

Radon is invisible, odorless, and patient. It seeps from soil and rock into basements and crawlspaces, then rides the stack effect up through a house. The EPA's action level is 4.0 pCi/L, but risk accumulates continuously, so many homeowners aim for 2.0 pCi/L or lower when practical. I have seen side-by-side homes in the same St. Louis subdivision test at wildly different levels, one at 1.6 pCi/L after a light remodel, the other over 15 pCi/L because of a leaky sump and a crack near an old support post. Radon does not care about your zip code or how new the house looks.

If you searched Radon mitigation near me and landed here, you are probably weighing whether to install a Radon system yourself or hire a Radon mitigation contractor. The choice can be straightforward in some houses and surprisingly tricky in others. The stakes are not abstract. When a mitigation job goes well, levels fall within days and stay low with minimal maintenance. When it goes poorly, you can spend good money on a fan and pipe, only to find the radon number barely budges, or worse, you trade one problem for another like backdrafting a water heater.

This is a practical, ground-level look at what doing it yourself involves, what professionals add, and how to make a sober call that fits your house, budget, and tolerance for risk.

What a radon mitigation system actually does

Most homes use active sub-slab depressurization. You create a controlled suction point under the slab, run PVC piping up through the house or outside, and attach a continuously running in-line fan. The fan draws soil gases into the pipe and exhausts them above the roofline, where the plume can dissipate safely. The physics are simple, but the details matter a lot.

A solid system starts with good communication under the slab. In houses with drain tile or a connected sump, the suction path can be excellent, because the perforated pipe around the footing lets the negative pressure spread around the perimeter. In others, you may need more than one suction point to get the pressure field to reach distant corners, especially in thick clay soils or where bearing walls create under-slab compartments.

Crawlspaces add another layer. You need an airtight membrane, usually a reinforced 12 to 20 mil liner, sealed to the foundation walls and around piers. The liner gets its own suction or ties into the slab system. I have seen homeowners attempt this with 6 mil poly and duct tape, only to watch the tape let go within months due to humidity and dust. The result is a leaky blanket that undermines the fan's pull.

Beyond the suction and piping, a complete Radon system includes a U-tube manometer to show fan vacuum, sealed sump covers if present, proper electrical for the radon fan, and a discharge that clears the roof, away from windows and eaves. You also need post-mitigation testing, ideally a short-term test after 24 to 48 hours of continuous operation, followed by a long-term test for confirmation.

The DIY path, step by step in real life terms

When homeowners tell me they plan to install their own Radon mitigation system, I ask what they have done with a drill, a core bit, and a tube of polyurethane. If the answer is plenty, DIY may be on the table.

A typical DIY run involves selecting a suction point, coring a 4 to 5 inch hole through the slab, excavating a small pit of aggregate to reduce resistance, and running 3 inch Schedule 40 PVC from that pit up to a fan location and out above the roof. The fan usually sits outside in a weather rated housing or in the attic, never in a living space. Every penetration gets sealed, from the slab hole to the rim joist exit. If you have a sump, you build a sealed lid with gasket and view port, then tie the suction to that lid or to the drain tile through a dedicated riser. Crawlspace liners need meticulous seams and mechanical fastening at the edges, not just adhesive.

What separates a crisp install from a messy one is pressure field extension. You want negative pressure to reach under the entire slab, not just the immediate area around the suction pit. In practice, you can check this with a micromanometer or a makeshift smoke test over small holes drilled in the slab at far corners. This is where many DIY jobs underperform. The fan may be fine, the pipe may be fine, but the suction never reaches the north bedroom or the office because the under-slab gravel is compacted or interrupted by footings.

Another real-world hitch is routing. Exterior runs have fewer surprises but more visual impact and potential for winter condensation. Interior runs are cleaner outside, but drilling through plates and navigating around plumbing and electrical in finished spaces can eat a weekend and your patience.

Strengths of DIY, when it truly fits

The best argument for DIY is control and cost. If you own the tools and the temperament, you can complete a straightforward house for the cost of materials plus a few supplies. In this region, materials often land between 400 and 900 dollars, depending on fan size, pipe length, and whether you need a sump lid or crawl liner. Even if you have to rent a core drill, you may still stay under 1,200 dollars.

Speed can also favor DIY. On a Saturday, I watched a South City bungalow owner who had already mapped his joist bays and marked his run finish a neat exterior system before the Cardinals' first pitch. He had done his homework, and the follow up test dropped from 7.8 pCi/L to 1.9 pCi/L.

You also get intimacy with your own house. You will know where the suction pit is, how the piping snakes past the band joist, and what noise the fan makes on a calm night. That knowledge pays dividends when something changes years later.

Where DIY tends to struggle

There are three recurring pain points. First, diagnostics. If you drill a beautiful suction pit in the wrong zone, no amount of sealant or bigger fan will solve a compartmentalized slab. Second, air sealing. Silicone and polyurethane behave differently on dusty concrete, and gaps at the slab or along a sump lid look small but leak a surprising amount under vacuum. Third, building science side effects. A radon fan does not move a huge volume of air, but it can still influence combustion appliances if the house is already starved for makeup air. I have seen a do it yourself install pull a water heater slightly negative on a windy winter day, which triggered spillage at the draft hood. The homeowner heard a faint change in the fan noise but did not realize the flue gases were not drafting as intended.

Crawlspace encapsulation is in its own league. Getting a durable, airtight liner around piers, plumbing, and complex stone foundations takes more than a staple gun and tape. Without mechanical terminations, bulk moisture and air sneak under edges. If your lower level smells like soil after the job, you will not hold low numbers.

Finally, codes and warranty come into play. Some municipalities around St. Louis require simple permits for electrical connections or exterior fan mounting. Your radon fan warranty might be straightforward, but a manufacturer does not warrant the performance of the whole Radon mitigation system, only the fan itself. If your levels do not drop, you own the troubleshooting.

What professionals bring that a catalog does not

A good Radon mitigation contractor spends as much time planning as drilling. They probe sub-slab conditions, look for drain tile, study penetrations and joints, and sometimes use a micromanometer to measure pressure response before mounting a fan. In older St. Louis brick homes with a mosaic of slab pours, I have watched pros identify the right set of suction points and connect them with runs that look deceptively simple.

Contractors also live with the consequences of bad discharge placement. Stl radon levels can rise seasonally, especially during winter stack effect, and I have seen misrouted exhausts wash radon along a soffit and back into upstairs windows that were never opened during the summer test. Pros know the clearances and read prevailing winds in the neighborhood. An extra foot or a different roof penetration prevents a perennial headache.

Then there is equipment selection. Fan models vary in pressure capability and flow, often with power draws between roughly 50 and 120 watts for most residential jobs. A fan that is too strong on a tight sub-slab can cavitate and hum without adding useful coverage, while a weaker fan on a leaky sump will struggle to hold negative pressure. Professionals match fan curves to field conditions. That translates to less noise, lower energy use, and better long-term stability.

The last big piece is accountability. Reputable companies offer a performance warranty, often guaranteeing the post-mitigation test will come in below a set level, commonly below the EPA action level, sometimes lower when conditions allow. If it does not, they return and adjust. That is not fearless marketing, it is practical. They know where the leverage points are and can add a second suction, swap a fan, or seal overlooked leaks efficiently.

Costs, energy use, and the time value of your weekends

On price, the St Louis radon market tracks much of the Midwest. Many single suction systems land between 1,200 and 2,500 dollars with a Radon mitigation contractor, depending on routing, roof work, electrical, and whether they encapsulate a crawlspace or seal a complex sump. Add 500 to 1,500 dollars for substantial crawl work, depending on size and difficulty. Complex houses or multi suction systems reach higher.

DIY material costs vary, but I rarely see them below 400 dollars if you count solvent, sealants, brackets, U-tube, and proper schedule 40 pipe. With a sump lid and a decent fan, 700 to 1,000 dollars is more typical. If you need to rent a core drill, add another 75 to 150 dollars. These numbers move with supply pricing.

Operating costs are modest but not zero. A mid range radon fan may draw around 60 to 90 watts. At 13 to 18 cents per kWh, you are looking at roughly 7 to 12 dollars per month in electricity. Fans generally last 5 to 10 years, sometimes longer on easy runs. Replacement fans run 150 to 300 dollars for common models, plus labor if you hire it. I advise homeowners to budget for one fan replacement over a decade and then be pleasantly surprised if it keeps spinning.

Time is the hidden line item. For a first time DIYer on a simple exterior run, count a full day if things go smoothly, more if you discover rebar or an odd joist layout. For a crawlspace liner done right, plan on a weekend and a sore back. A pro crew will usually finish a standard house in one day, occasionally two when the crawl is intricate.

Safety and code considerations that are easy to miss

Radon systems are not complicated in a chemical sense, but they interact with the house in sneaky ways. If you have atmospherically vented combustion appliances, verify draft after the fan is running. A professional will perform a spillage test at the water heater and furnace. As a homeowner, you can do a simple check with a mirror or smoke near the draft hood to ensure flue gases pull upward. If the mirror fogs or smoke wafts out, stop and address makeup air.

Electrical safety matters as well. Many jurisdictions require a disconnect within sight of the fan, proper bonding of metallic components, and adherence to outdoor wiring methods if the fan is outside. Cutting corners here invites nuisance trips or worse. Sealing flues, floor drains, and cracks with products suited to the [St Louis radon services](#) materials is more than neatness. Poor seals can leak under negative pressure and short circuit your suction field.

Discharge height and placement deserve respect. You want the vent to terminate above the roofline, away from windows, soffit intakes, or dormers. In two story houses with low slope roofs, that placement can be fussy, but it is not optional. I have revisited houses where a low gable termination pulled radon into upstairs rooms during winter inversions. A longer run to the ridge would have solved it.

Finally, applicable standards exist. Many Radon mitigation st louis contractors follow ANSI AARST standards for single family homes and for radon resistant new construction. You do not need to memorize acronyms to do a solid job, but they are a useful backstop if you want to verify your plan against an industry baseline.

Noise, vibration, looks, and neighborly peace

A quiet radon fan disappears into the background. Noise issues crop up when the fan is hard mounted to framing without isolation, when the pipe resonates in a wall cavity, or when the fan is oversized. Rubber couplings help decouple vibration, and a short section of flexible connection on the discharge side can reduce hum. In cold weather, exterior runs can pop when condensate forms and slugs through an elbow. Pitch the pipe to drain back toward the suction point, and use long sweep fittings whenever possible.

On the appearance front, exterior systems are faster but more visible. Painting the PVC to match siding helps. Running inside through closets minimizes the street view, but be honest about access and serviceability. I have traced lines through finished walls that looked smart on paper but required drywall surgery for a simple fan replacement down the line.

If you are in a tight neighborhood, mention the planned discharge location to the next door neighbors. It is a courtesy and it forces you to look at your termination through someone else's windows. The right angle can make the system feel invisible to everyone involved.

St. Louis realities that shape the decision

Our soils and foundations teach humility. Much of the metro area sits on loess and clay with pockets of limestone and karst. In older parts of the city, the basement may feature a mix of slab sections poured over decades. A tidy 1920s brick bungalow in Tower Grove can hide three different under slab conditions in 700 square feet. Meanwhile, many postwar houses in the county have sump pits and drain tile, which can be great suction networks if sealed correctly.



Seasonal variation is real. I have seen houses test at 3.5 pCi/L in August and spike to 9.0 pCi/L in January. The stack effect strengthens in cold weather, and frozen ground can alter soil gas paths. If you DIY a system in the spring and see a good drop, consider a follow up test in winter to confirm your safety margin holds. Stl radon workshops often emphasize this cycle, and with reason.

Context matters for discharge. The Mississippi and Missouri river valleys throw gusty north winds in winter. A termination that feels fine on a still fall day may wash down a dormer in January. Longer term, tree growth can change plume patterns. When in doubt, professionals who routinely work in your part of town know the micro quirks.

Permitting is not a mountain, but do not skip it if your municipality requires it. St. Louis County and many cities care specifically about the electrical and exterior elements. Inspectors are generally pragmatic. They want safe wiring, solid terminations, and clear discharges, not ornamental perfection.

When DIY fits and when it does not

- Good DIY candidates: a single slab with accessible perimeter, clear exterior routing, a sump with a straightforward sealed lid, and no combustion appliances that are marginal on draft. Comfort with coring concrete, solvent welding PVC, and sealing details is essential.
- Call a pro when: you have multiple slabs or a slab plus a crawlspace, you suspect compartmentalization, you need interior routing through finished spaces, you have atmospherically vented appliances with borderline draft, or prior tests were very high, for example above 10 to 15 pCi/L.

I will add a softer factor. If you already feel overwhelmed walking through the steps in your head, that feeling will not fade when a core bit binds halfway through the slab. There is no shame in hiring experience.

How to vet a radon mitigation contractor without getting lost in jargon

Start with proof of certification or licensure where applicable, ask how they diagnose sub slab conditions, and listen for specifics. You want someone who can explain why they prefer a certain suction point in your house, not someone who installs the same kit in every basement. Ask what performance level they aim for, how they handle retests, and whether they include sealing the sump and main slab cracks as part of the job. If you have a crawlspace, ask about liner thickness, mechanical fastening, and how they seal around piers.

Local references matter. A contractor who has tamed a split level in Webster Groves or a 1960s ranch in Florissant can speak to your house with more precision than someone who mostly works in new construction. Search terms like Radon mitigation near me or Radon mitigation st louis will yield a pile of names, but you will learn more from two or three targeted conversations than from a dozen generic quotes.

What success looks like, with numbers and follow through

On day one, a manometer reading tells you the fan is pulling, not whether the system is effective. You need a post-mitigation test after the system has run at least a day, ideally 48 to 72 hours. If the initial result falls below the action level, do not stop there. A long-term test over 90 days to a year gives you a truer picture, smoothing out daily and seasonal swings. Keep the test device away from drafts and appliances, and follow placement guidance.

A good result is not just a low number. It is a stable number. In practice, stability shows up as a narrow range across seasons, with winter levels maybe nudging higher but staying below your target. If your summer test is 1.7 and your winter test climbs to 3.3, you have a safe system with an honest margin. If you DIY and see a summer 2.1 become a winter 5.8, that is a signal to revisit suction coverage or sealing.

Document your system. Keep a simple log with installation date, fan model, manometer baseline, and test results. When you sell the house, that little folder can calm a buyer and smooth inspection. It also helps you years later when the fan finally needs replacement and you cannot remember whether you bought the low pressure or high pressure model.

A quick decision aid you can use this weekend

- If your home is a single, open slab with a sump, your comfort with tools is solid, and your pre-mitigation result is between 4 and 8 pCi/L, DIY is often a reasonable bet. Plan for a careful seal at the sump and a neatly pitched exterior run.
- If your home has mixed foundations, a crawlspace that smells earthy, or pre-mitigation results in the teens or higher, the probability that you will need multi point suction or meticulous encapsulation goes up. Hiring a professional Radon mitigation contractor can save time and avoid half measures.

The bottom line for St. Louis homeowners

There is no universal right answer, only a right answer for your house. I have seen DIY jobs match the best professional work when the conditions were right and the homeowner leaned into the details. I have also seen polished looking DIY systems that barely moved the needle because the suction never reached the back corner, or because the sump lid leaked like a flute.

Professionals earn their keep by reading the slab, respecting the physics, and standing behind the number on the retest. They are not magicians, just people who solve the same puzzle every week. If you go that route, spend your energy choosing a contractor who will explain their plan and own the outcome.

Regardless of path, keep your eye on the prize. A well designed, well installed Radon system fades into the background. The fan hums softly, the U-tube sits steady, and your follow up tests land where they should. In a city where basements are living space as much as storage, and where soils change from block to block, that quiet reliability is worth chasing.

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<https://www.airsenseenvironmental.com/>

Air Sense Environmental – Radon Mitigation & Testing is a trusted indoor air quality specialist serving Edwardsville, IL and the surrounding Metro East region.

Air Sense Environmental provides experienced radon testing, radon mitigation system installation, and crawl space encapsulation services tailored to protect residential indoor environments.

Homeowners throughout Edwardsville, IL rely on this highly rated local company for professional radon reduction systems designed to safely lower elevated radon levels.

To schedule radon testing or mitigation service, call [\(618\) 556-4774](tel:(618)556-4774) or visit <https://www.airsenseenvironmental.com/> to speak with a quality-driven local specialist.

View the business location and directions on Google Maps: <https://maps.app.goo.gl/XTPHjJpogDFN9va8> and contact Air Sense Environmental for highly rated indoor air solutions.

Popular Questions About Air Sense Environmental – Radon Mitigation & Testing

What services does Air Sense Environmental provide?

Air Sense Environmental provides professional radon testing, radon mitigation system installation, indoor air quality solutions, and crawl space encapsulation services in Edwardsville, Illinois and surrounding areas.

Why is radon testing important in Illinois homes?

Radon is an odorless and invisible radioactive gas that can accumulate indoors. Testing is the only way to determine radon levels and protect your household from long-term exposure risks.

How long does a professional radon test take?

Professional radon testing typically runs for a minimum of 48 hours using continuous monitoring equipment to ensure accurate results.

What is a radon mitigation system?

A radon mitigation system is a professionally installed ventilation system that reduces indoor radon levels by safely venting the gas outside the home.

How do I contact Air Sense Environmental?

You can call (618) 556-4774, visit <https://www.airsenseenvironmental.com/>, or view directions at <https://maps.app.goo.gl/XTPhHjJpogDFN9va8> to schedule service.

Landmarks Near Edwardsville, IL

Southern Illinois University Edwardsville (SIUE)

A major public university campus that serves as a cultural and educational hub for the Edwardsville community.

The Wildey Theatre

A historic downtown venue hosting concerts, films, and live entertainment throughout the year.

Watershed Nature Center

A scenic preserve offering walking trails, environmental education, and family-friendly outdoor experiences.

Edwardsville City Park

A popular local park featuring walking paths, sports facilities, and community events.

Madison County Transit Trails

An extensive regional trail system ideal for biking and walking across the Metro East area.

If you live near these Edwardsville landmarks and need professional radon testing or mitigation, contact Air Sense Environmental at (618) 556-4774 or visit <https://www.airsenseenvironmental.com/>.