TRUCTURAL ENGINEE

- Identifying Common Issues and Symptoms of residential foundations Identifying Common Issues and Symptoms of residential foundations Spotting Early Warning Signs of Foundation Stress Recognizing Cracks and Shifts in Concrete Floors Understanding Sticky Doors and Window Alignment Pinpointing Sinking Spots around the Foundation Perimeter Tracking Water Intrusion as a Contributor to Structural Damage How Uneven Floors Reveal Deeper Foundation Concerns Identifying Subtle Changes in Exterior Walls When Hairline Drywall Cracks Indicate Movement Monitoring Seasonal Soil Movement for Foundation Clues Evaluating Soil Erosion and Its Impact on Stability Noting Shifting Porches and Deck Attachments Examining Sloping Floors for Underlying Settlement
- Soil and Environmental Factors influencing home foundations Soil and Environmental Factors influencing home foundations Examining Expansive Clay in Residential Areas Understanding Sandy Loam and Drainage Properties Measuring Soil Moisture for Stabilizing Foundations Impact of Freeze Thaw Cycles on Concrete Slabs Recognizing Erosion Patterns that Undermine Support Coordinating Landscaping to Control Soil Shifts Evaluating Groundwater Levels for Long Term Stability Identifying Seasonal Soil Movement in Coastal Regions Reviewing Impact of Tree Roots on Foundation Integrity Forecasting Effects of Prolonged Drought on Soil Behavior Managing Flood Risk through Strategic Elevation Observing Climate Trends for Anticipating Soil Swell



• About Us

#### \* Understanding the Basics of Soil Erosion and its Impact on Foundations.

Okay, let's talk about how soil erosion messes with your house's foundation. Slab and pier foundations require specialized repair solutions from experts foundation repair service waterproofing. We're not talking about some abstract geological process here; this is about the ground literally disappearing from under your feet (well, more accurately, under your house). And understanding the basics is key to spotting the problem before it becomes a \*major\* problem.

Think of your foundation as sitting on a carefully constructed pedestal of soil. That soil provides support, stability, and a nice, even distribution of the weight of your house. Now, imagine that pedestal starts to get nibbled away. That's erosion in action. Rain, wind, even just the way water flows around your property can slowly but surely carry away soil particles.

The impact on your foundation can be pretty significant. When soil erodes, it leaves voids and weakens the surrounding earth. This can lead to your foundation settling unevenly, which in turn can cause cracks in walls, sticking doors and windows, and even structural damage. It's like a slow-motion domino effect, starting with the disappearing soil and ending with a very unhappy house.

Recognizing the patterns of erosion is crucial. Are you seeing gullies forming near your foundation? Is soil washing away from downspouts? Are there exposed tree roots where there used to be soil cover? These are all warning signs. Pay attention to areas where water tends to pool or flow. These are prime candidates for erosion.

Essentially, understanding soil erosion and its patterns is about being observant. Walk around your property, especially after heavy rains, and look for those tell-tale signs. Early detection and addressing the root cause of the erosion – whether it's poor drainage, lack of vegetation, or something else – can save you a lot of headaches (and money!) down the road. It's about protecting that pedestal that your house relies on.

#### \* Identifying Common Erosion Patterns Around Homes: Sloping, Gullying, and Sheet Erosion.

Okay, let's talk about erosion around your home, something that might not be on your everyday to-do list, but can definitely cause headaches down the line. We're focusing on how it can undermine the very ground your house sits on. Think of it like this: your home's foundation is like the roots of a tree. If the soil around those roots washes away, the tree (your house) becomes unstable.

The big three erosion culprits you need to be aware of are sloping, gullying, and sheet erosion. Sloping is pretty straightforward. Is the ground around your foundation or walkways noticeably slanted downwards towards or away from the structure? That's already a red flag. Water loves to follow the path of least resistance, and a slope encourages it to carry soil with it.

Gullying is more dramatic. Imagine little rivers carving their way through your yard after a heavy rain. Those are gullies, and they're like erosion's express lane. They can start small, but quickly deepen and widen, eating away at the soil and potentially destabilizing retaining walls, patios, or even your

foundation. Keep an eye out for any concentrated channels where water is clearly scouring the earth.

Then there's sheet erosion, the sneaky one. It's the gradual, uniform removal of topsoil across a wide area. You might not see dramatic gullies, but over time, you'll notice things like exposed tree roots, soil splashed onto your siding during rain, or a general thinning of the topsoil in your garden. Sheet erosion might seem less threatening than gullies, but it weakens the overall support structure of your land, making it more vulnerable to more serious problems later.

Spotting these patterns early is key. Regular walks around your property after rainfall can be really informative. Look for those slopes, those tiny gullies starting to form, and signs of sheet erosion. Addressing these issues early on with things like proper drainage, landscaping with native plants, or even simple soil stabilization techniques can save you a lot of trouble and money in the long run. Remember, a healthy landscape is a strong defense against erosion, and a strong foundation for your home.

#### \* Recognizing Warning Signs: Cracks, Settling, and Water Pooling.

Okay, so you're walking around your property, maybe admiring the view, or just checking things out. But are you \*really\* looking? Because erosion, that sneaky devil, doesn't usually announce itself with trumpets and flashing lights. It's more subtle. Think of it like a slow-motion heist, stealing away the earth that's holding everything up. And that's where paying attention to warning signs comes in.

Specifically, we're talking cracks, settling, and water pooling. Cracks in your foundation, walkways, or even the ground itself can be like little whispers saying, "Hey, something's shifting here." They might seem insignificant at first, just hairline fractures, but ignore them and they can widen, deepen, and tell a much bigger story about the land giving way underneath.

Then there's settling. A little bit of settling is normal, especially in new construction. But if you notice doors and windows suddenly sticking, or floors that are noticeably sloping in places they weren't before, that can be a sign that the ground is compacting unevenly due to erosion. It's like the earth is sighing and sinking under the weight of your house, and that's a problem.

And finally, water pooling. We all know water erodes things, right? If you see water consistently pooling in certain areas around your foundation, near retaining walls, or even just in low-lying spots in your yard, that's a red flag. It means the water isn't draining properly, it's saturating the soil, and it's actively working to wash away the support.

So, keep your eyes peeled. These seemingly small things – a crack here, a slight dip there, a puddle that won't go away – they're the clues that erosion is at play. Catching them early can save you a whole lot of headache, and a whole lot of money, down the road. Think of it as being a detective, but instead of solving a crime, you're saving your property from slowly disappearing.

#### \* Assessing the Severity of Erosion Damage: A Homeowner's Guide.

Okay, so you're worried about erosion around your house. Good on you for paying attention! It's one of those things that can start small and then, BAM, you're looking at serious foundation issues. This isn't about being a geologist; it's about being a savvy homeowner. We're talking about recognizing the \*patterns\* of erosion that whisper (or sometimes scream) "your house is in trouble."

Think of your house like a giant, delicious cake. The soil is the plate it sits on. Now, imagine someone starts nibbling away at the plate. At first, a few crumbs are missing, no big deal. But if the nibbling continues in specific spots, like right under one side of the cake, well, that cake's gonna tilt, crack, maybe even collapse. That's what erosion does to the support system of your home.

The key is spotting those "nibbling" patterns. Are you seeing channels or gullies forming near your foundation walls? Those are highways for water, and water is erosion's best friend. Pay attention to where water \*flows\* during and after rain. Are downspouts dumping water right next to the foundation? That's a red flag. Is the ground sloping away from the foundation, or has it started to slope \*towards\* it in places due to soil loss? That's a problem.

Another thing to look for is exposed tree roots. If you're suddenly seeing a lot more root than you used to, it means the soil around them has washed away. And if those roots are close to your house, they might be playing a vital role in stabilizing the soil \*under\* your foundation.

Finally, don't ignore seemingly small things like bare patches of soil. Healthy grass and plants help hold the soil together. If you've got areas where nothing will grow, it's a sign that the topsoil has already eroded, leaving the less stable subsoil exposed.

The important thing is to be observant. Walk around your property after a heavy rain. Look for these patterns. The earlier you spot them, the easier (and cheaper) it will be to fix the problem before that "cake" starts to crumble. It's all about protecting your investment, one careful observation at a time.

#### \* The Role of Drainage Systems in Preventing Foundation Erosion.

Okay, let's talk about drainage and how it saves our house foundations from slowly washing away into the earth. Think of your foundation as the sturdy feet of your home. They're meant to hold everything up, right? But what happens when it's constantly raining, and the water just sits there, soaking into the ground right next to those "feet"?

That's where drainage systems come in. They're essentially designed to take that excess water and politely escort it \*away\* from your foundation. Without them, you're basically creating a perfect storm for erosion. The water saturates the soil, making it heavier and weaker. This soggy soil then pushes against the foundation walls (hydrostatic pressure, if you want to get fancy), and it starts to erode the soil supporting the foundation.

Recognizing the signs of this happening is crucial. Are you seeing cracks in your foundation? Are your doors and windows starting to stick or are they hard to open and close? Maybe the ground around your house is sloping downwards near the foundation? These are all potential red flags that water is winning the battle.

Good drainage, on the other hand, acts like a bodyguard for your foundation. It can be as simple as

making sure your gutters are clean and directing water away from the house with downspout extensions. Or, it might involve more complex systems like French drains or grading the land to encourage runoff.

The point is, proper drainage is not just a nice-to-have; it's a necessity. It's about protecting your investment and preventing your house from slowly sinking or cracking under the relentless pressure of water. So, take a good look around your property. Is water pooling near the foundation? If so, it's time to think seriously about getting some drainage help. It's a small investment that can save you from a very big headache (and a very big bill) down the road.

#### \* Professional Erosion Control Techniques for Foundation Stabilization.

Okay, so you're walking around your property, maybe after a good rain, and you start noticing things. Little rivulets snaking down slopes, bare patches of soil where grass used to be, maybe even some exposed foundation near the base of your house. These aren't just "nature doing its thing," these are erosion patterns, and they're talking to you. They're whispering, or maybe even shouting, that your foundation is losing its support.

Think of it like this: your foundation is like the legs of a table. If the ground around those legs starts getting washed away, the table gets wobbly, right? Same thing with your house. Recognizing those erosion patterns early is crucial. Are you seeing sediment building up against the foundation in certain spots? That means water's been carrying it there, taking soil away from somewhere else – probably uphill from that spot. Look for little "deltas" of soil at the bottom of downspouts. That's a clear sign that rainwater is not being properly directed away and is carving its own path, potentially right towards your foundation.

And don't just look down. Observe the landscaping. Are plants leaning or even falling over? That can indicate the soil around their roots is being eroded. Are retaining walls bulging or cracking? They're fighting a losing battle against soil pressure caused by erosion.

Ignoring these signs is like ignoring a toothache. It won't go away on its own, and it'll probably get a whole lot worse. Early detection allows you to call in the professionals – the folks who know all about professional erosion control techniques. They can assess the damage, identify the root cause (poor drainage, improper grading, whatever it may be), and implement solutions to stabilize your foundation. We're talking things like installing proper drainage systems, terracing slopes, using erosion control fabrics, and replanting vegetation to hold the soil in place. It's all about stopping the erosion in its tracks before it turns into a major, and expensive, problem. So, keep an eye out for those patterns – they're your early warning system for foundation trouble.

#### \* When to Call a Foundation Repair Specialist: A Timely Intervention.

Recognizing Erosion Patterns that Undermine Support: When to Call a Foundation Repair Specialist: A Timely Intervention

Okay, so you're puttering around the yard, maybe thinking about planting some petunias, and you notice something...off. The soil around your foundation seems a little lower in some spots, maybe

even carved out. Don't dismiss it as just the weather. That could be erosion, and erosion, unchecked, can seriously mess with your foundation's stability.

Think of your foundation as the bones of your house. It needs solid support, and the soil around it is like the muscle holding everything in place. When erosion happens, it's like that muscle weakening and wasting away. Water, the relentless sculptor, is usually the culprit. Poor drainage, overflowing gutters, even just the natural slope of your land can channel rainwater directly against your foundation walls. Over time, this constant assault washes away the soil, creating voids and leaving your foundation exposed and vulnerable.

What should you look for? Keep an eye out for obvious signs like gullies forming near the foundation, exposed foundation walls where there used to be soil cover, or even just a noticeable slope forming \*towards\* your house. Also, pay attention to your downspouts. Are they directing water far enough away from the foundation? Are they even working properly?

Why is this a big deal? Well, when the soil supporting your foundation disappears, the weight of your house isn't distributed properly anymore. This can lead to settling, cracking, and a whole host of other expensive problems down the road. Ignoring these early warning signs is like ignoring a toothache – it might start small, but it's guaranteed to get worse (and more painful) if you don't address it.

So, when do you call a professional? If you notice significant erosion, especially if it's accompanied by other warning signs like cracks in your foundation walls or doors and windows that are sticking, it's time to call a foundation repair specialist. They can assess the severity of the erosion, identify the underlying causes, and recommend the best course of action to protect your home's foundation. A timely intervention can save you a lot of headaches (and money) in the long run. It's better to be proactive than reactive when it comes to the structural integrity of your home.



About basement waterproofing

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**Basement waterproofing** involves techniques and materials used to prevent water from penetrating the basement of a house or a building. Waterproofing a basement that is below ground level can require the application of sealant materials, the installation of drains and sump pumps, and more.

## Purpose

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Waterproofing is usually required by building codes for structures that are built at or below ground level. Waterproofing and drainage considerations are especially important in cases where ground water is likely to build up in the soil or where there is a high water table.

Water in the soil causes hydrostatic pressure to be exerted underneath basement floors and walls. This hydrostatic pressure can force water in through cracks, which can cause major structural damage as well as mold, decay, and other moisture-related problems.

### Methods

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Several measures exist to prevent water from penetrating a basement foundation or to divert water that has penetrated a foundation:

French Drain

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Image not found or type unknown French drain Interior wall and floor sealers

- Interior water drainage
- Exterior drainage
- Exterior waterproofing coatings
- Box type waterproofing[<sup>1</sup>]
- Foundation crack injections
- French drains
- Sump pump

#### Interior sealants

[edit]

In poured concrete foundations, cracks and pipe penetrations are the most common entry points for seepage. These openings can be sealed from the interior. Epoxies, which are strong adhesives, or urethanes can be pressure injected into the openings, thus penetrating the foundation through to the exterior and cutting off the path of the seepage.

In masonry foundations, interior sealers will not provide permanent protection from water infiltration where hydrostatic pressure is present. However, interior sealers are good for preventing high atmospheric humidity inside the basement from absorbing into the porous masonry and causing spalling. Spalling is a condition where constant high humidity or moisture breaks down masonry surfaces, causing deterioration and shedding of the concrete surfaces.

Other coatings can be effective where condensation is the main source of wetness. It is also effective if the problem has minor dampness. Usually, interior waterproofing will not stop major leaks.

#### Interior water drainage

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Although interior water drainage is not technically waterproofing, it is a widely accepted technique in mitigating basement water and is generally referred to as a basement waterproofing solution. Many interior drainage systems are patented and recognized by Building Officials and Code Administrators(BOCA) as being effective in controlling basement water.

A common system for draining water that has penetrated a basement involves creating a channel around the perimeter of the basement alongside the foundation footers. A French drain, PVC pipe, or other drainage system is installed in the newly made channel. The installed drain is covered with new cement.

The drainage system collects any water entering the basement and drains it to an internally placed sump pump system, which will then pump the water out of the basement. The Federal Emergency Management Agency (FEMA) recommends basement waterproofing with a water alarm and "battery-operated backup pump" as a preventive measure against the high cost of flooding[<sup>2</sup>] Wall conduits (such as dimple boards or other membranes) are fastened to the foundation wall and extend over the new drainage to guide any moisture down into the system.

#### **Exterior waterproofing**

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Waterproofing a structure from the exterior is the only method the U.S. International Building Code (IBC) recognizes as adequate to prevent structural damage caused by water intrusion.

Waterproofing an existing basement begins with excavating to the bottom sides of the footings. Once excavated, the walls are then power washed and allowed to dry. The dry walls are sealed with a waterproofing membrane,[<sup>3</sup>] and new drainage tiles (weeping tiles) are placed at the side of the footing.

A French drain, PVC pipe, or other drainage system is installed and water is led further from the basement.

# Polymer

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Over the past ten years, polymer-based waterproofing products have been developed. Polymerbased products last for the lifetime of the building and are not affected by soil pH. Polymer-based waterproofing materials can be sprayed directly onto a wall, are very fast curing, and are semiflexible, allowing for some movement of the substrate.

### Causes of water seepage and leaks

[edit]

Water seepage in basement and crawl spaces usually occurs over long periods of time and can be caused by numerous factors.

- Concrete is one of the most commonly used materials in home construction. When pockets
  of air are not removed during construction, or the mixture is not allowed to cure properly, the
  concrete can crack, which allows water to force its way through the wall.
- Foundations (footings) are horizontal pads that define the perimeter of foundation walls.
   When footings are too narrow or are not laid deep enough, they are susceptible to movement caused by soil erosion.
- Gutters and downspouts are used to catch rain water as it falls and to discharge it away from houses and buildings. When gutters are clogged or downspouts are broken, rainwater is absorbed by the soil near the foundation, increasing hydrostatic pressure.
- Weeping tile is a porous plastic drain pipe installed around the perimeter of the house. The main purpose of external weeping tile is preventing water from getting into a basement. However, these pipes can become clogged or damaged, which causes excess water to put pressure on internal walls and basement floors.
- Water build up inside window wells, after heavy rain or snow, can lead to leaks through basement window seams. Window well covers can be used to prevent water from accumulating in the window well.
- Ground saturation is another common form of basement leaks. When the footing drain fails the ground around the basement can contain too much water and when the saturation point is met flooding can occur.

## Warning signs of water damage

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Signs that water is seeping into a basement or crawlspace often take years to develop and may not be easily visible. Over time, multiple signs of damage may become evident and could lead to structural failure.

- Cracked walls: Cracks may be horizontal, vertical, diagonal or stair-stepped. Severe pressure or structural damage is evident by widening cracks.
- Buckling walls: Usually caused by hydrostatic pressure. Walls appear to be bowed inward.
- Peeling paint: Water seeping through walls may lead to bubbling or peeling paint along basement walls.<sup>[4]</sup>
- Efflorescence: White, powdery residue found on basement walls near the floor.
- Mold: Fungi that usually grow in damp, dark areas and can cause respiratory problems after prolonged exposure.

#### Foundation crack injections

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Foundation crack injections are used when poured concrete foundations crack, either from settlement or the expansion and contraction of the concrete. Epoxy crack injections are typically used for structural purposes while hydrophobic or hydrophilic polyurethane injections are used to seal cracks to prevent penetration of moisture or water. Concrete is both strong and inexpensive, making it an ideal product in construction. However, concrete is not waterproof.

## References

[edit]

- 1. **^** Waheed, M. A. (11 July 2014). "Top tips to optimally use conventional waterproofing techniques". Business Standard India. Archived from the original on 5 July 2022. Retrieved 28 May 2021.
- 2. ^ "FloodSmart | How to Prepare for a Flood and Minimize Losses". Archived from the original on 9 May 2020. Retrieved 20 March 2020.
- 3. **^** Carter, Tim. "How to redirect water around a damp garage". The Washington Post. Archived from the original on 15 August 2016. Retrieved 2 November 2015.
- 4. A Chodorov, Jill. "Basement flooding may put a damper on your home sale". The Washington Post. Archived from the original on 18 May 2018. Retrieved 2 November 2015.

#### About home repair

For the novel by Liz Rosenberg, see Home Repair (novel). For other uses of "repair", see Maintenance.



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A mobile home being repaired in Oklahoma



A person making these repairs to a house after a flood

**Home repair** involves the diagnosis and resolution of problems in a home, and is related to home maintenance to avoid such problems. Many types of repairs are "do it yourself" (DIY) projects, while others may be so complicated, time-consuming or risky as to require the assistance of a qualified handyperson, property manager, contractor/builder, or other professionals.

Home repair is not the same as renovation, although many improvements can result from repairs or maintenance. Often the costs of larger repairs will justify the alternative of investment in full-scale improvements. It may make just as much sense to upgrade a home system (with an improved one) as to repair it or incur ever-more-frequent and expensive maintenance for an inefficient, obsolete or dying system.

## Worn, consumed, dull, dirty, clogged

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Repairs often mean simple replacement of worn or used components intended to be periodically renewed by a home-owner, such as burnt out light bulbs, worn out batteries, or overfilled vacuum cleaner bags. Another class of home repairs relates to restoring something to a useful condition,

such as sharpening tools or utensils, replacing leaky faucet washers, cleaning out plumbing traps, rain gutters. Because of the required precision, specialized tools, or hazards, some of these are best left to experts such as a plumber. One emergency repair that may be necessary in this area is overflowing toilets. Most of them have a shut-off valve on a pipe beneath or behind them so that the water supply can be turned off while repairs are made, either by removing a clog or repairing a broken mechanism.

#### Broken or damaged

### [edit]

Perhaps the most perplexing repairs facing a home-owner are broken or damaged things. In today's era of built-in obsolescence for many products, it is often more convenient to replace something rather than attempt to repair it. A repair person is faced with the tasks of accurately identifying the problem, then finding the materials, supplies, tools and skills necessary to sufficiently effect the repair. Some things, such as broken windows, appliances or furniture can be carried to a repair shop, but there are many repairs that can be performed easily enough, such as patching holes in plaster and drywall, cleaning stains, repairing cracked windows and their screens, or replacing a broken electrical switch or outlet. Other repairs may have some urgency, such as broken water pipes, broken doors, latches or windows, or a leaky roof or water tank, and this factor can certainly justify calling for professional help. A home handyperson may become adept at dealing with such immediate repairs, to avoid further damage or loss, until a professional can be summoned.

#### **Emergency repairs**

[edit]

Emergencies can happen at any time, so it is important to know how to quickly and efficiently fix the problem. From natural disasters, power loss, appliance failure and no water, emergency repairs tend to be one of the most important repairs to be comfortable and confident with. In most cases, the repairs are DIY or fixable with whatever is around the house. Common repairs would be fixing a leak, broken window, flooding, frozen pipes or clogged toilet. Each problem can have a relatively simple fix, a leaky roof and broken window can be patched, a flood can be pumped out, pipes can be thawed and repaired and toilets can be unclogged with a chemical. For the most part, emergency repairs are not permanent. They are what you can do fast to stop the problem then have a professional come in to permanently fix it.<sup>1</sup> Flooding as a result of frozen pipes, clogged toilets or a leaky roof can result in very costly water damage repairs and even potential health issues resulting from mold growth if not addressed in a timely manner.

#### Maintenance

[edit]

Periodic maintenance also falls under the general class of home repairs. These are inspections, adjustments, cleaning, or replacements that should be done regularly to ensure proper functioning of all the systems in a house, and to avoid costly emergencies. Examples include annual testing and adjustment of alarm systems, central heating or cooling systems (electrodes, thermocouples, and fuel filters), replacement of water treatment components or air-handling filters, purging of heating radiators and water tanks, defrosting a freezer, vacuum refrigerator coils, refilling dry floor-drain traps with water, cleaning out rain gutters, down spouts and drains, touching up worn house paint and weather seals, and cleaning accumulated creosote out of chimney flues, which may be best left to a chimney sweep.

Examples of less frequent home maintenance that should be regularly forecast and budgeted include repainting or staining outdoor wood or metal, repainting masonry, waterproofing masonry, cleaning out septic systems, replacing sacrificial electrodes in water heaters, replacing old washing machine hoses (preferably with stainless steel hoses less likely to burst and cause a flood), and other home improvements such as replacement of obsolete or ageing systems with limited useful lifetimes (water heaters, wood stoves, pumps, and asphaltic or wooden roof shingles and siding.

Often on the bottom of people's to-do list is home maintenance chores, such as landscaping, window and gutter cleaning, power washing the siding and hard-scape, etc. However, these maintenance chores pay for themselves over time. Often, injury could occur when operating heavy machinery or when climbing on ladders or roofs around your home, so if an individual is not in the proper physical condition to accomplish these chores, then they should consult a professional. Lack of maintenance will cost more due to higher costs associated with repairs or replacements to be made later. It requires discipline and learning aptitude to repair and maintain the home in good condition, but it is a satisfying experience to perform even seemingly minor repairs.

#### **Good operations**

#### [edit]

Another related issue for avoiding costly repairs (or disasters) is the proper operation of a home, including systems and appliances, in a way that prevents damage or prolongs their usefulness. For example, at higher latitudes, even a clean rain gutter can suddenly build up an ice dam in winter, forcing melt water into unprotected roofing, resulting in leaks or even flooding inside walls or rooms. This can be prevented by installing moisture barrier beneath the roofing tiles. A wary home-owner should be alert to the conditions that can result in larger problems and take remedial action before damage or injury occurs. It may be easier to tack down a bit of worn carpet than repair a large patch damaged by prolonged misuse. Another example is to seek out the source of unusual noises or smells when mechanical, electrical or plumbing systems are operating—sometimes they indicate incipient problems. One should avoid overloading or otherwise misusing systems, and a recurring overload may indicate time for an upgrade.

Water infiltration is one of the most insidious sources of home damage. Small leaks can lead to water stains, and rotting wood. Soft, rotten wood is an inviting target for termites and other wood-damaging insects. Left unattended, a small leak can lead to significant structural damage, necessitating the replacement of beams and framing.

With a useful selection of tools, typical materials and supplies on hand, and some home repair information or experience, a home-owner or handyperson should be able to carry out a large number of DIY home repairs and identify those that will need the specialized attention of others.

### **Remediation of environmental problems**

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When a home is sold, inspections are performed that may reveal environmental hazards such as radon gas in the basement or water supply or friable asbestos materials (both of which can cause lung cancer), peeling or disturbed lead paint (a risk to children and pregnant women), in-ground heating oil tanks that may contaminate ground water, or mold that can cause problems for those with asthma or allergies. Typically the buyer or mortgage lender will require these conditions to be repaired before allowing the purchase to close. An entire industry of environmental remediation contractors has developed to help home owners resolve these types of problems.

#### See also

#### [edit]

• Housing portal

- Electrical wiring
- Handyperson
- Housekeeping
- Home improvement
- Home wiring
- HVAC
- Maintenance, repair, and operations
- Plumbing
- Right to repair
- Smoke alarm
- Winterization

#### References

#### [edit]

1. A Reader's Digest New Complete Do-it-yourself Manual. Montreal, Canada: Reader's Digest Association. 1991. pp. 9–13. ISBN 9780888501783. OCLC 1008853527.

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Rooms and spaces of a house

- Bonus room
- Common room
- $\circ$  Den
- Dining room
- Family room
- Garret
- $\circ~\mbox{Great}$  room
- Home cinema
- Kitchen
  - dirty kitchen

### Shared rooms

- kitchenette
- $\circ~\mbox{Living room}$
- Gynaeceum
  - harem
- $\circ \ \text{Andron}$ 
  - $\circ$  man cave
- Recreation room
  - billiard room
- Shrine
- $\circ$  Study
- Sunroom
- Bathroom
  - ∘ toilet
- Bedroom / Guest room
   closet

#### **Private rooms**

- Bedsit / Miniflat
- Boudoir
- Cabinet
- $\circ$  Nursery

- Atrium
- Balcony
- Breezeway
- Conversation pit
- $\circ$  Cubby-hole
- $\circ$  Deck
- Elevator
  - dumbwaiter
- Entryway/Genkan
- Fireplace
  - hearth
- Foyer
- Hall
- Hallway

#### **Spaces**

- InglenookLanai
- Loft
- Loggia
- Overhang
- Patio
- Porch
  - $\circ$  screened
  - sleeping
- $\circ$  Ramp
- Secret passage
- Stairs/Staircase
- Terrace
- Veranda
- $\circ$  Vestibule

- $\circ$  Attic
- Basement
- Carport
- Cloakroom
- Closet
- $\circ~\mbox{Crawl space}$
- Electrical room
- Equipment room
- $\circ~$  Furnace room / Boiler room
- Garage
- Janitorial closet

# Technical, utility and storage

- Larder
- $\circ\,$  Laundry room / Utility room / Storage room
- $\circ~$  Mechanical room / floor
- Pantry
- Root cellar
- Semi-basement
- $\circ~$  Storm cellar / Safe room
- $\circ$  Studio
- $\circ$  Wardrobe
- $\circ$  Wine cellar
- Wiring closet
- $\circ$  Workshop

- Antechamber
- Ballroom
- Kitchen-related
  - $\circ$  butler's pantry
  - buttery
  - saucery
  - scullery
  - spicery
  - still room
- Conservatory / Orangery
- Courtyard
- Drawing room
- Great chamber

#### Great house areas

- Great hall Library
- Long gallery
- Lumber room
- Parlour
- Sauna
- Servants' hall
- Servants' quarters
- Smoking room
- $\circ$  Solar
- State room
- Swimming pool
- Turret
- Undercroft
- Furniture
- Hidden room
- House
  - house plan
  - styles
  - types
- Multi-family residential

Other

- Secondary suite
- $\circ$  Duplex
- Terraced
- Detached
- Semi-detached
- Townhouse
- $\circ$  Studio apartment

- $\circ \ \text{Arch}$
- Balconet
- Baluster
- Belt course
- Bressummer
- $\circ$  Ceiling
- $\circ$  Chimney
- Colonnade / Portico
- $\circ \ \ Column$
- $\circ~$  Cornice / Eaves
- $\circ \ \text{Dome}$
- $\circ$  Door
- ∘ Ell
- $\circ \ \text{Floor}$
- $\circ$  Foundation
- Gable

# Architectural elements

- GatePortal
- Lighting
- Ornament
- Plumbing
- Quoins
- Roof
  - shingles
- Roof lantern
- Sill plate
- Style
  - ∘ list
- Skylight
- $\circ$  Threshold
- Transom
- ∘ Vault
- $\circ \text{ Wall }$
- $\circ$  Window

- Backyard
- Driveway
- Front yard
- Garden

Related

∘ roof garden

- $\circ$  Home
- Home improvement
- Home repair
- Shed
- Tree house

• Category?PRooms

#### **About Cook County**

Photo

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## Things To Do in Cook County

Photo

#### Sand Ridge Nature Center

4.8 (96)

Photo

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#### **River Trail Nature Center**

4.6 (235)

Photo

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#### Palmisano (Henry) Park

4.7 (1262)

## **Driving Directions in Cook County**

Driving Directions From Palmisano (Henry) Park to

Driving Directions From Lake Katherine Nature Center and Botanic Gardens to

**Driving Directions From Navy Pier to** 

```
https://www.google.com/maps/dir/Navy+Pier/United+Structural+Systems+of+Illinois%2C+Inc/@41.8918633,-
87.6050944,14z/data=!3m1!4b1!4m14!4m13!1m5!1m1!1sunknown!2m2!1d-
87.6050944!2d41.8918633!1m5!1m1!1sChIJ-wSxDtinD4gRiv4kY3RRh9U!2m2!1d-
88.1396465!2d42.0637725!3e0
```

```
https://www.google.com/maps/dir/Lake+Katherine+Nature+Center+and+Botanic+Gardens/United+Structural-
87.8010774,14z/data=!3m1!4b1!4m14!4m13!1m5!1m1!1sunknown!2m2!1d-
87.8010774!2d41.6776048!1m5!1m1!1sChIJ-wSxDtinD4gRiv4kY3RRh9U!2m2!1d-
88.1396465!2d42.0637725!3e2
```

https://www.google.com/maps/dir/Palmisano+%28Henry%29+Park/United+Structural+Systems+of+Illinois%2 87.6490151,14z/data=!3m1!4b1!4m14!4m13!1m5!1m1!1sunknown!2m2!1d-87.6490151!2d41.8429903!1m5!1m1!1sChIJ-wSxDtinD4gRiv4kY3RRh9U!2m2!1d-88.1396465!2d42.0637725!3e1

#### **Reviews for**



Jeffery James

(5)

Very happy with my experience. They were prompt and followed through, and very helpful in fixing the crack in my foundation.



Sarah McNeily

(5)

USS was excellent. They are honest, straightforward, trustworthy, and conscientious. They thoughtfully removed the flowers and flower bulbs to dig where they needed in the yard, replanted said flowers and spread the extra dirt to fill in an area of the yard. We've had other services from different companies and our yard was really a mess after. They kept the job site meticulously clean. The crew was on time and friendly. I'd recommend them any day! Thanks to Jessie and crew.

#### Jim de Leon

#### (5)

It was a pleasure to work with Rick and his crew. From the beginning, Rick listened to my concerns and what I wished to accomplish. Out of the 6 contractors that quoted the project, Rick seemed the MOST willing to accommodate my wishes. His pricing was definitely more than fair as well. I had 10 push piers installed to stabilize and lift an addition of my house. The project commenced at the date that Rick had disclosed initially and it was completed within the same time period expected (based on Rick's original assessment). The crew was well informed, courteous, and hard working. They were not loud (even while equipment was being utilized) and were well spoken. My neighbors were very impressed on how polite they were when they entered / exited my property (saying hello or good morning each day when they crossed paths). You can tell they care about the customer concerns. They ensured that the property would be put back as clean as possible by placing MANY sheets of plywood down prior to excavating. They compacted the dirt back in the holes extremely well to avoid large stock piles of soils. All the while, the main office was calling me to discuss updates and expectations of completion. They provided waivers of lien, certificates of insurance, properly acquired permits, and JULIE locates. From a construction background, I can tell you that I did not see any flaws in the way they operated and this an extremely professional company. The pictures attached show the push piers added to the foundation (pictures 1, 2 & 3), the amount of excavation (picture 4), and the restoration after dirt was placed back in the pits and compacted (pictures 5, 6 & 7). Please notice that they also sealed two large cracks and steel plated these cracks from expanding further (which you can see under my sliding glass door). I, as well as my wife, are extremely happy that we chose United Structural Systems for our contractor. I would happily tell any of my friends and family to use this contractor should the opportunity arise!

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#### Chris Abplanalp

#### (5)

USS did an amazing job on my underpinning on my house, they were also very courteous to the proximity of my property line next to my neighbor. They kept things in order with all the dirt/mud they had to excavate. They were done exactly in the timeframe they indicated, and the contract was very details oriented with drawings of what would be done. Only thing that would have been nice, is they left my concrete a little muddy with boot prints but again, all-in-all a great job

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Dave Kari

(5)

What a fantastic experience! Owner Rick Thomas is a trustworthy professional. Nick and the crew are hard working, knowledgeable and experienced. I interviewed every company in the area, big and small. A homeowner never wants to hear that they have foundation issues. Out of every company, I trusted USS the most, and it paid off in the end. Highly recommend.

Recognizing Erosion Patterns that Undermine SupportView GBP

#### Check our other pages :

Evaluating Soil Erosion and Its Impact on Stability

- Forecasting Effects of Prolonged Drought on Soil Behavior
- Understanding Sticky Doors and Window Alignment

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home foundation repair service

Foundation Repair Service

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