STRUCTURAL REPORTS

An Overview

The purpose of a structural report is to identify any major structural defects, damage or movement.

The inspection is carried out on a purely visual basis and no opening up, removal of furniture, fittings, floor covering or finishes is undertaken. Inspections are carried out from ground level externally and from any safe access floor or platform internally.

An outline description of remedial work or repair required will be provided. Alternatively further investigations may be recommended to expose the structure to determine cause/extent of defect or allow testing to be carried out.

Typical structural defects include:

Subsidence or settlement of foundations.
Bulging or outward movement of walls.
Defective lintels or beams.
Excessive deflection or movement to roof structure.
Leaning chimney stacks.
Unsupported chimney breast, wall or floor.

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Mottram House, 43 Greek Street, Stockport, Cheshire, SK3 8AX Tel: 0161 406 2033

The following items will be mentioned if noted but referred for specialist investigation if required.

Damp or condensation.
Timber decay or woodworm.
Cavity wall ties.
Concrete spalling.

Not included in any inspection or report is:

Condition of drains and services
Windows and Doors
Kitchen, fitted wardrobes or joinery items
External garage or outbuilding
Garden walls, fences or external structures

A specification or design for any remedial works if required. This can be provided if required following the inspection once the extent of any repair or remedial works is known. A separate instruction would be required for this after the scope is agreed.

Dependent upon the initial findings further investigations may be required and these will be agreed prior to proceeding. We can obtain costs for contractors, testing or analysis as required.

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Glossary of terms used:

Aggregate: Pebbles, shingle, gravel, etc used in the manufacture of concrete, and in the construction of "soakaways".
Air Brick: Perforated brick or metal/plastic grille used for ventilation, especially to floor voids (beneath timber floors) and roof spaces.
Architrave: Joinery moulding around window or doorway.
Asbestos: Fibrous mineral used in the past for insulation. Can be a health hazard - specialist advice should be sought if asbestos is found.
Asbestos Cement: Cement with 10-15% asbestos fibre as reinforcement. Fragile – will not bear heavy weights. Hazardous fibres may be released if cut or drilled.
Ashlar Finely: dressed natural stone: the best grade of masonry
Asphalt Black: tar-like substance, strongly adhesive and impervious to moisture. Used on flat roofs and floors.
Barge Board See "Verge Board".
Batten: Thin lengths of timber used in the fixing of roof tiles or slates.
Beetle Infestation: (Wood-boring insects: eg woodworm) Larvae of various species of beetle which tunnel into timber causing damage. Specialist treatment normally required. Can also affect furniture.
Benching: Smoothly contoured concrete slope beside drainage channel within an inspection chamber. Also known as "Haunching".
Bitumen: Black, sticky substance, related to asphalt. Used in sealants, mineral felts and damp proof courses.
Breeze Block: Originally made from cinders ("breeze") - the term now commonly used to refer to various types of concrete and cement building blocks.
Carbonation: A natural process affecting the outer layer of concrete. Metal reinforcement within that layer is liable to early corrosion, with consequent fracturing of the concrete.
Cavity Wall: Standard modern method of building external walls of houses comprising two leaves of brick or blockwork separated by a gap ("cavity") of about 50mm (2 inches).
Cavity Wall Insulation: Filling of wall cavities by one of various forms of insulation material:
Beads: Polystyrene beads pumped into the cavities. Will easily fallout if the wall is broken open for any reason.
Fibreglass: Can lead to problems if becomes damp.

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Foam: Urea formaldehyde form, mixed on site, and pumped into the cavities where it sets. Can lead to problems of dampness and make investigation/replacement of wall ties more difficult.
Rockwool: Inert mineral fibre pumped into the cavity.
Cavity Wall Tie: Metal device bedded into the inner and outer leaves of cavity wall. Failure by corrosion can result in the wall becoming unstable - specialist replacement ties are then required.
Collar: Horizontal timber member intended to restrain opposing roof slopes. Absence, removal or weakening can lead to roof spread.
Coping/Coping Stone: Usually stone or concrete, laid on top of a wall as a decorative finish and to stop rainwater soaking into the wall.
Corbel: Projection of stone, brick, timber or metal jutting out from a wall to support a weight.
Cornice: Ornamental moulded projection around the top of a building or around the wall of a room just below the ceiling.
Coving: Curved junction piece to cover the join between wall and ceiling surfaces.
Damp Proof Course: Layer of impervious material (mineral felt, PVC, etc) incorporated into a wall to prevent dampness around windows, doors, etc. Various proprietary methods are available for damp proofing existing walls including "electro-osmosis" and chemical injection.
Damp Proof Membrane: Usually polythene, incorporated within ground floor slabs to prevent rising dampness.
Deathwatch Beetle: Serious insect pest in structural timbers, usually affects old hardwoods with fungal decay already present.
Dry Rot: A fungus which attacks structural and joinery timbers, often with devastating results. Can flourish in moist, unventilated areas.
Eaves: The overhanging edge of a roof at gutter level.
Efflorescence: Salts crystallised on the surface of a wall as a result of moisture evaporation.
Engineering Brick: Particularly strong and dense type of brick, sometimes used as a damp proof course. Usually blue in colour.
Fibreboard: Cheap, lightweight board material of little strength, used in ceilings or as insulation to attics.
Fillet: Mortar used to seal the junction between two surfaces, ie between a slate roof and a brick chimney stack.
Flashing: Building technique used to prevent leakage at a roof joint. Normally metal (lead, zinc or copper).
Flaunching: Contoured cement around the base of cement pots, to secure the pot and to throw off rain.
Flue: A smoke duct in a chimney, or a proprietary pipe serving a heat producing appliance such as a central heating boiler.

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Flue Lining Metal: (usually stainless steel) tube within a flue - essential for high output gas appliances such as boilers. May also be manufactured from clay and built into the flue.

Foundations: Normally concrete, laid underground as a structural base to a wall; in older buildings may be brick or stone.

Frog: A depression imprinted in the upper surface of a brick, to save clay, reduce weight and increase the strength of the wall.

Gable: Upper section of a wall, usually triangular in shape, at either end of a ridged roof.

Ground Heave: Swelling of clay subsoil due to absorption of moisture; can cause an upward movement in foundations.

Gulley: An opening into a drain, normally at ground level, placed to receive water, etc from downpipes and waste pipes.

Haunching: See "Benching". Also term used to describe the support to an underground rain.

Hip: The external junction between two intersecting roof slopes.

Inspection Chamber: Commonly called "manhole"; provides access to a drain comprising a chamber (of brick, concrete or plastic) with the drainage channel at its base and a removable cover at ground level.

Jamb: Side part of a doorway or window.

Joist: Horizontal structural timber used in flat roof, ceiling and floor construction. Occasionally also metal.

Landslip: Downhill movement of unstable earth, clay, rock, etc often following prolonged heavy rain or coastal erosion, but sometimes due entirely to subsoil having little cohesive integrity.

Lath: Thin strip of wood used as a backing to plaster.

Lintel: Horizontal structural beam of timber, stone, steel or concrete placed over window or door openings.

Longhorn Beetle: A serious insect pest mainly confined to the extreme south east of England, which can totally destroy the structural strength of wood.

Mortar: Traditionally a mixture of lime and sand. Modern mortar is a mixture of cement and sand.

Mullion: Vertical bar dividing individual lights in a window.

Newel: Stout post supporting a staircase handrail at top and bottom. Also, the central pillar of a winding or spiral staircase.

Oversite: Rough concrete below timber ground floors; the level of the oversite should be above external ground level.

Parapet: Low wall along the edge of a flat roof, balcony, etc.

Pier: A vertical column of brickwork or other material, used to strengthen the wall or to support a load.

Plasterboard: Stiff "sandwich" of plaster between coarse papers. Now in widespread use for ceilings and walls.

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Pointing: Smooth outer edge of mortar joint between bricks, stones, etc.
Powder Post Beetle: A relatively uncommon pest which can, if untreated, cause widespread damage to structural timbers.
Purlin: Horizontal beam in a roof upon which rafters rest.
Quoin: The external angle of a building, or, specifically, bricks or stone blocks forming that angle.
Rafter: A sloping roof beam, usually timber, forming the carcass of a roof.
Random Rubble: Primitive method of stone wall construction with no attempt at bonding or coursing.
Rendering: Vertical covering of a wall either plaster (internally) or cement based (externally), sometimes with pebbledash, stucco or Tyrolean textured finishes.
Reveals: The side faces of a window or door opening.
Ridge: The apex of a roof.
Riser: The vertical part of a step or stair.
Rising Damp: Moisture soaking up a wall from below ground, by capillary action causing rot in timbers, plaster decay, decoration failure, etc.
Roof Spread: Outward bowing of a wall caused by the thrust of a badly restrained roof structure (see "Collar").
Screed: Final, smooth finish of a solid floor; usually mortar, concrete or asphalt.
Settlement: General disturbance in a structure showing as distortion in walls, etc, usually as the result of the initial compacting of the ground due to the loading of the building.
Shakes: Naturally occurring cracks in timber; in building timbers, shakes can appear quite dramatic, but strength is not always impaired.
Shingles: Small rectangular pieces of wood used on roofs instead of tiles, slates, etc.
Soaker: Sheet metal (usually lead, zinc or copper) at the junction of a roof with a vertical surface of a chimney stack, adjoining wall, etc. Associated with flashings which should overlay soakers.
Soffit: The under-surface of eaves, balcony, arch, etc.
Spandrel: Space above and to the sides of an arch; also the space below a staircase.
Stud Partition: Lightweight, sometimes non-loadbearing wall construction comprising a framework of timber faced with plaster, plasterboard or other finish.
Subsidence: Ground movement possibly as a result of mining activities, clay shrinkage or drainage problems.
Subsoil: Soil lying immediately below the top soil, upon which foundations usually bear.
Sulphate Attack: Chemical reaction, activated by water, between tricalcium aluminate and soluble sulphates. Can cause deterioration in brick walls, concrete floors and external rendering.
Tie Bar: Heavy metal bar passing through a wall, or walls, to brace a structure suffering from structural instability.
Transom: Horizontal bar of wood or stone across a window or top of door.

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Tread: The horizontal part of a step or stair.

Trussed Rafters: Method of roof construction utilising prefabricated triangular framework of timbers. Now widely used in domestic construction.

Underpinning: Methods of strengthening weak foundations whereby a new, stronger horizontal or sloping gutter, usually lead or tile lined, at the internal intersection between two roof slopes.

Ventilation: Necessary in all buildings to disperse moisture resulting from bathing, cooking, breathing, etc, and to assist in prevention of condensation.

Floors - Necessary to avoid rot, especially dry rot, achieved by air bricks near to ground level.

Roofs - Necessary to disperse condensation within roof spaces; achieved either by air bricks in gables or ducts at the eaves.

Verge: The edge of a roof, especially over a gable.

Verge Board: Timber, sometimes decorative, placed at the verge of a roof; also known as a "Barge Board".

Wallplate: Timber placed at the eaves of a roof to take the weight of the roof timbers.

Wet Rot: Decay of timber due to damp conditions. Not to be confused with the more serious "Dry Rot".

Woodworm: Colloquial term for beetle infestation; usually intended to mean Common Furniture Beetle, by far the most frequently encountered insect attack in structural and joinery timbers.

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