



- **Recognizing Shifts in the Home Foundation**
Recognizing Shifts in the Home Foundation Subtle Clues That Indicate Structural Changes Early Indicators of Potential Foundation Damage Observing Signs of Settlement in Floors Identifying Hairline Cracks and Surface Gaps Evaluating Tilted Door Frames and Window Alignment Understanding Bowed Wall Patterns in Basements Detecting Weak Spots Beneath Interior Flooring Uncovering Gradual Shifts in Support Beams Pinpointing Areas Prone to Moisture Intrusion Checking for Stair-Step Cracks Along Walls Preventing Growth of Small Foundation Cracks
- **Exploring Slab on Grade Construction Details**
Exploring Slab on Grade Construction Details Comparing Pier and Beam Home Foundations Recognizing Basement Foundations in Older Houses Understanding the Basics of Piering Strategies Exploring Techniques for Slab Jacking Projects Grasping the Scope of Epoxy Injection Repairs Assessing Helical Piers for Added Support Considering Carbon Fiber Solutions for Wall Reinforcement Discovering Polyurethane Foam Applications Investigating Steel Piers in Home Restoration Reviewing Concrete Piers for Structural Stability Selecting Appropriate Methods for Specific Soil Types
- **About Us**



Recognizing these signs early can prevent minor issues from escalating into major, costly repairs. This essay will explore the common early indicators of foundation damage, emphasizing their importance and the steps one can take upon their detection.

One of the most visible early signs of foundation issues is the appearance of cracks in walls, floors, or ceilings. While not all cracks indicate foundation problems-some may result from normal settling of a new home-certain characteristics can signal more serious issues. For instance, horizontal cracks or cracks wider than a quarter of an inch should be taken seriously. These cracks often suggest that the foundation is shifting and may require professional assessment.

Another early indicator is doors and windows that suddenly become difficult to open or close. This seemingly minor inconvenience can be a telltale sign of foundation movement. As the foundation shifts, it can cause the frames of doors and windows to become misaligned, leading to sticking or jamming. Homeowners should not dismiss this as a mere annoyance but rather consider it a potential symptom of underlying foundation problems.

Uneven or sloping floors are also early indicators of foundation damage. Walking across a room and noticing a dip or a slope can be disconcerting and is often a clear sign that the foundation is no longer level. This can result from soil erosion, water damage, or other factors that cause the foundation to settle unevenly. Addressing these issues early can prevent further structural damage and maintain the integrity of the home.

Exterior signs, such as cracks in the foundation itself or gaps around windows and doors, are also critical early indicators. These cracks can be caused by a variety of factors, including soil movement, water infiltration, or poor construction. Regular inspection of the home's exterior, particularly after extreme weather events, can help identify these issues before they worsen.

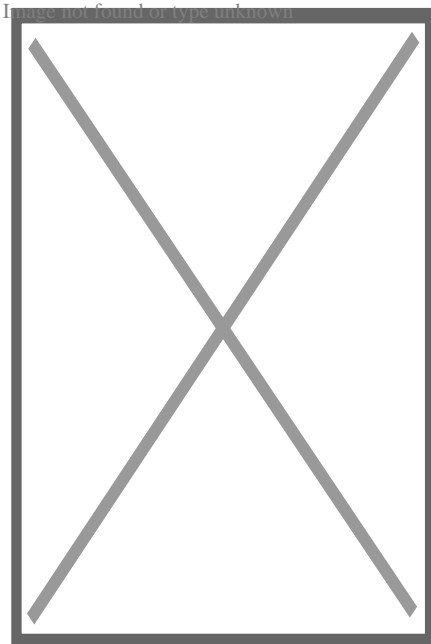
Water-related issues, such as pooling water around the foundation or dampness in the basement, are additional early indicators of potential foundation damage. Water can erode the soil supporting the foundation, leading to shifts and cracks. Ensuring proper drainage and addressing any signs of water accumulation promptly can mitigate the risk of foundation damage.

It is important for homeowners to take these early indicators seriously and seek professional advice when they notice any of these signs. Consulting with a structural engineer or a foundation repair specialist can provide clarity on the severity of the issue and the necessary steps to address it. Early intervention can save homeowners significant time and money, preventing minor foundation issues from becoming major headaches.

In conclusion, early indicators of potential foundation damage include cracks in walls, floors, or ceilings, doors and windows that stick, uneven or sloping floors, exterior cracks, and water-related issues. Recognizing and addressing these signs promptly can help maintain the structural integrity of a home and prevent more costly repairs down the line. Homeowners should remain vigilant and proactive in monitoring their property for these early indicators to ensure the long-term stability and safety of their homes.

About home inspection

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A disaster inspector at work in the United States assessing tornado damage to a house

A **home inspection** is a limited, non-invasive examination of the condition of a home, often in connection with the sale of that home. Home inspections are usually conducted by a **home inspector** who has the training and certifications to perform such inspections. The inspector

prepares and delivers to the client a written report of findings. In general, home inspectors recommend that potential purchasers join them during their onsite visits to provide context for the comments in their written reports. The client then uses the knowledge gained to make informed decisions about their pending real estate purchase. The home inspector describes the condition of the home at the time of inspection but does not guarantee future condition, efficiency, or life expectancy of systems or components.

Sometimes confused with a real estate appraiser, a home inspector determines the condition of a structure, whereas an appraiser determines the value of a property. In the United States, although not all states or municipalities regulate home inspectors, there are various professional associations for home inspectors that provide education, training, and networking opportunities. A professional home inspection is an examination of the current condition of a house. It is not an inspection to verify compliance with appropriate codes; building inspection is a term often used for building code compliance inspections in the United States. A similar but more complicated inspection of commercial buildings is a property condition assessment. Home inspections identify problems but building diagnostics identifies solutions to the found problems and their predicted outcomes. A property inspection is a detailed visual documentation of a property's structures, design, and fixtures. Property Inspection provides a buyer, renter, or other information consumer with valuable insight into the property's conditions prior to purchase. House-hunting can be a difficult task especially when you can't seem to find one that you like. The best way to get things done is to ensure that there is a property inspection before buying a property.

North America

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In Canada and the United States, a contract to purchase a house may include a contingency that the contract is not valid until the buyer, through a home inspector or other agents, has had an opportunity to verify the condition of the property. In many states and provinces, home inspectors are required to be licensed, but in some states, the profession is not regulated. Typical requirements for obtaining a license are the completion of an approved training course and/or a successful examination by the state's licensing board. Several states and provinces also require inspectors to periodically obtain continuing education credits in order to renew their licenses.^[citation needed] Unless specifically advertised as part of the home inspection, items often needed to satisfy mortgage or tile requirements such as termite ("pest") inspections must be obtained separately from licensed and regulated companies.

In May 2001, Massachusetts became the first state to recognize the potential conflict of interest when real estate agents selling a home also refer or recommend the home inspector to the potential buyer.^[citation needed] As a result, the real estate licensing law in Massachusetts was amended^[1]^[non-primary source needed] to prohibit listing real estate agents from directly referring home inspectors. The law also prohibits listing agents from giving out a "short" name list of inspectors. The only list that can be given out is the complete list of all licensed home inspectors in the state.

In September 2018, the California state legislature passed Senate Bill 721 (SB 721),^[2] which requires buildings with specific conditions, such as having exterior elevated structures, to undergo inspections by licensed professionals. These inspections must be conducted by qualified individuals, such as structural engineering firms,^[3] and a detailed report must be issued. Failure to comply with these requirements can result in penalties for property owners.

Ancillary services such as inspections for wood destroying insects, radon testing, septic tank inspections, water quality, mold, (or excessive moisture which may lead to mold), and private well inspections are sometimes part of home inspector's services if duly qualified.

In many provinces and states, home inspection standards are developed and enforced by professional associations, such as, worldwide, the International Association of Certified Home Inspectors (InterNACHI); in the United States, the American Society of Home Inspectors (ASHI), and the National Association of Home Inspectors (NAHI)(No Longer active 10/2017); and, in Canada, the Canadian Association of Home and Property Inspectors (CAHPI), the Professional Home & Property Inspectors of Canada (PHPIC) and the National Home Inspector Certification Council (NHICC).

Currently, more than thirty U.S. states regulate the home inspection industry in some form.

Canada saw a deviation from this model when in 2016 an association-independent home inspection standard was completed. This was developed in partnership with industry professionals, consumer advocates, and technical experts, by the Canadian Standards Association. The CAN/CSA A770-16 Home Inspection Standard was funded by three provincial governments with the intent to be the unifying standard for home inspections carried out within Canada. It is the only home inspection standard that has been endorsed by the Standards Council of Canada.

In Canada, there are provincial associations which focus on provincial differences that affect their members and consumers. Ontario has the largest population of home inspectors which was estimated in 2013 as part of a government survey at being around 1500.^[4]

To date, Ontario Association of Certified Home Inspectors is the only association which has mandated that its members migrate to the CAN/CSA A770-16 Home Inspection Standard, with a date of migration set as February 28, 2020. Other national and provincial associations have set it as an option to be added to other supported standards.

In Canada, only Alberta and British Columbia have implemented government regulation for the home inspection profession. The province of Ontario has proceeded through the process, with the passage of regulatory procedure culminating in the Home Inspection Act, 2017 to license Home Inspectors in that province. It has received royal assent but is still awaiting the development of regulations and proclamation to become law.

In Ontario, there are two provincial Associations, OAHI (the Ontario Association of Home Inspectors) and OntarioACHI (the Ontario Association of Certified Home Inspectors). Both claim to be the largest association in the province. OAHI, formed by a private member's Bill in the Provincial Assembly, has the right in law to award the R.H.I. (Registered Home Inspector) designation to anyone on its membership register. The R.H.I. designation, however, is a reserved designation,

overseen by OAHl under the Ontario Association of Home Inspectors Act, 1994. This Act allows OAHl to award members who have passed and maintained strict criteria set out in their membership bylaws and who operate within Ontario. Similarly, OntarioACHI requires equally high standards for the award of their certification, the Canadian-Certified Home Inspector (CCHI) designation. To confuse things, Canadian Association of Home and Property Inspectors (CAHPI) own the copyright to the terms Registered Home Inspector and RHI. Outside of Ontario, OAHl Members cannot use the terms without being qualified by CAHPI.

The proclamation of the Home Inspection Act, 2017, requires the dissolution of the Ontario Association of Home Inspectors Act, 1994, which will remove the right to title in Ontario of the RHI at the same time removing consumer confusion about the criteria for its award across Canada.

United Kingdom

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A home inspector in the United Kingdom (or more precisely in England and Wales), was an inspector certified to carry out the Home Condition Reports that it was originally anticipated would be included in the Home Information Pack.

Home inspectors were required to complete the ABBE Diploma in Home Inspection to show they met the standards set out for NVQ/VRQ competency-based assessment (Level 4). The government had suggested that between 7,500 and 8,000 qualified and licensed home inspectors would be needed to meet the annual demand of nearly 2,000,000 Home Information Packs. In the event, many more than this entered training, resulting in a massive oversupply of potential inspectors.

With the cancellation of Home Information Packs by the coalition Government in 2010, the role of the home inspector in the United Kingdom became permanently redundant.

Inspections of the home, as part of a real estate transaction, are still generally carried out in the UK in the same manner as they had been for years before the Home Condition Report process. Home Inspections are more detailed than those currently offered in North America. They are generally performed by a chartered member of the Royal Institution of Chartered Surveyors.

India

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The concept of home inspection in India is in its infancy. There has been a proliferation of companies that have started offering the service, predominantly in Tier-1 cities such as Bangalore, Chennai, Kolkata, Pune, Mumbai, etc. To help bring about a broader understanding among the general public and market the concept, a few home inspection companies have come together and formed the Home Inspection Association of India.^[5]

After RERA came into effect, the efficacy and potency of home inspection companies has increased tremendously. The majority of homeowners and potential home buyers do not know what

home inspection is or that such a service exists.

The way that home inspection is different in India^[6] than in North America or United Kingdom is the lack of a government authorised licensing authority. Apart from the fact that houses in India are predominantly built with kiln baked bricks, concrete blocks or even just concrete walls (predominantly in high rise apartments) this means the tests conducted are vastly different. Most home inspection companies conduct non-destructive testing of the property, in some cases based on customer requirement, tests that require core-cutting are also performed.

The majority of homeowners are not aware of the concept of home inspection in India. The other issue is that the balance of power is highly tilted toward the builder; this means the home buyers are stepping on their proverbial toes, because in most cases, the home is the single most expensive purchase in their lifetime, and the homeowners do not want to come across as antagonising the builders.

Home inspection standards and exclusions

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Some home inspectors and home inspection regulatory bodies maintain various standards related to the trade. Some inspection companies offer 90-day limited warranties to protect clients from unexpected mechanical and structural failures; otherwise, inspectors are not responsible for future failures.^[a] A general inspection standard for buildings other than residential homes can be found at the National Academy of Building Inspection Engineers.

Many inspectors may also offer ancillary services such as inspecting pools, sprinkler systems, checking radon levels, and inspecting for wood-destroying organisms. The CAN/CSA-A770-16 standard allows this (in-fact it demands swimming pool safety inspections as a requirement) and also mandates that the inspector be properly qualified to offer these. Other standards are silent on this.

Types of inspections

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Home buyers and home sellers inspections

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Home inspections are often used by prospective purchasers of the house in question, in order to evaluate the condition of the house prior to the purchase. Similarly, a home seller can elect to have an inspection on their property and report the results of that inspection to the prospective buyer.

Foreclosure inspection

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Recently foreclosed properties may require home inspections.

Four point inspection

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An inspection of the house's roof, HVAC, and electrical and plumbing systems is often known as a "four-point inspection", which insurance companies may require as a condition for homeowner's insurance.

Disaster inspection

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Home inspections may occur after a disaster has struck the house. A disaster examination, unlike a standard house inspection, concentrates on damage rather than the quality of everything visible and accessible from the roof to the basement.

Inspectors go to people's homes or work places who have asked for FEMA disaster aid.

Section 8 inspection

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In the United States, the federal and state governments provide housing subsidies to low-income people through the Section 8 program. The government expects that the housing will be "fit for habitation" so a Section 8 inspection identifies compliance with HUD's Housing Quality Standards (HQS).

Pre-delivery inspection

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See also: Pre-delivery inspection

An inspection may occur in a purchased house prior to the deal's closure, in what is known as a "pre-delivery" inspection.

Structural inspection

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The house's structure may also be inspected. When performing a structural inspection, the inspector will look for a variety of distress indications that may result in repair or further evaluation recommendations.

In the state of New York, only a licensed professional engineer or a registered architect can render professional opinions as to the sufficiency structural elements of a home or building.^[1] Municipal building officials can also make this determination, but they are not performing home inspections at the time they are rendering this opinion. Municipal officials are also not required to look out for the best interest of the buyer. Some other states may have similar provisions in their licensing laws. Someone who is not a licensed professional engineer or a registered architect can describe the condition of structural elements (cracked framing, sagged beams/roof, severe rot or insect damage, etc.), but are not permitted to render a professional opinion as to how the condition has affected the structural soundness of the building.

Various systems of the house, including plumbing and HVAC, may also be inspected.^[12]

Thermal imaging Inspection

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A thermal imaging inspection using an infrared camera can provide inspectors with information on home energy loss, heat gain/loss through the exterior walls and roof, moisture leaks, and improper electrical system conditions that are typically not visible to the naked eye. Thermal imaging is not considered part of a General Home Inspection because it exceeds the scope of inspection Standards of Practice.

Pool and spa inspection

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Inspection of swimming pools and spas is not considered part of a General Home Inspection because their inspection exceeds the scope of inspection Standards of Practice. However, some home inspectors are also certified to inspect pools and spas and offer this as an ancillary service.[¹³]

Tree health inspection

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Inspection of trees on the property is not considered part of a General Home Inspection because their inspection exceeds the scope of inspection Standards of Practice. This type of inspection is typically performed by a Certified Arborist and assesses the safety and condition of the trees on a property before the sales agreement is executed.[¹⁴]

Property inspection report for immigration

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The UKVI (United Kingdom Visa and Immigration) issued guidance on the necessity of ensuring that properties must meet guidelines so that visa applicants can be housed in properties which meet environmental and health standards. Part X of the Housing Act 1985 provides the legislative grounding for the reports - primarily to ensure that a property is not currently overcrowded, that the inclusion of further individuals as a result of successful visa applications - whether spouse visa, dependent visa, indefinite leave to remain or visitor visa, can house the applicants without the property becoming overcrowded. Reports are typically prepared by environmental assessors or qualified solicitors in accordance with HHSRS (Housing Health and Safety Rating Scheme). Property inspection reports are typically standard and breakdown the legal requirements.

Pre-Listing Home Inspection

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A pre-listing inspection focuses on all major systems and components of the house including HVAC, electrical, plumbing, siding, doors, windows, roof and structure. It's a full home inspection for the seller to better understand the condition of their home prior to the buyer's own inspection.

See also

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- List of real estate topics
- Real estate appraisal

Notes

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1. ^ A general list of exclusions include but are not limited to: code or zoning violations, permit research, property measurements or surveys, boundaries, easements or right of way, conditions of title, proximity to environmental hazards, noise interference, soil or geological conditions, well water systems or water quality, underground sewer lines, waste disposal systems, buried piping, cisterns, underground water tanks and sprinkler systems. A complete list of standards and procedures for home inspections can be found at NAHI,^[7] ASHI,^[8] InterNACHI,^[9] or IHINA^[10] websites.

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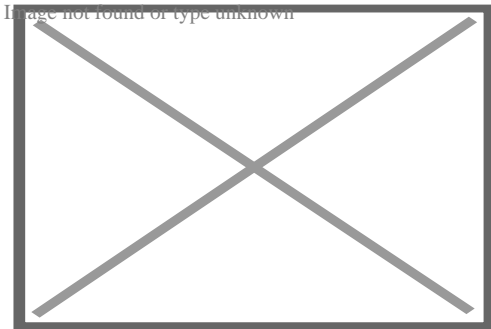
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About building code

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Not to be confused with Zoning laws.



Code Violation: This fire-rated concrete block wall is penetrated by cable trays and electrical cables. The hole should be firestopped to restore the fire-resistance rating of the wall. Instead, it is filled with flammable polyurethane foam.

A **building code** (also **building control** or **building regulations**) is a set of rules that specify the standards for construction objects such as buildings and non-building structures. Buildings must conform to the code to obtain planning permission, usually from a local council. The main purpose of building codes is to protect public health, safety and general welfare as they relate to the construction and occupancy of buildings and structures — for example, the building codes in many countries require engineers to consider the effects of soil liquefaction in the design of new buildings.^[1] The building code becomes law of a particular jurisdiction when formally enacted by the appropriate governmental or private authority.^[2]

Building codes are generally intended to be applied by architects, engineers, interior designers, constructors and regulators but are also used for various purposes by safety inspectors, environmental scientists, real estate developers, subcontractors, manufacturers of building products and materials, insurance companies, facility managers, tenants, and others. Codes regulate the design and construction of structures where adopted into law.

Examples of building codes began in ancient times.^[3] In the USA the main codes are the International Building Code or International Residential Code [IBC/IRC], electrical codes and

plumbing, mechanical codes. Fifty states and the District of Columbia have adopted the I-Codes at the state or jurisdictional level.^[4] In Canada, national model codes are published by the National Research Council of Canada.^[5] In the United Kingdom, compliance with Building Regulations is monitored by building control bodies, either Approved Inspectors or Local Authority Building Control departments. Building Control regularisation charges apply in case work is undertaken which should have had been inspected at the time of the work if this was not done.^[6]

Types

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The practice of developing, approving, and enforcing building codes varies considerably among nations. In some countries building codes are developed by the government agencies or quasi-governmental standards organizations and then enforced across the country by the central government. Such codes are known as the **national building codes** (in a sense they enjoy a mandatory nationwide application).

In other countries, where the power of regulating construction and fire safety is vested in local authorities, a system of model building codes is used. Model building codes have no legal status unless adopted or adapted by an authority having jurisdiction. The developers of model codes urge public authorities to reference model codes in their laws, ordinances, regulations, and administrative orders. When referenced in any of these legal instruments, a particular model code becomes law. This practice is known as 'adoption by reference'. When an adopting authority decides to delete, add, or revise any portions of the model code adopted, it is usually required by the model code developer to follow a formal adoption procedure in which those modifications can be documented for legal purposes.

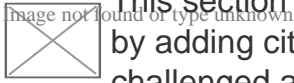
There are instances when some local jurisdictions choose to develop their own building codes. At some point in time all major cities in the United States had their own building codes. However, due to ever increasing complexity and cost of developing building regulations, virtually all municipalities in the country have chosen to adopt model codes instead. For example, in 2008 New York City abandoned its proprietary *1968 New York City Building Code* in favor of a customized version of the International Building Code.^[7] The City of Chicago remains the only municipality in America that continues to use a building code the city developed on its own as part of the *Municipal Code of Chicago*.

In Europe, the Eurocode: Basis of structural design, is a pan-European building code that has superseded the older national building codes. Each country now has National Annexes to localize the contents of the Eurocodes.

Similarly, in India, each municipality and urban development authority has its own building code, which is mandatory for all construction within their jurisdiction. All these local building codes are variants of a National Building Code,^[8] which serves as model code providing guidelines for regulating building construction activity.

Scope

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The purpose of building codes is to provide minimum standards for safety, health, and general welfare including structural integrity, mechanical integrity (including sanitation, water supply, light, and ventilation), means of egress, fire prevention and control, and energy conservation.^{[9][10]}

Building codes generally include:

- Standards for structure, placement, size, usage, wall assemblies, fenestration size/locations, egress rules, size/location of rooms, foundations, floor assemblies, roof structures/assemblies, energy efficiency, stairs and halls, mechanical, electrical, plumbing, site drainage & storage, appliance, lighting, fixtures standards, occupancy rules, and swimming pool regulations
- Rules regarding parking and traffic impact
- Fire code rules to minimize the risk of a fire and to ensure safe evacuation in the event of such an emergency^{*[citation needed]*}
- Requirements for earthquake (seismic code), hurricane, flood, and tsunami resistance, especially in disaster prone areas or for very large buildings where a failure would be catastrophic^{*[citation needed]*}
- Requirements for specific building uses (for example, storage of flammable substances, or housing a large number of people)
- Energy provisions and consumption
- Grandfather clauses: Unless the building is being renovated, the building code usually does not apply to existing buildings.
- Specifications on components
- Allowable installation methodologies
- Minimum and maximum room ceiling heights, exit sizes and location
- Qualification of individuals or corporations doing the work
- For high structures, anti-collision markers for the benefit of aircraft

Building codes are generally separate from zoning ordinances, but exterior restrictions (such as setbacks) may fall into either category.

Designers use building code standards out of substantial reference books during design. Building departments review plans submitted to them before construction, issue permits [or not] and inspectors verify compliance to these standards at the site during construction.

There are often additional codes or sections of the same building code that have more specific requirements that apply to dwellings or places of business and special construction objects such as canopies, signs, pedestrian walkways, parking lots, and radio and television antennas.

Criticism

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Building codes have been criticized for contributing to housing crisis and increasing the cost of new housing to some extent, including through conflicting code between different administrators.^[11] Proposed improvements include regular review and cost-benefit analysis of building codes,^[12] promotion of low-cost construction materials and building codes suitable to mass production,^[11] reducing bureaucracy, and promoting transparency.^[13]

History

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Antiquity

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Building codes have a long history. The earliest known written building code is included in the Code of Hammurabi,^[3] which dates from circa 1772 BC.

The book of Deuteronomy in the Hebrew Bible stipulated that parapets must be constructed on all houses to prevent people from falling off.^[14]

In the Chinese book of rites it mentions that ancestral temples and houses should be a certain standard length in ancient China they measured land in the chu or well field system so it was important to be precise though most of the actual lengths are lost or obscure.^{[15][16]}

In ancient Japan a certain official destroyed a courtiers house because the size was above his rank.^[17]

Modern era

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France

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In Paris, under the reconstruction of much of the city under the Second Empire (1852–70), great blocks of apartments were erected^[18] and the height of buildings was limited by law to five or six stories at most.

United Kingdom

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After the Great Fire of London in 1666, which had been able to spread so rapidly through the densely built timber housing of the city, the Rebuilding of London Act 1666 was passed in the same year as the first significant building regulation.^[19] Drawn up by Sir Matthew Hale, the act regulated the rebuilding of the city, required housing to have some fire resistance capacity and authorised the City of London Corporation to reopen and widen roads.^[20] The Laws of the Indies were passed in the 1680s by the Spanish Crown to regulate the urban planning for colonies throughout Spain's worldwide imperial possessions.

The first systematic national building standard was established with the Metropolitan Buildings Act 1844. Among the provisions, builders were required to give the district surveyor two days' notice before building, regulations regarding the thickness of walls, height of rooms, the materials used in repairs, the dividing of existing buildings and the placing and design of chimneys, fireplaces and drains were to be enforced and streets had to be built to minimum requirements.^[21]

The Metropolitan Buildings Office was formed to regulate the construction and use of buildings throughout London. Surveyors were empowered to enforce building regulations, which sought to improve the standard of houses and business premises, and to regulate activities that might threaten public health. In 1855 the assets, powers and responsibilities of the office passed to the Metropolitan Board of Works.

United States

[edit]

The City of Baltimore passed its first building code in 1891.^[22] The Great Baltimore Fire occurred in February 1904. Subsequent changes were made that matched other cities.^[23] In 1904, a Handbook of the Baltimore City Building Laws was published. It served as the building code for four years. Very soon, a formal building code was drafted and eventually adopted in 1908.

The structural failure of the tank that caused the Great Molasses Flood of 1919 prompted the Boston Building Department to require engineering and architectural calculations be filed and signed. U.S. cities and states soon began requiring sign-off by registered professional engineers for the plans of major buildings.^[24]

More recently, the 2015 Berkeley balcony collapse has prompted updates to California's balcony building codes, set for 2025, which include stricter material requirements, enhanced load-bearing standards, and mandatory inspections which known as SB326 and SB721.^[25] These laws mandate regular inspections every six years for multifamily buildings. Property owners and HOAs are required to address any structural or waterproofing issues identified during inspections to ensure compliance and safety. Failure to comply can result in fines, increased liability, and legal consequences. The updates aim to prevent tragedies like the Berkeley collapse, which was caused

by dry rot and structural failure, by ensuring the long-term safety and durability of elevated structures.[²⁶]

Energy codes

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The current energy codes^[*clarification needed*] of the United States are adopted at the state and municipal levels and are based on the International Energy Conservation Code (IECC). Previously, they were based on the Model Energy Code (MEC). As of March 2017, the following residential codes have been partially or fully adopted by states:[²⁷]

- 2015 IECC or equivalent (California, Illinois, Maryland, Massachusetts, Michigan, Pennsylvania, New Jersey, New York, Vermont, Washington)
- 2012 IECC or equivalent (Alabama, Connecticut, Delaware, District of Columbia, Florida, Iowa, Minnesota, Nevada, Rhode Island, Texas)
- 2009 IECC or equivalent (Arkansas, Georgia, Idaho, Indiana, Kentucky, Louisiana, Montana, Nebraska, New Hampshire, New Mexico, North Carolina, Ohio, Oklahoma, Oregon, South Carolina, Tennessee, Virginia, West Virginia, Wisconsin)
- 2006 IECC or equivalent (Utah)
- 2006 IECC or no statewide code (Alaska, Arizona, Colorado, Kansas, Maine, Mississippi, Missouri, North Dakota, South Dakota, Wyoming)

Australia

[edit]

Australia uses the National Construction Code.

See also

[edit]

- Building officials
- Construction law
- Earthquake-resistant structures
- Energy Efficiency and Conservation Block Grants
- Outline of construction
- Seismic code
- Uniform Mechanical Code
- Variance (land use) – permission to vary zoning and sometimes building to code

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External links

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- IAPMO Codes Website

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Construction

Types

- Home construction
- Offshore construction
- Underground construction
 - Tunnel construction

History

- Architecture
- Construction
- Structural engineering
- Timeline of architecture
- Water supply and sanitation

Professions

- Architect
- Building engineer
- Building estimator
- Building officials
- Chartered Building Surveyor
- Civil engineer
- Civil estimator
- Clerk of works
- Project manager
- Quantity surveyor
- Site manager
- Structural engineer
- Superintendent

Trades workers (List)

- Banksman
- Boilermaker
- Bricklayer
- Carpenter
- Concrete finisher
- Construction foreman
- Construction worker
- Electrician
- Glazier
- Ironworker
- Millwright
- Plasterer
- Plumber
- Roofer
- Steel fixer
- Welder

- American Institute of Constructors (AIC)
 - American Society of Civil Engineers (ASCE)
 - Asbestos Testing and Consultancy Association (ATAC)
 - Associated General Contractors of America (AGC)
 - Association of Plumbing and Heating Contractors (APHC)
 - Build UK
 - Construction History Society
 - Chartered Institution of Civil Engineering Surveyors (CICES)
 - Chartered Institute of Plumbing and Heating Engineering (CIPHE)
 - Civil Engineering Contractors Association (CECA)
 - The Concrete Society
 - Construction Management Association of America (CMAA)
 - Construction Specifications Institute (CSI)
 - FIDIC
 - Home Builders Federation (HBF)
 - Lighting Association
 - National Association of Home Builders (NAHB)
 - National Association of Women in Construction (NAWIC)
 - National Fire Protection Association (NFPA)
 - National Kitchen & Bath Association (NKBA)
 - National Railroad Construction and Maintenance Association (NRC)
 - National Tile Contractors Association (NTCA)
 - Railway Tie Association (RTA)
 - Royal Institution of Chartered Surveyors (RICS)
 - Scottish Building Federation (SBF)
 - Society of Construction Arbitrators
-
- India
 - Iran
 - Japan
 - Romania
 - Turkey
 - United Kingdom
 - United States
-
- Building code
 - Construction law
 - Site safety
 - Zoning

Architecture

- Style
 - List
- Industrial architecture
 - British
- Indigenous architecture
- Interior architecture
- Landscape architecture
- Vernacular architecture

Engineering

- Architectural engineering
- Building services engineering
- Civil engineering
 - Coastal engineering
 - Construction engineering
 - Structural engineering
- Earthquake engineering
- Environmental engineering
- Geotechnical engineering

Methods

- List
- Earthbag construction
- Modern methods of construction
- Monocrete construction
- Slip forming

- Building material
 - List of building materials
 - Millwork
- Construction bidding
- Construction delay
- Construction equipment theft
- Construction loan
- Construction management
- Construction waste
- Demolition
- Design–build
- Design–bid–build
- DfMA
- Heavy equipment
- Interior design
- Lists of buildings and structures
 - List of tallest buildings and structures
- Megaproject
- Megastructure
- Plasterwork
 - Damp
 - Proofing
 - Parge coat
 - Roughcast
 - Harling
- Real estate development
- Stonemasonry
- Sustainability in construction
- Unfinished building
- Urban design
- Urban planning

Other topics

 [Outline](#)  [Category](#) Image not found or type unknown

About Cook County

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Things To Do in Cook County

Photo

Image not found or type unknown

Sand Ridge Nature Center

4.8 (96)

Photo

Image not found or type unknown

River Trail Nature Center

4.6 (235)

Photo

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

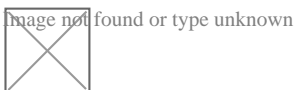
Driving Directions From Navy Pier to

<https://www.google.com/maps/dir/Navy+Pier/United+Structural+Systems+of+Illinois%2C+Inc/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>

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<https://www.google.com/maps/dir/Palmisano+%28Henry%29+Park/United+Structural+Systems+of+Illinois%2C+Inc/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>

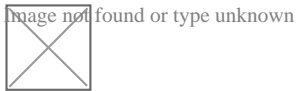
Reviews for



Jeffery James

(5)

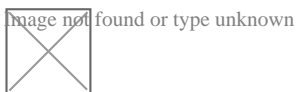
Very happy with my experience. They were prompt and followed through, and very helpful in fixing the crack in my foundation.



Sarah McNeily

(5)

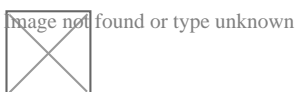
USS was excellent. They are honest, straightforward, trustworthy, and conscientious. They thoughtfully removed the flowers and flower bulbs to dig where they needed in the yard, replanted said flowers and spread the extra dirt to fill in an area of the yard. We've had other services from different companies 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!



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.

Early Indicators of Potential Foundation Damage [View GBP](#)

Check our other pages :

- [Comparing Pier and Beam Home Foundations](#)
- [Exploring Techniques for Slab Jacking Projects](#)
- [Understanding Bowed Wall Patterns in Basements](#)

Frequently Asked Questions

What are the visible signs of early foundation damage?

Early signs include cracks in walls, especially around windows and doors, uneven or sloping floors, and doors or windows that stick or dont close properly.

Can changes in my homes plumbing indicate foundation issues?

Yes, issues like recurring clogs, slow drains, or leaks in the plumbing system can be early indicators of foundation movement affecting the pipes.

How can I tell if foundation problems are starting outside my home?

Look for cracks in the exterior brickwork or stucco, gaps around doors and windows, and any separation of the foundation from the house, which can signal early foundation damage.

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Company Website : <https://www.unitedstructuralsystems.com/>

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