

## Beggs, Tauren R - DNR

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**From:** John Emery <emery.ja@gmail.com>  
**Sent:** Wednesday, December 6, 2017 3:20 PM  
**To:** Don Brittnacher  
**Cc:** Beggs, Tauren R - DNR  
**Subject:** System Report for Allyn Property, BRRTS # 02-31-564071  
**Attachments:** VP Diagram for 111 Steele St.png; OM&M VI Log for 111 Steele St.xlsx

Hello Don - This is documentation for our new vapor mitigation system installed & running continuously since June 22, 2017.

Attached is the system diagram with vapor pressure readings and also the OM&M Manual submitted by the installer A-1 Radon.

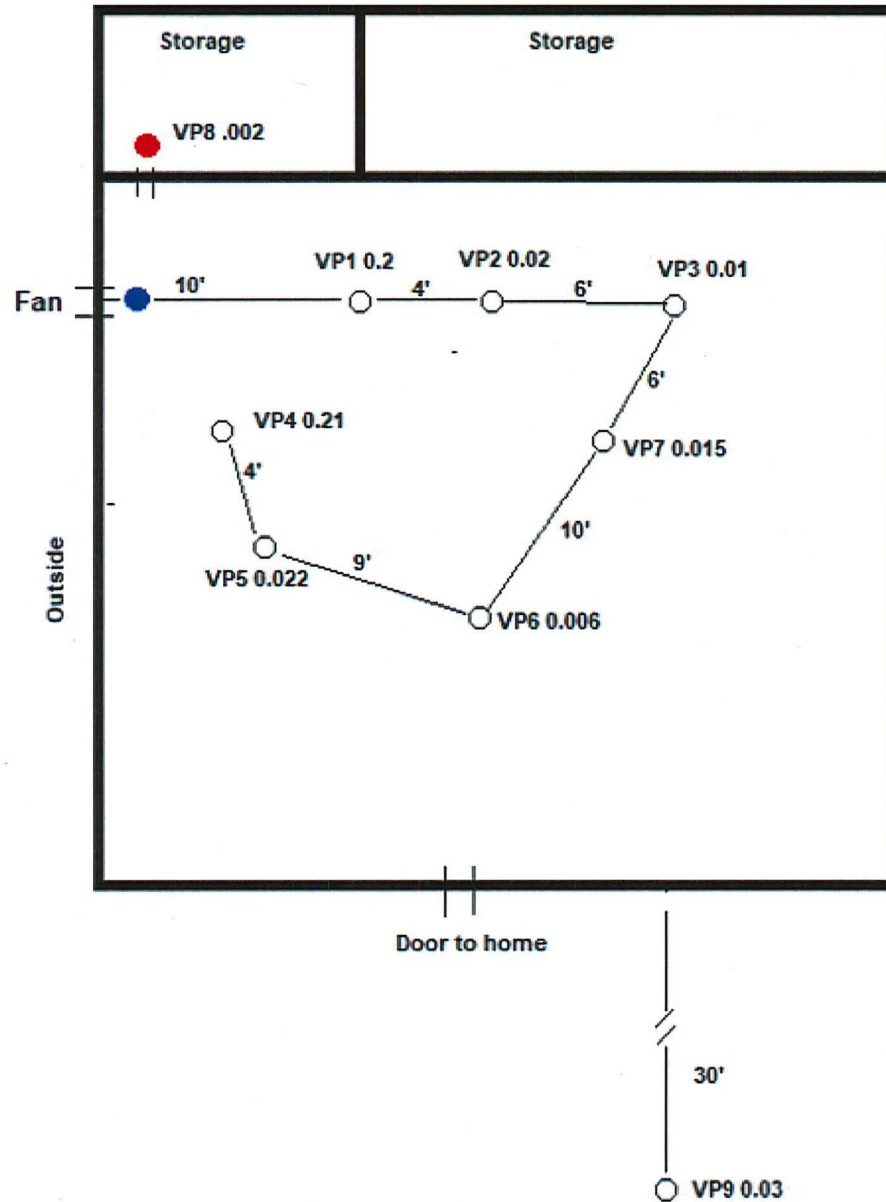
Note we have two suction points in the rear of the building where the highest contamination occurred with good communication readings throughout that area. We also have communication to the living space at the front of the building so we expect to have mitigation throughout the entire building.







If these documents meet requirements and are approved by the DNR, I would like to schedule followup vapor testing in the living space sometime in early January, if possible. Any questions let me know.

Thank you,  
John



**Diagram 1**  
**Vapor Mitigation location and Vapor Pressure Readings**

- Suction Point #1 ●
- Suction Point #2 ●



SYSTEM COMPONENT		WHAT DOES IT DO?	WHAT DO I CHECK?	WHAT SHOULD I SEE?	WHAT TO FIX?
NAME	PHOTO				
Fan		<p>Fan creates a vacuum and lowers pressure below foundation.</p> <p>The fan also removes soil gases from below foundation for discharge to atmosphere.</p>	<p>Fan Operation</p> <p>Fan Location</p> <p>Motor Noise</p>	<p>Fan is on</p> <p>Fan mounted outside &amp; secure</p> <p>Fan motor is quiet (loud motor may indicate problem)</p>	<p>Fan may need to be replaced every 10 to 20 years.</p> <p>Replacement fan to have similar specifications as original with respect to flow and vacuum.</p> <p><b>ORIGINAL = Model RP145</b></p>
Suction Point #1		<p>Soil gases are collected in drain tile below the foundation, and tight seal prevents soil gas from getting inside the structure. Pipe conveys the vacuum from the fan, and collects soil gases for discharge to the atmosphere.</p>	<p>Pipe and Floor Seal Integrity</p> <p>Vent Pipe Condition</p>	<p>Floor seal is air tight around edge and at pipe penetrations.</p>	<p>Floor seals or vent pipe may need to be re-sealed or replaced if cracks or leaks appear.</p> <p>See <b>NOTE</b> below regarding pipe alternations. Have professional test pressures if pipes are modified</p>
Suction Point #2		<p>Soil gases are collected in drain tile below the foundation, and tight seal prevents soil gas from getting inside the structure. Pipe conveys the vacuum from the fan, and collects soil gases for discharge to the atmosphere.</p>	<p>Pipe and Floor Seal Integrity</p> <p>Vent Pipe Condition</p>	<p>Floor seal is air tight around edge and at pipe penetrations.</p>	<p>Floor seals or vent pipe may need to be re-sealed or replaced if cracks or leaks appear.</p> <p>See <b>NOTE</b> below regarding pipe alternations. Have professional test pressures if pipes are modified</p>
Manometer or Differential Pressure Gauge		<p>Measures differential pressure between vacuum side of vent pipe and indoor space.</p> <p>This measurement confirms there is a vacuum being pulled by the fan.</p>	<p>Liquid Level on Manometer</p>	<p>Liquid level in manometer is between 0.2 and 1.0 on the right-hand side.</p>	<p>A change in liquid level indicates a change in the vacuum below foundation. This could be caused by failure of fan, blockage of vent pipe, change in water level below building, or other conditions.</p> <p>Troubleshoot or hire professional to identify cause and repair if needed.</p>
Outdoor Vent Pipe		<p>Pipe carries soil gas outside and vents them to the atmosphere.</p>	<p>Vent Pipe Condition</p> <p>Vent Pipe Location</p>	<p>Vent pipe remains connected to fan.</p> <p>End of pipe free from obstructions.</p> <p>The exhaust is more than 15 feet from windows or air intakes.</p>	<p>Vent pipe may require replacement, or cleaning to remove ice or debris.</p> <p>See <b>NOTE</b> below regarding pipe alternations. Have professional test pressures if pipes are modified.</p>
Foundation Floor		<p>Foundation is a barrier that minimizes soil gas entry into building, and helps fan to work efficiently.</p>	<p>Foundation Condition</p> <p>Foundation Footprint</p>	<p>No penetrating cracks or holes in foundation below grade.</p> <p>Check if there have been alterations or additions to building.</p>	<p>Seal cracks or other penetrations as you would to prevent water from entering.</p> <p>If building floor plan has changed, contact a professional contractor and/or the DNR to evaluate if modifications to the vapor mitigation system are necessary.</p>

**NOTE:** Minimize alternations to vent pipes. Changes to fittings, diameter, material type, or number of bends, can cause pressure losses that make system less effective.

SYSTEM COMPONENT		ANNUAL INSEPECTION						GENERAL NOTES
NAME	PHOTO	DATE	NOTES	DATE	NOTES	DATE	NOTES	
Fan								
Suction Point #1								
Suction Point #2								
Manometer or Differential Pressure Gauge								
Outdoor Vent Pipe								
Foundation Floor	