



## ▶ BEVERLEY ASSESSMENT AREA Vapour intrusion and mitigation

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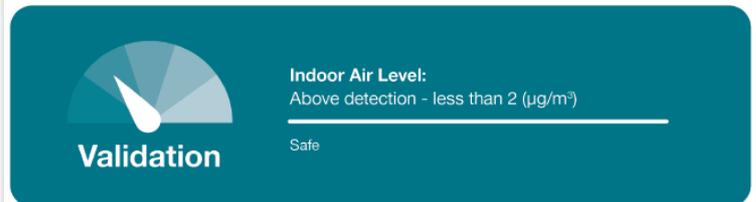
In the past, it was accepted practice for chemical substances used by industry to be disposed of by pouring them on the ground, in the belief they would evaporate. Spills and leaks also soaked into the soil. It is now known that the chemicals, once in soil, migrated down through the soil into the groundwater (bore water).

Volatile chemicals can evaporate off the groundwater and rise up through the soil as a vapour. Vapour is able to enter homes, trenches, basements and buildings. This is known as 'vapour intrusion'.

Since 2015, the Environment Protection Authority (EPA) has been assessing groundwater and soil vapour in Beverley for historically used chemicals, including [trichloroethene \(TCE\)](#). TCE is a colourless and volatile liquid chemical that was used widely in industry for metal cleaning and in the manufacturing of products such as adhesives, lacquers, dyes, perfumes and soaps. In the environment TCE breaks down rapidly in air and surface water but much more slowly in soil and groundwater.

The EPA determines the priority for dealing with vapour intrusion in accordance with the Indoor air level response range (TCE).

### Indoor air level response range (TCE)



## Dealing with vapour intrusion – mitigation

Homes in Beverley where indoor air level was recorded in the 'Intervention' category have now had active mitigation systems installed. All of these homes now have all indoor air levels recorded in the 'safe' range. Work is now commencing to install mitigation systems for homes with indoor air levels in the 'Investigation' category, to reduce the levels of TCE to less than 2 micrograms per cubic metre ('safe' categories).



## How the system works

A vapour mitigation system consists of one or more 30cm fans connected to a network of pipes. The pipes are installed below a concrete slab or within the crawl space beneath the flooring, depending on the house construction type. The pipes take the vapour contamination from underneath the house and extract it to the atmosphere through a small pipe mounted on the roof. In order to successfully remove indoor air contamination, the system must run 24 hours a day, 7 days a week. Each system is designed specifically for the construction type of a house. Design details will be discussed with property owners prior to installation.

### FURTHER INFORMATION

For **further information** please contact:

Environment Protection Authority  
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(Follow the links to 'Site Contamination' then 'Assessment Areas' to find the Beverley page.)

## Timeline of work

### Step 1: Offer of vapour mitigation system

For homes with recorded indoor air contamination above levels considered 'safe' by SA Health, the EPA will offer to install a vapour mitigation system. All parties with an interest in the land (including your bank if you have a mortgage) must sign the agreement to accept the offer and the agreement is registered to the Certificate of Title. The EPA will fund the installation as part of a pilot mitigation trial.

### Step 2: Pre-installation indoor air sampling

Indoor air sampling to record the level of TCE present in indoor air will take place before system installation.

### Step 3: Temporary relocation

To facilitate the installation, depending on the construction of the home, a 2-6 week temporary relocation may be required. During this time you may visit your property but as it will be a construction zone, close liaison with the EPA will be required. The EPA will fund the relocation as part of the pilot trial.

### Step 4: System installation

The EPA will manage all contractors during the 2-6 week installation process. Actual build time will vary depending on any unforeseen circumstances with installation of the system.

### Step 5: Post-installation indoor air sampling

The EPA will validate the system and ensure it is reducing TCE indoor air levels to below  $2\mu\text{g}/\text{m}^3$ .

### Step 6: 12 months after installation

Final indoor air sampling, validating the system, will be undertaken prior to handover. You will be provided with a user manual and the system will be the owner/s responsibility from this point onward.

For **health related information** please contact:

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