Mitigation in Multi-Unit Dwellings

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When mitigating a multi-unit dwelling, ensure you discuss the process with the building owner prior to starting installation.

C-NRPP certified professionals are to reflect high standards and ethics in their work, and comply with recognized standards of practice to protect public health and safety. They communicate clearly and accurately with consumers about their process and the harmful effects of radon gas.

https://c-nrpp.ca/about/

This bulletin is intended to assist mitigation professionals when faced with a mitigation client whose home is part of a multi-unit dwelling.

Multi-unit dwellings include any building used as a residence by more than one family unit, such as town houses and duplexes. Buildings with shared ownership or maintenance such as co-ops, townhouses, condominiums, stratas or vacation timeshare properties may also be considered multi-unit dwellings.

When measuring radon in multi-unit dwellings, whenever possible, best practice is to test the whole building following Health Canada's guidance on public buildings, which includes testing every ground-contact unit.

When mitigating a multi-unit dwelling, ensure you have proper insurance (including adequate liability amounts) and training for the building type. C-NRPP Radon Mitigation training only covers guidance for Part 9 buildings. We recommend you have special training for any commercial buildings.

When installing a mitigation system in a multi-unit dwelling the following things should be considered:

1. Remember your client may not be the owner of the building. Talk to the owner or ownership group prior to doing any work; there may be restrictions on work that can be done to the building, such as making holes in the exterior or any addition to the structure. Not confirming this first may cause you significant additional time and could result in fines from the ownership group.

2. Buildings must be considered as systems. Many townhouse complexes or semi-detached buildings share a common foundation, and this is the typical pathway for radon gas entry into a building.

   When mitigating these units, best practice is to access all ground-contact levels of the building to perform diagnostic testing and to ensure that the mitigation system does not create back-drafting or other adverse effects on other units. You should discuss a strategy for communicating with all other ground contact units and explain that the most effective strategy will also benefit them by reducing radon levels in their units.

We recognize that communication in these situations can be challenging and so we have developed a "What is radon" for multi-unit buildings and we have also developed a simple checklist that you can ask neighbouring units to complete.

3. If it is not possible to access all areas in contact with the foundation, consider mitigation options which will minimize the potential impact on other units and can be executed in compliance with any restrictions in place. Options could include sealing and increasing the ventilation rate or ensuring the fan doesn't draw air past the perimeter of the individual unit at all conditions.

4. When mitigating in multi-unit residential buildings consider:
   I. Before starting mitigation conduct an exterior visual inspection of the complex and consider the following features which could increase the impact of a radon mitigation system in one unit on another unit:
      - Unsealed Sump pit – if the unit you are working on has an unsealed sump pit, this may be true of other units, which could increase the possibility of drawing conditioned air from neighbouring units and a risk of back drafting
      - Check for evidence of strip footings (see paragraphs below)
      - Mid-efficient hot water tank and furnace or any other combustion appliance, look for vents during the exterior inspection (combustion appliances present in a home will increase concerns related to back drafting)
      - Conduct a visual inspection of the condition of the accessible slab without removing any wall or floor coverings; look for excessive cracks which may provide pathways for conditioned air and risk of back drafting.

   II. Determine if there is a strip footing (grade beam) between the units which would provide a barrier limiting the airflow between the units; the structure of the party-wall between the units will provide some insight into this, if the party wall is wood there may not be a footing, if the party wall is concrete it is likely there is also a strip footing under the slab; best practices would be to ask the owner for structural drawing of the building; use caution as the drawings may not include all features of the house.

   III. If there is no indication of strip footings (grade beams) between the units, locate the suction point at the farthest point from other units (in interior units it will be near the centre of the slab, or in end units, it will be near the farthest wall) When calculating negative pressure achieve the bare minimum negative pressure at the points of the slab connected to other units, in order to minimize air movement in the sub-slab space under adjoining units.

   IV. If you are unable to access neighbouring units, limit the amount of airflow at the connecting wall of the unit(s), during diagnostics and also verify airflow after installing and turning on the radon mitigation fan.

   V. We recommend that you include a long-term radon monitor and a carbon monoxide detector for the neighbouring unit(s).