"411" INFORMATION PLEASE...

Technical Data for Fire, Smoke and Water Damage

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Water Damaged Crawl Spaces

One type of construction that poses multiple problems as a result of water damage is a structure that has been built on a crawl space.

A crawl space is an area under the house, with foundation walls surrounding, found below or on grade depending on the construction, and the type of home built. It is often forgotten about, until there is a reason to enter it. Crawl spaces are not conditioned spaces, meaning they have no controlled heating or air conditioning. Water affecting a crawl space can be problematic, but a qualified restoration professional will be equipped to properly dry the area.

Crawl spaces usually have dirt floors, which should have a vapor barrier installed on it. This vapor barrier is designed to prevent the natural moisture from the earth to enter the structure. Often times though, this vapor barrier has not been installed properly (covering the entire floor wall to wall), the integrity of the solid plastic sheathing has been compromised (torn), or it is missing completely.

Crawl spaces will also have insulation installed between the floor joists above, plumbing pipes and electrical wiring running below the floors above, and ducting for the HVAC system to various parts of the home. Because they are located under the home and not considered a usable space, they are constructed with height restrictions. These heights often are from one foot to six feet, depending on the home. As a result, accessibility is limited and difficult.

"When attempting to dry a crawl space, safety considerations, difficulty of access, working conditions, and protecting the living areas all warrant special consideration."

The entrances to these areas are often found on the exterior of the home (a two foot by two foot hatch-like access) or inside the home from the floor area, usually in a closet (also a two foot by two foot hatch).

The first step in addressing a crawl space is safety. A qualified restoration professional will assure that the building is structurally sound and that the electrical shock hazards have been eliminated.

Anyone entering these spaces must be equipped with appropriate PPE. This will include a respirator, protective clothing, rubber boots, protective gloves, eye protection, and hard hats. It is also necessary to assure that there are no rodents, snakes, or small animals taking refuge in this area.

Wet insulation will need to be removed, bagged and discarded. Any organic debris on the floor will also need to be removed. Any pooled water must be removed via extraction. If compromised, the vapor barrier should then be removed.

The actual drying of the area is difficult. Air move-

ment is necessary, but poses a problem. If the crawl space is over pressurized in relation to the structure above, odors can permeate into the living space. These odors are a result of the water and the dirt present.

There are many openings into the home from a crawl space as a result of plumbing lines and electrical runs. It is often necessary to have the air movers drawing air through the crawl space by placing them at the openings and blowing out. This will help to prevent the odor from entering into the home. A professional restoration specialist will be knowledgeable regarding these issues.

Dehumidification can also be difficult. The access to the space is the first obstacle. Standard refrigerant dehumidifiers will not fit into a crawl space. They are also not very efficient when working in lower temperatures.

It is often necessary to make use of a desiccant dehumidifier in this situation, which will work more efficiently at lower temperatures and lower humidity levels. Desiccant dehumidifiers are also better equipped to dry low permeance materials because of this. They can produce air with moisture content of about 10% to enable lowering temperature and humidity levels. This dryer air will allow for the evaporation of the moisture from the area.

Utilizing this form of dehumidification along with the air flow set up appropriately will allow for the drying of this space in an efficient and safe manner. A qualified restoration professional will have the necessary equipment available and know how to use it.

Crawl space drying as a result of water damage is considered to be a specialty. It can take longer to dry these areas than normal. When attempting to dry a crawl space, safety considerations, difficulty of access, working conditions, and protecting the living areas all warrant special consideration.

A qualified restoration professional will have the knowledge, ability, and proper equipment to perform the necessary sequence of events to accomplish the task.

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