



CITY OF NORTH MANKATO

Radon Mitigation / Reduction Systems

- ❖ A permit is required to be obtained by the City of North Mankato to install a radon mitigation system in an existing dwelling and other buildings.
- ❖ All radon mitigation systems installed in Minnesota on or after January 1, 2019, must have a radon mitigation system tag attached in a visible location by a radon mitigation professional.
- ❖ Effective January 1, 2019, a license is required annually for every person, firm, or corporation that performs a service for compensation to detect the presence of radon in the indoor atmosphere or performs a service to mitigate radon in the indoor atmosphere.
- ❖ ***The licensed contractor hired to complete the radon mitigation system shall obtain any and all required permits!***
- ❖ A homeowner may install a radon mitigation system in a dwelling in which they own and live in! If a homeowner decides to install a radon mitigation system in the dwelling where they live, a permit shall be obtained by the City of North Mankato and a final inspection completed by the City of North Mankato building inspections department.

Existing Homes—Active System

- Vent pipe MUST be clearly labeled on each story (including attics, garages, and crawl spaces)
- Vent pipe SHALL terminate at least 12" above the roof and at least 10 feet away from windows, doors, or other openings.
- All vent stack piping SHALL be ABS or PVC pipe not less than 3" inside diameter, and must be primed and glued at all fittings.
- If radon pipe extends through unconditioned space, it must be insulated with a minimum of R-4 insulation.
- If radon pipe penetrates the garage and house separation wall or garage ceiling drywall assembly, the annular space around the pipe at the penetration shall be filled to resist the free passage of flame and products of combustion.
- A radon gas vent pipe fan must be installed, providing a minimum of 50 cubic feet per minute at ½" water column.
- The fan SHALL not be installed in a location that could positively pressurize any portion of the vent pipe that is located inside conditioned space.
- The fan shall be installed outdoors, in attics, or in garages NOT in conditioned spaces of a building, basement, or crawl space.
- An audible alarm, a manometer, or other similar device shall be installed to indicate when the fan is not operating.
- A switch-controlled luminaire and the receptacle outlet near the fan shall be installed according to the MN Electrical Code.

New Construction—Passive System

- Gas permeable material (gravel or sand with geotextile drainage matting), minimum 4" thick, shall be placed on the prepared subgrade under all floor systems.
- Soil-gas membrane shall be installed on top of gas-permeable material, consisting of 6-mil polyethylene sheeting. Sheeting MUST:
 - Cover the entire floor area with separate sections that are lapped at least 12".
 - Fit closely around any pipe, wire, or penetration.
 - Have punctures or tears sealed using the same kind of material and maintaining 12" lap.

New Construction—Passive System-(cont.)

- A "T" fitting shall be installed beneath soil-gas membrane with a 10' of perforated pipe connected to any two openings of the "T" fitting or by connecting the two openings to the interior drain tile. The third opening of the "T" shall be

connected to the vent pipe of the same size of the perforated pipe. All connections to the “T” fitting shall be tight fitting.

- ❑ All “T” fittings, sump lines and vent pipes must be of the same size.
- ❑ Floor openings shall be sealed after the installation of the concrete slab(s).
- ❑ Concrete joints, construction joints, and joints at the intersection of the foundation and slab shall be sealed.
- ❑ Sump baskets connected to interior drain tile and used for the termination point for the vent pipe shall have a sealed and secured sump cover. Sump discharge pipe shall have a backflow preventer installed.
- ❑ Vent pipe shall be 3” or 4” ABS or PVC, primed and glued at all fittings. Piping must be located at least 10’ away from any window or openings, terminating 12” minimum above roof. Vent pipes in unconditioned space shall be insulated with a minimum of R-4 insulation.
- ❑ Vent piping shall be provided with a space around vent pipe for future installation of a fan, minimum 24” in diameter extending a minimum distance of 3 vertical feet.
- ❑ Vent pipe shall be identified with at least 1 label on each story and in attics and crawl spaces.
- ❑ A power source consisting of an electrical circuit terminating in an approved electrical box shall be installed in the anticipated location of the vent pipe fan. Power source shall NOT be installed in any conditioned space, basement, or crawl space.

New Construction—Active System

- ❑ **ALL requirements for a new construction passive (above) must be met, AS WELL AS THE FOLLOWING REQUIREMENTS:**
- ❑ A radon gas vent pipe fan providing a minimum measurement of 50 cubic feet per minute at ½” water column.
- ❑ The fan shall not be installed in a location that could positively pressurize any portion of vent pipe located inside conditioned space.
- ❑ An audible alarm, a manometer, or other similar device shall be installed to indicate when the fan is not operating.
- ❑ A switch-controlled luminaire and the receptacle outlet near the fan shall be installed according to the MN Electrical Code.

GENERALIZED GEOLOGIC RADON POTENTIAL OF THE UNITED STATES
by the U.S. Geological Survey

