



## Vapor Mitigation

Office of Land Quality

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### Description:

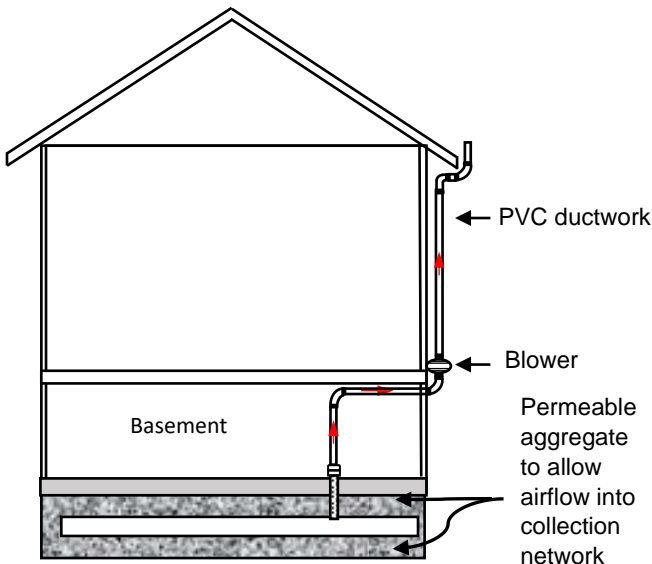
The most common solution to vapor intrusion problems is the installation of a vapor intrusion mitigation system. These systems are similar to radon remediation systems. A vapor mitigation system vents contaminants from the soil below the foundation or basement outside before they can enter the building. A vapor intrusion mitigation system is very simple and uses minimal electricity.

### How to manage vapor intrusion risk:

- Reduce the source
- Long-term monitoring
- Mitigation system

### Example of an active mitigation system:

A sub-slab depressurization system, which is similar to a radon system (uses electric fans).



Adapted from ITRC (Interstate Technology & Regulatory Council). (2020)



ITRC (Interstate Technology & Regulatory Council). 2007. Vapor Intrusion Pathway: A Practical Guideline. VI-1. Washington, D.C.: Interstate Technology & Regulatory Council, Vapor Intrusion Team.

### Passive mitigation system

- Passive barriers (for new buildings):  
Materials or structures installed below a building to physically block the entry of vapors.
- Passive venting systems:  
Rely on temperature and pressure differences between the building and atmosphere to induce airflow. It is similar to active mitigation systems shown above without the fan.

## **Frequently asked questions (FAQs):**

- **Why do I need a mitigation system?**

If volatile chemicals are detected beneath your building that are above IDEM screening levels, it means that vapor intrusion is potentially on-going or could occur in the future. To protect the occupants from vapor intrusion risk, a mitigation system specifically fitted for this building may be recommended. The same type of mitigation system is used to alleviate radon gas concerns across Indiana.

- **What can I expect during the system design, installation, and start-up?**

First, a structure walk-through is needed to ensure that an effective system is designed correctly. The walk-through will help point out any construction features that need to be accounted for along with any openings that may need to be sealed to ensure the system functions properly. Next, a system will be designed. Once the design is approved, the system will be installed. After system start-up, indoor air sampling and pressure testing should occur after 30 days.

- **How long will this process take?**

A typical vapor mitigation system can be installed in one to three days, depending on complexity. The building walk-through, system design, parts acquisition, and scheduling will depend on system complexity, material availability, and resident schedule.

- **Who pays for the mitigation system?**

The responsible party hires and pays environmental professionals to install and maintain the system. Designs that require a fan are powered using electricity, which is generally less than \$100 per year. Sometimes arrangements are made between the responsible party and the homeowner regarding these costs.

- **How do I know if the vapors have been eliminated with the mitigation system?**

Subsequent indoor air confirmation testing (within a year) and long-term indoor air monitoring (performed every other year or at longer intervals, at the cost of the responsible party) will ensure the effectiveness of the system.

## **References:**

- ITRC (Interstate Technology & Regulatory Council). 2007. *Vapor Intrusion Pathway: A Practical Guideline*. VI-1. Washington, D.C.: Interstate Technology & Regulatory Council, Vapor Intrusion Team. [www.itrcweb.org](http://www.itrcweb.org).
- ITRC (Interstate Technology & Regulatory Council). December 2020. *ITRC Technology Information Sheet. Sub-slab Depressurization*. Washington, D.C.: Interstate Technology & Regulatory Council, Vapor Intrusion Mitigation Team, Active Vapor Intrusion Mitigation Systems Subgroup. [4-Sub-slab-Depressurization-VIMT-SSD-TS-ForWebDev-2020-11.pdf \(itrcweb.org\)](https://www.itrcweb.org/4-Sub-slab-Depressurization-VIMT-SSD-TS-ForWebDev-2020-11.pdf)
- ITRC (Interstate Technology & Regulatory Council). December 2020. *ITRC Technology Information Sheet. Passive Sub-slab Venting Systems*. Washington, D.C.: Interstate Technology & Regulatory Council, Vapor Intrusion Mitigation Team, Passive Vapor Intrusion Mitigation Systems Subgroup. [6-Passive-Sub-slab-Venting-VIMT\\_Passive-Sub-slab-Venting-Systems-TS-ForWebDev-2020-11.pdf \(itrcweb.org\)](https://www.itrcweb.org/6-Passive-Sub-slab-Venting-VIMT_Passive-Sub-slab-Venting-Systems-TS-ForWebDev-2020-11.pdf)
- Wisconsin DNR (Department of Natural Resources). February 2014. *Vapor Intrusion Quick Facts. Why Test for Vapor Intrusion?* <https://dnr.wi.gov/DocLink/RR/RR953.pdf>

## **Contact information:**

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