

Attachment C
TOWNHOME VIMS Operations and Maintenance Plan Checklist
NCDEQ Brownfields Redevelopment Section
March 2026

The Brownfields Redevelopment Section (BRS) has generated this additional checklist form for TOWNHOME DEVELOPMENTS to outline the minimum requirements and recommended format of an Operation & Maintenance Plan (O&M Plan) specific for **individually owned townhome developments** with vapor intrusion mitigation systems. For-rent townhome development will follow the most recent Brownfields *Operations and Maintenance Plan Checklist*.

A. The following additional information is necessary is in accordance with the North Carolina Brownfields Program Minimum Requirements for Townhome Developments dated May 2020.

Townhomes (individually unit owned residences requirements)

- Define parties responsible for VIMS stewardship, e.g. Homeowner Association (HOA), townhome unit owner/resident, and trained, annual inspector(s). Refer to Appendix C below for details.

- Provide annual inspection form for unit owners with guidance documentation outlining VIMS features, inspection requirements, and submittals. Refer to Appendix D below for details.

- Annual inspections shall address inspection elements outlined in the most recent version of the *VIMS Operations and Maintenance Plan Checklist* except where the following shall take precedent:
 - Inspection of all VIMS by a qualified third party.
 - Inspection of all slabs and perimeter/footer edges for cracks or damage.
 - Inspection of passive wind turbines (where installed) for rust and ability to spin.
 - Collection of pressure measurements (for active systems) by an environmental professional under the direct supervision of a NC-licensed PE (not required for passive systems).
 - Notification to DEQ BRS within 7 days of any non-compliance issues identified.
 - Annual certification by a NC-licensed PE confirming that the VIMS is functioning as intended in the approved VIMP, this statement should be in accordance with annual LURU.
 - If reports included in annual inspection, reports shall be signed and sealed by a North Carolina Licensed PE for public protection.

Note: HOA is responsible for collecting owner annual inspection forms, PE inspection forms, and other reports as required to be submitted with the annual LURU.

B. To ensure adherence to Brownfields requirements, the VIMS in each building must be inspected annually. The homeowner's association (HOA) and Owners will be responsible for maintaining efficacy of the VIMS in each building. Potential Stewardship obligations related to the VIMS are outlined below.

1. HOA Ongoing Responsibilities

The HOA will be responsible for the following:

- 1.1. Coordinating with the Engineer of Record (EOR) or a NC PE familiar with the VIMS system to oversee VIMS requirements and assist with repairs;
- 1.2. Coordinating exterior
- 1.3. Assisting the Owner, as needed, in contacting a NC PE regarding the VIMS;
- 1.4. Assisting the Owner, as needed, in completing annual indoor slab inspections;
 - 1.4.1. The HOA must provide the Owner with an interior slab inspection form to be completed for the annual inspection.
- 1.5. Forwarding completed interior slab inspections to the EOR or a NC PE familiar with the VIMS for review; and
- 1.6. Coordinating with the PE to notify DEQ of VIMS repair or modification activities, if required, within 7 business days of the date of inspection.

2. Owner Ongoing Responsibilities

- 2.1. Contacting the HOA prior to any alterations to the building's slab, foundation or VIMS;
- 2.2. Performing annual indoor slab inspection with HOA assistance;
 - 2.2.1. Visible components of the interior slab foundation must be inspected for cracks, gaps, and holes within the slab or along edges and contact the HOA if any deficiencies are observed.
 - 2.2.2. The owner may designate a tenant, property manager, or contractor to perform the inspection on their behalf. This should be noted during the annual inspection and included in the report.
- 2.3. Confirming interior VIMS piping and/or fans are functional and have not been altered or tampered with;
- 2.4. Confirming interior slab has not been altered or tampered with.

3. EOR or NC PE

- 3.1. The EOR or a NC PE should be contacted by the HOA to perform exterior inspections and/or oversight of VIMS repairs annually;
- 3.2. Inspect concrete slabs for damage. If indoor access is not permitted, the PE should review all completed interior slab inspections as provided by the HOA;
- 3.3. Notify the HOA if repairs to the slab are required;
- 3.4. Inspect monitoring point covers;
- 3.5. Inspect monitoring point to confirm and ensure airtight seal;

- 3.6. Inspect ventilators for damage, rust, or any other conditions that would impair function;
 - 3.7. Inspect rooftop discharge points for confirmation of secure attachment;
 - 3.8. Confirm VIMS exhaust is at least 10 ft. (or distance per the building code at time of installation) from other structure's air intakes;
 - 3.9. Notify the HOA if any repairs to the monitoring points, risers, and/or ventilators;
 - 3.10. Cooperate with the HOA to notify DEQ of VIMS repair/modification activities, if required, within 7 business days of the date of inspection;
4. The owner has the obligation to notify the HOA and the HOA must contact the EOR or a NC PE familiar with the site's VIMS for the following within seven (7) business days in the event of:
- 4.1. Review of completed interior slab inspections;
 - 4.2. Intent to puncture or penetrate the building's foundation. This would include, but is not limited to, wall installations, utility line maintenance, garage maintenance, or any other structural features;
 - 4.3. Significant cracks or damage to a unit's slab and/or ground-level foundation observed at any point;
 - 4.4. Intent to excavate more than 2 feet (or below grade onsite during utility maintenance, fence installations, etc.);
 - 4.5. Building repairs, maintenance, or work conducted in the vicinity of VIMS components such as riser piping, fans, monitoring points, etc.

Attachment D

Example guidance documentation outlining VI features, inspection requirements, and submittals.

“Guidelines for the Annual Inspection of Concrete Slab

To be performed by _____ of each calendar year.

This property is part of the North Carolina Department of Environmental Quality’s (DEQ’s) Brownfields Redevelopment Section (BRS). As part of DEQ’s BRS requirements, a Vapor Intrusion Mitigation System (VIMS) was installed onsite. <<*Please include a brief VIMS history of the site succinctly outlining the vapor barrier, piping, and fans.*>>

To ensure adherence to DEQ BRS requirements, the interior, concrete slab must be inspected annually for any signs of degradation. Concrete slab deterioration could include holes, cracks, and sizeable gaps in the slab which could allow trapped volatile vapors to enter the residence. Maintaining the integrity of the slab is vital for the proper operation of the VIMS system and must be inspected annually.

To comply with annual inspection requirements, please complete the Annual Homeowner’s inspection checklist as provided by your Homeowners Association (HOA) by _____ of each calendar year. If notable cracks or damage are identified, please contact your HOA and include the attached reference form. Notable cracks would include those wider than 1/16 in. or the width of a penny, multiple small cracks within the same area, and any gaps between the slab and the wall. Additional damage to the sub slab may include holes or punctures. Please contact the HOA prior to **any** work on the concrete slab.”