosive gases in the tank present a hazard. Old tanks may collapse. Electrical controls present a shock and spark hazard. Secure the septic tank lid so that children cannot open it.

For more information about septic systems, contact your county Extension agent or local health department. <https://content.ces.ncsu.edu/septic-system-owners-guide>

PREVENTIVE MAINTENANCE RECORD

Your Septic System Pumper

Name: _____

Address: _____

Phone: _____ Email: _____

Date System Installed:

Date	Work Done	Firm	Cost
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

11/11/2024

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must have **ADDITIONAL INSURED** provisions or be endorsed. If **SUBROGATION** IS **WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER SIA Group, Inc. 827 Gum Branch Road Jacksonville NC 28540	CONTACT NAME: Certificate Administrator PHONE (A/C, No, Ext): 910-455-7576 E-MAIL ADDRESS: certs@siagroup.com	FAX (A/C, No): 910-455-7481
INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A : Owners Insurance Company		32700
INSURER B : Auto-Owners Insurance Company		18988
INSURER C : FFVA Mutual Insurance Co.		10385
INSURER D :		
INSURER E :		
INSURER F :		

COVERAGES**CERTIFICATE NUMBER:** 2025340388**REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> cont liab GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:			35506165	7/2/2024	7/2/2025	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY			53-914661-00	7/2/2024	7/2/2025	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
B	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$ 10,000			5391466101	7/2/2024	7/2/2025	EACH OCCURRENCE \$ 3,000,000 AGGREGATE \$ 3,000,000 \$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y / N <input type="checkbox"/>	N / A	WC850-0050098-2024A	7/2/2024	7/2/2025	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
A	Contractors Equipment			35506165	7/2/2024	7/2/2025	Leased/Rented \$50,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER**CANCELLATION**Hal Owen and Associates
827 S 8th St
Lillington NC 27546

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

© 1988-2015 ACORD CORPORATION. All rights reserved.