

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: 222 Denali Dr, Lot 28 Ph 1 Riverfall SD

County: Harnett **LHD Reference:** SFD 2401-0042

Provided to:

Name: Mattamy Homes LLC

Address: 11000 Regency Parkway, Suite 110 Cary, NC 27518

I, Michael Pelosi, 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.

Michael Pelosi
Signature

03/28/2024
Date

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27 March 2024

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

Reference: LSS Report for Authorization to Operate (ATO)
222 Denali Dr, Lot 28 Ph 1 Riverfall SD
LHD # SFD 2401-0042

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 21 March 2024. 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*.

Your next step is to sign a document confirming receipt of this report and acceptance of the installed system. Also sign and date the ATO form attached. You will need to submit these to the Local Health Department (LHD) along with this report and its attachments and pay the LHD fee. 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,

A handwritten signature in black ink that reads "Hal Owen".

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 #99431 |

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 # | SFD 2401-0042 |

Septic System Final Inspection Report

| | |
|------------------------|-------------------------|
| Facility Type | Single Family Residence |
| Wastewater Type | Domestic |
| Water Supply | Public |
| Design Wastewater Flow | 480 gpd |
| Soil LTAR | 0.3 |

Installation

| | |
|------------------|------------------------|
| Date | 21 March 2024 |
| System Inspector | Jocelyn Proulx #99431 |
| Installer | Cory J. Brantley #1036 |

Septic Tank:

| | |
|--------------------------|------------|
| Volume (gallons) | 1000 |
| Brand and Tank ID# | DB STB 502 |
| Date of Manufacture | 9/27/23 |
| Certified watertight | NA |
| Distance to Structure | 6' |
| Elevation of tank inlet | 6'9" |
| Elevation of tank outlet | 7' 1" |

Effluent Filter:

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

Pump Tank:

| | |
|--------------------------|-----------|
| Volume (gallons) | 1000 |
| Brand and Tank ID# | DB PT-237 |
| Date of Manufacture | 1/25/24 |
| Certified watertight | NA |
| Elevation of tank inlet | 7' 2 3/4" |
| Elevation of tank outlet | 7' 4 3/4" |

Pump:

| | |
|--------------------------|------------------------|
| Make and Model | Eco Flow, model REF50V |
| Pump Sys- Elevation Head | 6.0 |
| Pump Sys- Friction Loss | 1.34 |
| Pump Sys- Design Head | 2.0 |
| Pump Sys- TDH | 9.3 |
| GPM (actual) | 28.5 |

Control Panel:

| | |
|--------------|---|
| Manufacturer | SJE Rhombus Model # 1121W114H6A8AC10E15A17G |
|--------------|---|

Distribution:

| | |
|------------------------------------|-------------------|
| Supply Line Length to Distribution | 13' |
| Supply Line Diameter | 2" |
| Distribution Device: | Pressure Manifold |
| Number of outlets (laterals) | 5 |

Drainfield:

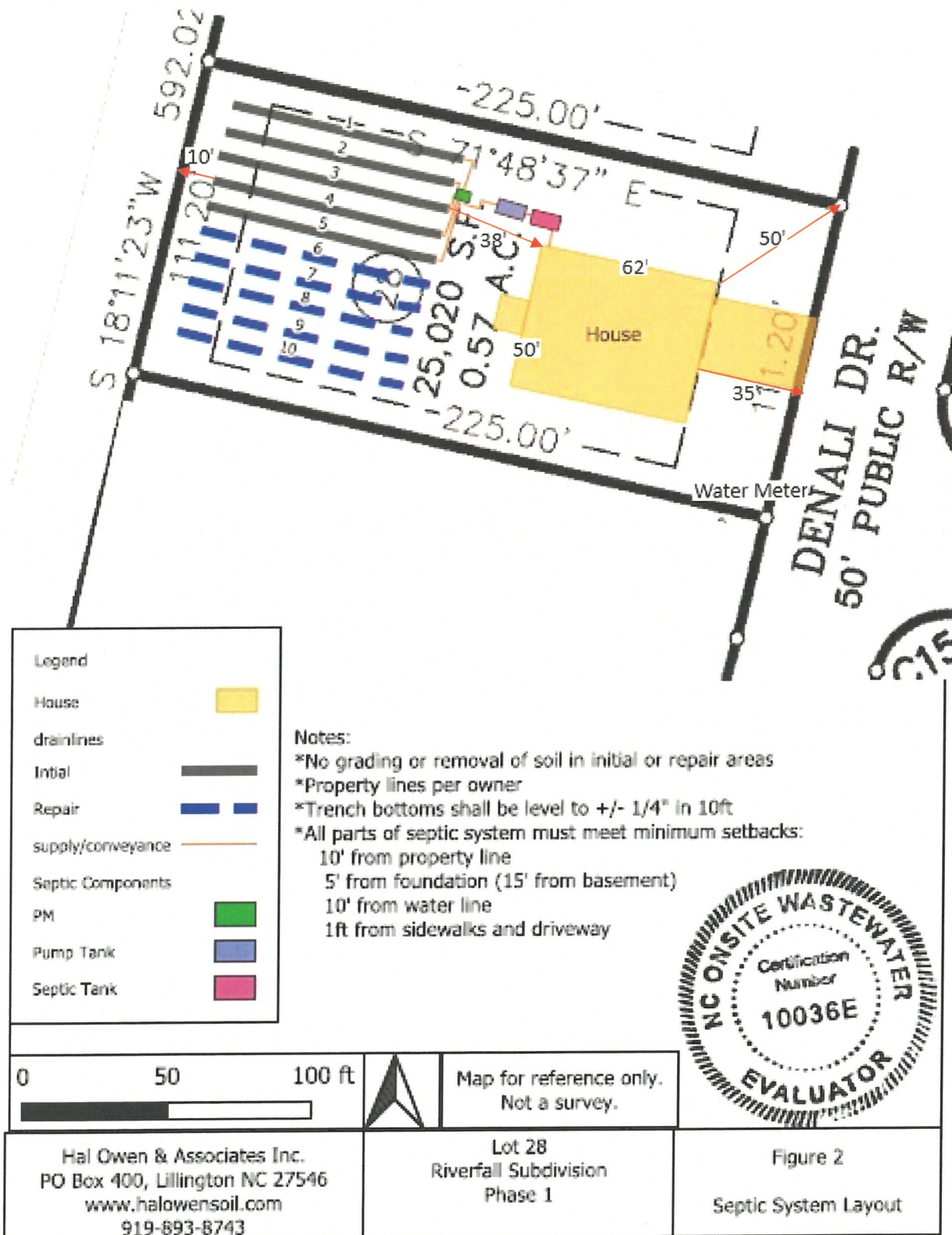
| | |
|-----------------------|---------|
| Type | EZ Flow |
| Distance to Structure | 38' |
| Distance to Well | NA |

| | | | | |
|----------------|--------------------|--------------|---------------|------------|
| Trench Depth | 18" | Trench width | 36" | |
| Trench Spacing | 9' | Aggregate | | |
| | | | | |
| | <u>Length (ft)</u> | <u>Start</u> | <u>Middle</u> | <u>End</u> |
| Line 1 | 80 | 5' 10" | 5' 10" | 5' 10" |
| Line 2 | 80 | 5' 10" | 5' 10" | 5' 10" |
| Line 3 | 80 | 5' 10" | 5' 10" | 5' 10" |
| Line 4 | 80 | 5' 10 3/4" | 5' 10 3/4" | 5' 10 3/4" |
| Line 5 | 80 | 5' 10 3/4" | 5' 10 3/4" | 5' 10 3/4" |
| Total | | | | |

All elevations are given as relative grade rod reading.

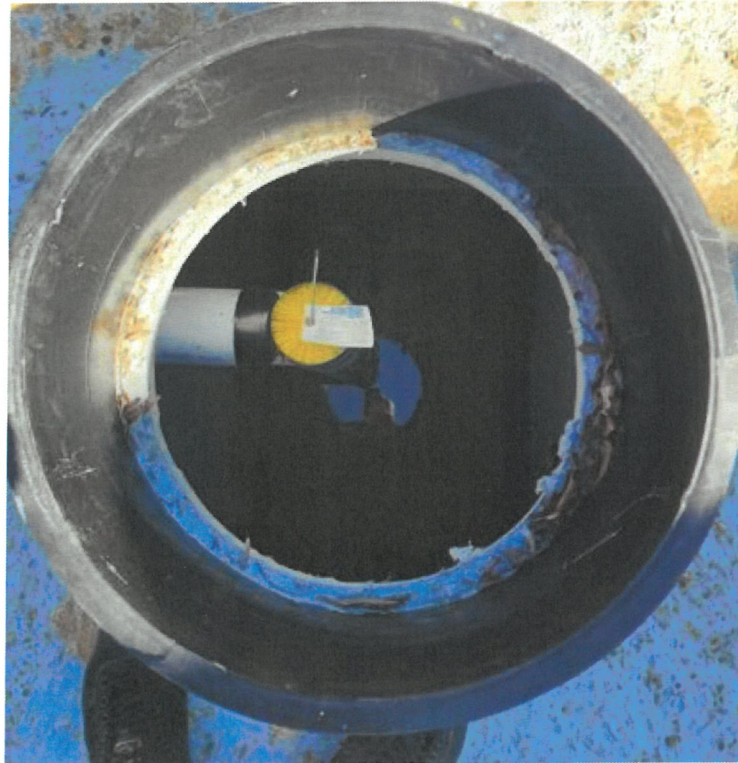
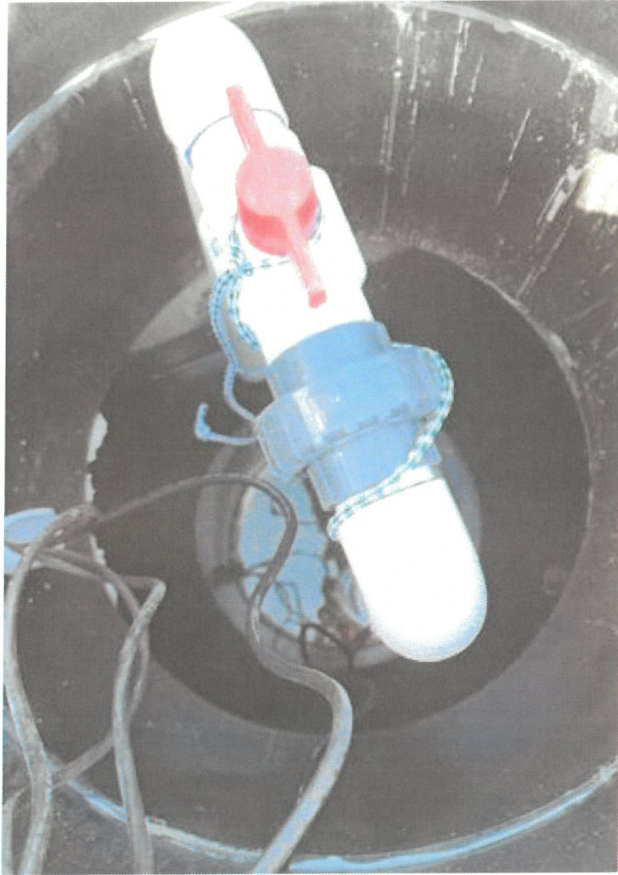
Notes:

Figure 1. As-built Septic System Installation











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 Rule .1961.
- II. Monitoring: As required by Rule .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.
Other: _____
Subsurface system operator required? Yes _____ No X
If yes, see attached sheet for additional operation conditions, maintenance and reporting.
- IV. Operation: _____
- V. Other: _____

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)

| Tank Size (gallons) | Number of People Using the System | | | | |
|---------------------|-----------------------------------|---|---|---|----|
| | 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 |

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)
1/8/2024

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): 910-478-3373 E-MAIL ADDRESS: certs@siagroup.com | FAX (A/C, No): 910-455-7481 |
| | INSURER(S) AFFORDING COVERAGE | |
| INSURED David Brantley & Sons, Inc. 37 Pine Ridge Road Zebulon NC 27597 | INSURER A: Owners Insurance Company | NAIC # 32700 |
| | INSURER B: Auto-Owners Insurance Company | 18988 |
| | INSURER C: FFVA Mutual Insurance Co. | 10385 |
| | INSURER D: Westchester Surplus Lines Insurance | |
| | INSURER E: | |
| | INSURER F: | |

COVERAGES **CERTIFICATE NUMBER:** 1916409639 **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 GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER: | | | 35506165 | 7/2/2023 | 7/2/2024 | 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 | 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 | 7/2/2023 | 7/2/2024 | 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 <input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$ 10,000 | | | 5391466101 | 7/2/2023 | 7/2/2024 | 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 N/A | WC850-0050098-2023A | 7/2/2023 | 7/2/2024 | <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 D | Contractors Equipment Pollution | | | 35506165 G71661957002 | 7/2/2023 8/10/2023 | 7/2/2024 8/10/2024 | Leased/Rented Limit \$50,000 \$1,000,000 |

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

CERTIFICATE HOLDER

Hal Owen & Associates
 PO Box 400
 Lillington NC 27546
 USA

CANCELLATION

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
Diana Evans

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