

EPA Recommends Protective Measures for Home Vapor Problems

Hartford Area Hydrocarbon Plume Site
Hartford, Illinois

October 2004

Construction starting

In October, construction will begin in northern Hartford to connect the newly installed, area-wide vapor extraction wells to the treatment system. EPA and the Hartford Working Group will be cooperating with the village to keep any disruptions associated with this construction to a minimum.

Important notes:

- All work will be done at no expense to the homeowner including installation and maintenance.
- All work will be explained to the homeowner prior to installation.
- A homeowner will have the right to accept various combinations of the protective measures.
- Throughout the installation, the Hartford Working Group will monitor air quality and collect air samples inside and outside the home. Sample results will be provided in writing to the homeowner.
- The Hartford Working Group will maintain the ventilation system and any other measures taken as long as is required.
- The Hartford Working Group will provide money annually to cover the expenses related to operation of the ventilation systems.
- If EPA determines that any other measures are necessary for individual homes, buildings or the area in general, the Agency will require those measures be taken.

The Hartford Working Group, several companies considered potentially responsible for the contamination, has agreed to make improvements in homes and other buildings to protect people from potentially harmful vapors caused by releases of refined petroleum products underneath northern Hartford. These protective measures are part of a comprehensive plan that also includes a thorough ongoing investigation, an area-wide vapor removal system, and the design of a long-term permanent cleanup. EPA recommends that everyone in the affected area take advantage of these safety measures by the end of the year (see the map on Page 3). The enclosed fact sheet published by the Agency for Toxic Substances and Disease Registry explains that vapors caused by petroleum products in the ground under Hartford could potentially pose health risks to residents. As of the end of September, approximately 75 home and building owners have agreed to take advantage of these protective measures.

A simple process

It is easy to take advantage of this offer. First, a walk-through of the residence or building is done to collect basic information and identify the work that will be needed in the home. All home and building owners in the affected area will then be offered a variety of protective measures such as sealing cracks, insulating and sealing ductwork, installing ventilation systems, and installing an instrument that will detect vapors before they reach explosive levels. It is important to note that the property owner will have the final say regarding the improvements installed in their building.

Sealing of cracks

Cracks found in concrete floors and walls of basements that might be a vapor pathway will be sealed using a combination of caulking or waterproofing paint materials. Vapor

pathways in basement electrical outlets and open pipes will also be inspected and sealed if necessary. If needed, the companies will also cover earthen basement and crawl space floors with a flowable concrete material. This special, fast-drying concrete will fill in cracks and level out floors and crawl spaces. A foam rubber insulation material will also be installed on exposed water pipes and ductwork in the basement, as necessary.



This basement floor and wall have been sealed to prevent vapors from entering the home through cracks.

Home ventilation systems

Once a home has been thoroughly sealed, a ventilation system will be proposed. In consultation with the homeowner, a determination will be made as to what type of ventilation system would be most appropriate for each home. This will depend on a number of factors including the design and construction of the home.

Because all homes are not built the same, some homes may require a more complex (sub-slab) system, which would be installed below the basement floor. This type of system would capture and carry vapors through a pipe releasing them above the roof of the home.



A sub-slab ventilation system is being installed in this home.

Other homes may require a system consisting of a fan or blower. In basements with windows, a ventilation fan will be mounted in the window to draw vapors out of the basement. The fans will be securely mounted to a wooden frame made to fit the window. All openings around the fan will be sealed. The fans have louvers that will open when the fan is on, but will otherwise remain shut. In basements without windows, a floor or wall mounted blower will be installed and will be vented through an air duct through the basement wall. The ventilation fan or blower will be hardwired into the existing home electrical system complete with an on/off switch for ease of use by the resident. Each basement with a fan or blower will also have a screened, louvered, fresh-air intake installed that will allow outside air to enter the basement when the fan or blower is operating.



A fan like this is being installed in some homes and buildings to remove vapors.

Combustible gas indicators

Each homeowner will also be offered a combustible gas indicator. This unit will be installed in basements to alert residents if gasoline vapors rise above a certain level. The indicator will be set to detect an amount of gas that is well below explosive levels.

Investigating other ways vapors get into homes

The Hartford Working Group looked at other ways—such as through the sewer lines—that vapors might be getting into houses. The results of this investigation found that the sewers are potentially a means by which vapors may be getting into some homes. One way this is being addressed is by installing grated (vented) sewer covers along Old St. Louis and Alton Road. This seems to have been effective at lowering the levels of vapors in the sewers. This, as well as other methods will continue to be pursued. A pilot study is being done to see if venting the sewers into the vapor extraction system would be effective. Also, the installation of sewer traps and plugs will be offered to home and building owners wherever found to be necessary.



An instrument like this one will be placed in homes to alert residents if vapors reach potentially fire-causing levels.

New vapor removal system being installed

The Hartford Working Group is now in the process of completely rebuilding and expanding the area-wide vapor removal system, which may become a part of the permanent remedy. Twelve new vapor extraction wells have been installed throughout northern Hartford and the treatment system located on the Premcor property is being rebuilt. The new vapor extraction removal system is expected to be completely renovated by spring 2005. Once up and running, this area-wide system should be able to remove a great deal of the vapors before they reach people's homes. However, EPA feels that the home ventilation systems and the other measures being offered will provide important added protection for residents.

It is important to note that until the new vapor removal system is running, the "old" vapor removal system, installed in the 1990s, is operating. This system was improved last December and is currently working more efficiently.

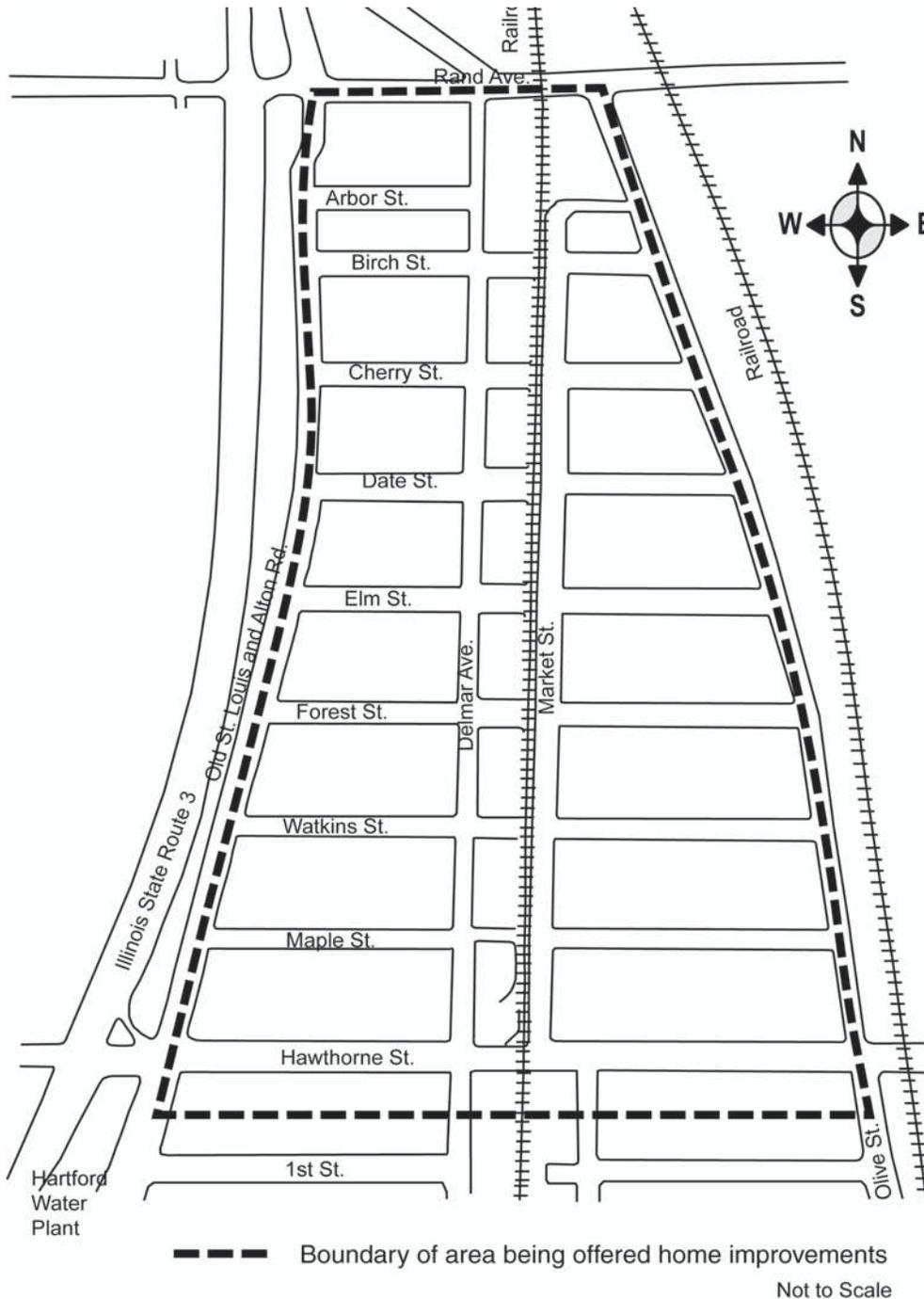
Protecting the water supply

Five monitoring wells installed between the area affected by the contamination and where the village water wells are located continue to be sampled quarterly. The results of the samples taken from those wells continue to show no contamination. Nonetheless, the Hartford Working Group has proposed additional monitoring wells and further investigations to ensure protection of the water supply.

Designing a permanent cleanup

The Hartford Working Group has agreed to design a long-term solution. Investigations have been ongoing throughout 2004 and more are being planned to find out where and how widespread the contamination is. EPA and the Hartford Working Group hope to determine the best way to design a permanent cleanup by early next year. Construction of the final remedy could begin in 2005.

Map of Area Being Offered Home Improvements



For more information

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