



Client Name : Department of Housing
 Address : 203 Nicholson Road, SHENTON PARK WA 6008
 Our Reference : 38338

Building Report

Property : Churchill Park Guest House
 18 Brown Street, BUSSELTON WA 6280

Inspection Date : Tuesday, 27 March 2012

Occupied : Yes

Weather Conditions : Fine

Inspector : **R N Lear, Builder Registration No. 7220**

Report Purpose : The purpose of this report is to identify defects or faults in the construction of the building for an intending purchaser, in so far as a licensed builder can reasonably identify those defects or faults.

General : This report is the result of a visual inspection only and is intended to be read as a whole, please read the detailed inspection information and the scope section.

Whilst defects have been investigated to confirm cause and significance some minor defects have not been detailed as they were considered a normal occurrence or general wear and tear for a building of this age.

Summary : The Building was reportedly constructed around 1950's and later additions ever since. In consideration of its age the building **is structurally sound and is not free of significant/major defects.**

Refer to Significant/Major Defects section at the back of this report.

With any dwelling of a similar vintage the Property due to its age and general wear and tear, will require a degree of maintenance. With a decision to include a program of general maintenance and the repairs mentioned in this report, the Property is considered a satisfactory future home. Homes built prior to 1983 may contain asbestos.

**Signed on behalf of
 Bellagio Australia Pty Ltd T/A Houspect**

SCOPE

1 PURPOSE OF INSPECTION

The purpose of the inspection is to provide advice to a prospective purchaser or other interested party regarding the condition of the structure of the property.

- 1.1 The report should not be seen as an all-encompassing report dealing with a building from every aspect. Rather it should be seen as a reasonable attempt to identify any significant defects visible at the time of the inspection. Whether or not a defect is significant/major depends to a large degree on the age of the building. It is unrealistic to comment on minor defects or imperfections in a standard report.
- 1.2 THIS IS A VISUAL INSPECTION ONLY limited to those areas and sections of the property fully accessible and visible to the inspector on the date of the inspection. The inspection DOES NOT include breaking apart, dismantling, removing or moving objects including but not limited to foliage, mouldings, roof insulation / sisalation, floor or wall coverings, sidings, ceilings, floors, furnishings, appliances or personal possessions. The inspector CANNOT see inside walls, between floors, inside skillion roofing, behind assorted goods in cupboards, other areas that are concealed or obstructed. The inspector CANNOT dig, gouge, force or perform any other invasive procedures. Visible timbers CANNOT be destructively probed or hit without written permission of the property owner.

2 SCOPE OF INSPECTION

The inspection shall comprise visual assessment of accessible areas of the property to identify major defects to the building structure and to form an opinion regarding the general condition of the structure of the property.

NOTE: The report should not contain any assessment or an opinion regarding the following:

- a) Any non-structural element, e.g. general gas, water and sanitary plumbing, electrical wiring, partition walls, cabinetry, windows, doors, trims, fencing minor structures, non-structural damp issues, ceiling linings, floor coverings, decorative finishes such as plastering, painting, tiling etc.
- b) An assessment of any aspect or component of the property that cannot be seen or that requires testing and/or measurement to determine soundness.
- c) Any area or item that was not, or could not be, observed by the inspector.
- d) General maintenance other than that which is deemed to be directly related to the ongoing structural performance of the property.
- e) Serviceability damp defects such as condensation, rising damp, lateral damp, falling damp should only be assessed and reported on where structural damage has occurred, is occurring, or may occur (e.g. fungal rot) significant spalling of masonry or concrete structural elements, significant fretting of mortar, rusting of primary structural elements. Stormwater drainage and surface water defects commonly cause or exacerbate foundation instability and these issues should be assessed and reported where relevant.

3 DEFECTS

During an inspection the inspector may identify that a building element is defective but that the defect does not fall neatly into one of the categories of defect. In such a case the inspector will use a combination of defect properties or otherwise assess and describe the defect in his/her own words, based on his/her experience.

In many cases, the actual structural elements of a building will be obscured by finishes and other non-structural building elements, and the inspector may be unable to assess directly the state of the structural member. In such cases, the inspector has to infer the performance of the structure by observing the effect of the structure on the non-structural

building elements. For example, the inspector normally will be unable to inspect the footings of a house as they are buried beneath the ground; however, cracking in non-structural masonry walls above the ground may indicate that a defect exists within the footing system.

3.1 Not Structurally Sound

A house that is declared "not structurally sound" is a residential building in which there is a defect visible at the time of inspection in a building load bearing member (foundation, footings, walls, column, wall frame, floor frame, ceiling frame, roof frame) which will worsen over time under normal building dead loads, live loads and wind loads even if given normal maintenance.

The defect will require extraordinary maintenance, repair, replacement or additional structural support to be stabilised so that the building can then be considered structurally sound.

If the defect is not rectified the structural defect will lead to failure of the structural element affected, other structural elements around it, and/or cause a safety issue to the occupant or normal user of the building.

Examples of "not structurally sound" circumstances

- Lack of tie down straps to a metal roofed house built after 1978 with original roof, or an older house which has had roof cover changed from tiles to metal or asbestos to metal
- Severe termite damage to a structural member
- Broken strut
- Roof spreading, top plate slipping off
- Skylights cut through rafters or ceiling joists producing situations where someone working on or in the roof could be in danger
- Compromised foundation materials
- Mildly undersized or over-span structural members in houses less than 6 years old
- Severely undersized or over-span structural members no matter what the age of the house

It is possible to declare the house "structurally sound", but the verandah, patio, carport is "not structurally sound".

Patios attached to the fascia of the main house without rafter bolts or flyaway clips are considered not structurally sound.

3.2 Significant Defects

"Significant Defects" means defects visible at the time of the inspection to the residential building only taking into account the age and the type of the building, requiring substantial repairs or urgent attention and rectification. Significant Defects does not include Minor Defects that are common to most properties including minor blemishes, minor corrosion, minor cracking, minor weathering, general deterioration, unevenness, and physical damage to materials and finishes.

Significant Defects does not include maintenance items which are items of repair common to homes of similar age or construction type.

Examples

- A. Any structural problems making the house "not structurally sound".
- B. Balcony and stair balustrade issues.
- C. Stair riser and going issues.
- D. Excessive deflection to roof, wall or floor members out of the norm for the age of the house.
- E. Leaking showers if the house is newer than 2004.
- F. Ceilings falling in house built after 1990.
- G. Failed retaining walls.

- H. Missing fire walls.
- I. Swimming pool fences missing.

3.3 Major Defect AS4349.0-2007 Inspection of Buildings

A defect of sufficient magnitude where rectification has to be carried out in order to avoid unsafe conditions, loss of utility or further deterioration of the property.

3.4 Minor defect A defect other than a major defect that requires immediate intervention to avert further deterioration.

The report shall describe the overall extent of minor defects. The inspector is not required to comment on individual minor defects and imperfections.

Minor defects are common to most properties and may include minor blemishes, corrosion, cracking, weathering, general deterioration, unevenness, and physical damage to materials and finishes, such as de-silvering of mirrors. It is expected that defects of this type would be rectified as part of normal ongoing property maintenance.

3.5 Safety Omissions Missing RCD (Residual Current Devices) to lighting or power circuits; Missing hardwired smoke alarms; Missing high or low gas vents where a gas bayonet is installed; Swimming pool gate maintenance or fence maintenance required to comply with regulations.

4 LIMITATIONS OF STANDARD

A report prepared in accordance with Australian Standard 4349-2007 Inspection of Buildings is not a certificate of compliance of the property within the requirements of any Act, regulation, ordinance, local law or by-law, and is not a warranty against problems developing with the building in the future.

This Standard does not include the identification of unauthorised building work or of work not compliant with building regulations.

This Standard assumes that the existing use of the building will continue.

5 EXTENT OF REPORTING

Major defects

- a) Any major defect that is an urgent and serious safety hazard.
NOTE: For example, unsafe balustrades or imminent collapse of a structural member.
- b) A general impression regarding the extent of minor defect.
NOTE: For example, significantly deteriorating exterior paint.

6 ACCEPTANCE CRITERIA

The building shall be compared with a building that was constructed in accordance with the generally accepted practice at the time of construction and which has been maintained as such that there has been no significant loss of strength and serviceability.

7 AREAS TO BE INSPECTED

7.1 General

The inspector shall inspect accessible parts of the build and appurtenances, together with relevant feature of the property within 30m of the main building and within the boundaries of the site, or as otherwise agreed in the inspection agreement. In this context, relevant features include car accommodation, detached laundry, ablution facilities and garden sheds, retaining walls more than 700mm high, paths and driveways, steps, fencing.

Inspection of Strata and Company Title residential property shall be limited to the nominated residence and does not include common property.

7.2 The following area shall be inspected where applicable or accessible:

- a) The interior of the building
- b) The roof space
- c) The exterior of the building
- d) The sub-floor space
- e) The roof exterior
- f) The property within 30m of the building subject to inspection

7.3 Safe and reasonable access

The extent of accessible areas shall be determined by the inspector at the time of inspection, based on the conditions encountered at the time of inspection. The inspector shall also determine whether sufficient space is available to allow safe access.

The inspection shall include only accessible areas and areas that are within the inspector's line of sight and close enough to enable reasonable appraisal.

The inspector shall inspect an elevated area only where –

- a) it is at a height at which safe reasonable access is available, or where safe and reasonable access is otherwise available; or
- b) an unobstructed line of sight is present from safe use of a 3.6m ladder and the building elements present are close enough to allow appraisal.

NOTE: "Elevated area" includes the roof, roof space, crawl space, landing feature, and the like, generally elevated above the ground and intended for normal use by occupants.

7.4 A 3.6m ladder is considered generally reasonable for safe use by one operator during an inspection. Regardless of the ladder length, weight and size, safe use of ladder or safe access may mean that inspection of a roof, elevated platform or roof space is not possible in part, or at all, during an inspection and, in such circumstances, and inspector may recommend the use of special access equipment and that a further inspection be undertaken when a safe method of access is present.

7.5 Areas for Inspection

The inspection shall cover all accessible areas as defined by the Australian Standard 4349.

The client shall arrange right of entry, facilitate physical entry to the property and supply necessary information to enable the inspector to undertake the inspection and prepare a report. The inspector is not responsible for arranging entry to property or parts of property.

Areas where reasonable entry is denied to the inspector, or where reasonable access is not available, are excluded from, and do not form part of, the inspection.

7.6 Inspection process

The inspection shall comprise visual appraisal and limited assessment of serviceability.

7.7 Where large structural retaining walls are in service to a property a special purpose building report will be required by a structural engineer. No comments are provided in this report as to whether an engineer is required or not.

8 EXCLUSION OF ITEMS FROM INSPECTION

The inspector need not inspect or report on the following:

- a) Footings below ground.
- b) Concealed damp-proof course.
- c) Electrical installations, operation of smoke alarms, light switches and fittings, TV, sound and communications and security systems.
- d) RCDs are not tested as operational.
- e) Concealed plumbing.
- f) Adequacy of roof drainage as installed.
- g) Gas fittings and fixtures.
- h) Air-conditioning.
- i) Automatic garage door mechanisms.
- j) Swimming pools and associated filtration and similar equipment.

NOTE: If a swimming pool is present it should be the subject of a Special Purpose Property Report. A detailed inspection on the status or serviceability of any swimming pool or associated pool equipment has not been carried out and is not within the scope of this report. Additionally, to adequately inspect a swimming pool, the water must be completely drained and all internal surfaces must be fully accessible.

- k) The operation of fireplaces and solid fuel heaters, including chimneys and flues.
- l) Alarm systems
- m) Electrical appliances including dishwashers, incinerators, ovens, ducted vacuum systems.
- n) Paint coatings, except external protective coatings.
- o) Health hazards (e.g. allergies, lead content, presence of asbestos, soil toxicity)
- p) Timber and metal framing sizes and adequacy.
- q) Concealed tie-downs and bracing.
- r) Timber pest activity.
- s) Soil conditions.
- t) Control joints.
- u) Concealed framing-timber or any areas concealed by wall linings/sidings.
- v) Furniture and accessories.

Estimating the cost of remedying defects is not included in a standard Property report, although it may form part of a special-purpose Property report.

Houspect has tried to categories our gradings of material condition as:

New - Self-explanatory.

Satisfactory - generally good condition.

Fair - starting to look like it needs maintenance.

Average - Working but needs maintenance within 6 months.

Poor - Needs replacement.

Wherever we describe a building material in this report, the client acknowledges that the material described represents a substantial component of the building material observed.

General Description

The building is a 14 bedroom guest house. The front of the building is facing approximately east on an essentially level block of land. The design of the property is a stud framed, gable –“Hardies corrugated Super 6” roof.

The inspector recommends that if the building erected on the Property has renovations or extensions, that the local council has approved them. This information can be obtained upon request from the local authority. Renovations or extensions done under a license younger than seven years will be the subject of a transferable structural building warranty that your settlement agent will require for settlement.

Roof

• Roof Covering

Covering is constructed of “Hardies corrugated Super 6”, fiberglass, polycarbonate, and zincalume material. The condition of the covering is fair in relation to its age and does require some maintenance. The ridges and capping are in fair condition.

Rusted roof sheet was noted and needs minimum repair.

Some of the fibreglass sheeting top side requires repair to prevent further deterioration

• Eaves

Eaves are constructed of exposed rafters. They are in fair condition and do not require attention

• Fascia

Fascias are painted and constructed of timber. They are in fair condition and do not require attention.

• Gables

Gables are painted and constructed of fibrous cement sheeting. They are in fair condition and do need attention

On the East end a timber batten at the ceiling height is weathered and a section of it missing.

• Flashings

Flashings are painted and unpainted and constructed of lead and sheet metal. They are in fair condition and do require attention.

Several vent pipes protruding through the roof require repair to the sealer adjoining the roof sheeting and pipe.

Several lead flashings require to be painted.

• Valleys / Gutters

Perimeter gutters are constructed of metal material in average/poor condition. The condition of the perimeter guttering is average to poor in relation to its age and requires attention. The perimeter gutters do immediately need to be cleaned.

Valleys are constructed of galvanised iron material and are in fair condition. The valleys do not immediately need to be cleaned.

Leaf debris was noted in the gutters. The gutters are rusty and require attention.

- **Down Pipes**

The down pipes are fabricated of metal and PVC material and are in fair condition. They require minor maintenance.

Horizontal sections of the down pipes will deteriorate faster than the vertical sections if water is allowed to pond. It is always recommended that down pipes be attached to soak wells at least 1.5m from the building.

External

- **Walls**

The external walls are constructed of stud framing with fibrecement designed to look like brick material and are in fair condition in relation to age.

They require minor repairs. There are no signs of significant cracking. There are no signs of significant weathering. Walls are considered generally stable.

The filler to the sheet joints on the west end has fallen out and needs repointing. Not a structural factor.

- **Cladding**

Cladding is constructed of fibrecement, faux brick sheeting, plus weatherboard sheet material and is in fair/average condition requiring maintenance. Cladding is likely to contain asbestos.

- **Footings**

The footings are below ground level and constructed of concrete. There are no signs of settlement requiring attention. Perimeter footings are not visible.

- **Windows / Window Frames**

Window frames are constructed of generally timber and anodised aluminium and in fair condition. They require normal maintenance. Glazing beads appear serviceable and there are no broken panels.

Fly screens are installed in most of the windows. The fly screens are in fair condition. Security screens are installed.

Current Building Codes require that glass in windows and doors in close proximity to the floor be safety glass. Houses built prior to the 1980's did not have this requirement, it is therefore recommended to bring the safety issue up to current standards, if applicable.

- **Front Doors / Door Frames**

Front door is constructed of aluminium. Condition is generally satisfactory requiring normal maintenance.

Front door frame is constructed of aluminium. Condition is generally satisfactory requiring normal maintenance.

External doors are glazed in design with entrance set and deadlock door furniture. Condition is generally satisfactory requiring normal maintenance.

Security screens are installed. Deadlocks are fitted

- **Stairs**

The external stairs on the property are constructed of concrete and in varying condition. The hand rails are adequate. The rise and tread are adequate.

- **Carport**

There are 3 free standing carports to the north and west side of the house. They are constructed of tubular steel and cladding of Colorbond with a concrete paved hardstand. It is in fair condition and does require attention.

The paint is starting to show signs of deterioration and needs recoating to arrest this deterioration.

- **Patio**

The patio is steel framed and not fixed to the house. It is covered. It is adequately supported with no signs of sagging and movement.

Signs of rust to metal require maintenance.

- **Pergola**

The pergola is steel framed and freestanding. It is covered. It is adequately supported with no signs of sagging and movement.

Weathering to metal components requires maintenance.

- **Sheds**

There is a free standing shed to the north side of the house. It is constructed of zincalume sheeting on stud framing with a concrete hardstand It is being used as a garage. It is in fair condition and does require attention. Minor surface rust was visible on the eastern roller door.

- **External Paving**

The driveway is constructed of concrete pavers and bitumen in varying condition and does not require attention other than the realignment of some of the pavers which have been dislodged.

External paving is in fair condition and does not require attention other than the realignment of some of the paving bricks which have become dislodged.

- **Fences**

The fences on the property are constructed of corrugated fibrecement and are in fair condition requiring normal maintenance .

- **Trees**

There are no trees that currently affect the foundations.

- **Sub-Floor**

The under floor space was inspected from the manhole in the side access.

The support system is in satisfactory structural condition and does provide adequate support.

Limited access to subfloor is due to plumbing lines blocking passage. Many ant caps not adequate to the job intended.

Internal

- **Roof Covering**

The underside of the roof is in satisfactory condition. There were no points to indicate the failure of the covering surface. Re-coating is not applicable.

- **Roof Frame**

The roof frame is constructed of timber and was inspected from the access door. It is a conventional stick frame construction. The support system was adequate.

Some supporting timbers were over span.

Roof has inadequate support requiring attention from a professional roof carpenter.

The roof frame is considered structurally sound for the following reason:-

The building was constructed before standards had been legislated and while it does not meet the Building Code of Australia Regulations, is not showing any sign of movement. Adding extra supports to some sections and moving the points of support of several struts in other areas would improve the structure.

Some of the fluming covers and tubing have become dislodged and need re-coupling.

Several of the skylight tubing and connections have been disconnected.

- **Insulation**

Insulation was in place and was considered mostly effective.

- **Ceilings**

Ceiling material is constructed generally of many different materials with varying types of cornices which are in varying condition. There were signs of minor cornice cracks. The ceilings are generally adequately fixed.

Cornice cracking due to contraction and expansion of supporting timbers is not a structural issue.

Presence of flaking/mould/mildew to paintwork in several rooms due to excessive moisture in wet areas.

Minor imperfections i.e. hairline cracks are consistent with age and not considered a significant defect.

There is minor paint flaking. Watermarks and staining are visible due to a water leak.

- **Walls**

Walls are constructed of plasterglass and fibrecement linings on stud frame with no signs of serious cracks or movement. Generally in fair condition and were stable in relation to their age.

Minor cracks consistent with age noted not of a structural nature.

Minor cracks noted over doorways are not a structural concern.

Minor cracks noted over windows are not a structural concern.

- **Floors**

Floors are generally constructed of concrete and/or timber floorboards and covered in a variety of finishes. The tiled areas do not require attention. Some minor or insignificant cracks were seen.

- **Windows**
Windows are constructed of timber and aluminium. Generally locks were not in place. They require normal maintenance.
- **Doors**
Doors are flush style and in generally fair condition.
- **Cabinets**
The general condition of the cabinets is considered to be fair.
- **Plumbing**
The sewer plumbing is a PVC system. Water is supplied in copper pipes. The water flow was adequate.

There were no signs of water hammer. There are no serious faults. All toilets were tested and were operational but require maintenance.

Houspect Building Inspector is not a licensed Plumber; therefore the comments are observations by the inspector only.

- **Gas**
Mains gas is connected to the property. There are no detectable leaks. The venting of gas appliances was adequate.

Houspect Building Inspector is not a licensed Gas Fitter Technician; therefore the comments are observations by the inspector only.

- **Electrical**
The property has a standard meter box with three-phase power located on the south side of the house and was locked.

The circuit board has two RCDs with another 4 on 2 sub-boards (Residual Current Device - Safety Switch). The wiring in the roof is modern style.

Six hardwired smoke alarms were noted. The location of the smoke alarms is appropriate.

Houspect Building Inspector is not a licensed Electrician; therefore the comments are observations by the inspector only.

It is recommended that all electrical circuits include RCD protection and hard-wired smoke alarms. AS 4349 – 2007 recommends that all installation, testing and confirmation of electrical circuitry should be completed by a licensed electrician each time a house is sold.

Structural Defects:

The house is considered structurally sound

Significant Defects:

The house does have significant defects.

The roof does not comply with current BCA but was constructed before regulations. Given the amount of time it has stood without any significant movement it is unlikely to be of significance, but it is recommended a qualified roof carpenter add extra support to some of the less supported sections as a precaution.

Alterations and additions appear to comply with current BCA

Recommendations or Maintenance:

All houses require ongoing maintenance. Within the first 12 months we would suggest the following.

ROOF

Clean and fix a seal coat on the top of the fibreglass roof sheeting
Repair/replace the 2 "whirly bird" fans on the roof not working.
Replace damaged sealer around vent pipes exiting the roof.
Clean minor rust off skylight and paint.

WALLS

Repair joins in "faux brick" cladding mostly on the west wall.

Block-up a number of holes around the base of the building which are allowing vermin to enter.

Replace wooden cover batten on east wall at the ceiling height.

Remove bee hive from ceiling.

EXTERIOR

Sand and repaint all steel members of the patio and pergola, the roller door of the shed and the steel frame of the carports.

TILES

Several tiles in the kitchen floor and on the step of the spa bath are cracked but still intact so repair only discretionary.

BATHROOM

Small hole in ceiling
Grout missing to some tiles on step

TOILET

Minor cracks to walls.
Some mildew on ceiling

PASSAGE

Mildew on ceiling

LAUNDRY

Bits of wall lining missing around window lining

OFFICE

Door pelmet missing.

LOUNGE

Ceiling lining uneven – cause unknown

BEDROOM 1

Minor cornice cracks

BEDROOM 2

Wardrobe not finished

PASSAGE

Repairs to walls and cupboard needed

ROOM 1

Water stains on cornice and minor cracks

ROOM 2

Grout missing from tiles behind toilet

ROOM 5

Did not see guest ill.

ROOM 6

Minor lining cracks

ROOM 8

Cistern needs maintenance

ROOM 10

Cistern needs maintenance.

DINING

Minor cornice cracks

GUEST LOUNGE

A number of minor cracks and water stains on ceiling

GLOSSARY

The following is a reference list of common building terms used in the construction industry and a simple explanation of each.

COMMON BUILDING TERMS

AG LINE – A perforated pipe (usually covered with a geo-textile fabric) laid behind retaining walls and other areas to catch seeping stormwater.

ARCHITRAVE – moulding surrounding a door or window opening to cover the join between the frame and the wall finish.

BAGGING – A method of finishing brickwork involving the application of a thin mortar slurry using a hessian bag or sponge. Can be painted over or left to fade in an oxide finish. Usually completed by the bricklayer. Bagging varies in texture & colour greatly and is not uniform like render.

BALUSTRADE – A series of vertical members supporting a handrail of a stair, landing, platform or bridge.

BEARER – A sub-floor structural timber member which supports the floor joists.

BRICK VENEER – A method of construction in which a single leaf of non-load bearing wall of brickwork is tied to a timber or metal framed load bearing structure to form the external enclosure.

CEMENT – A finely ground inorganic powder that, mixed with water, binds an aggregate / sand mixture into a hard concrete or mortar within a few days.

CHEMICAL DELIGNIFICATION – Chemical delignification damage is most commonly found in timber sections used as roof tile battens of buildings that are located in close proximity to the sea, large chemical factories or major arterial roads that have heavy traffic.

Lignin is the natural glue that holds the fibres of wood together and is therefore a major component of any wood. When the lignin is broken down or damaged the fibres then detach from each other creating a visible hairy surface to a section of the timber, as the delignification progresses the structure of the timber section is weakened.

The timber section can be painted or oiled to stop further deterioration, where the chemical delignification damage is advanced then replacement of the damaged timbers is needed.

CONCRETE – A conglomerated artificial stone made by mixing in specified proportions cement, water and aggregates and pouring the mixture into prepared forms to set and harden.

CORNICE – A moulding placed at the junction between a wall and ceiling.

DADO – The lower portion of a wall above the skirting when finished in contrast to the remainder of the wall e.g. with wood paneling.

DAMP-PROOF COURSE (DPC) – A continuous layer of an impervious material placed in a masonry wall or between a floor and wall to prevent the upward or downward migration of moisture.

EAVES – The lower part of a roof that overhangs the walls.

FASCIA – A metal profile, which is fixed to the lower ends of rafters and usually supports the guttering.

FINIAL – A decorative fitting used at the junction of ridges and hips and at the top of conical, pyramid or domed roofs.

FOOTING – That part of a construction designed to transfer loads to the supporting foundation, usually constructed of reinforced concrete to support base brickwork.

FOUNDATION – The natural or built-up formation of soil, sub-soil or rock upon which a building or structure is supported.

FURRING CHANNEL – Battens fixed to the underside of trusses, rafters or ceiling joists to produce an even level ceiling.

GABLE – The vertical triangular end of a building with a pitched roof, between the rafters from eaves level to the apex (ridge). It may be formed in brickwork or timber framed and clad with weatherboards.

GAUGE – An indicating device usually in brickwork setting out the number of bricks to a certain measurement. E.g. 7 brick courses per 600mm in height. This gauge is adjusted to suit the brick and the site conditions.

GIRDER TRUSS – A truss that runs in the opposite direction to other trusses and has brackets (shoes) to carry and support the other trusses. The girder truss is often a double truss, made of hardwood in part or has bigger elements than other trusses.

GOING – In a stair the horizontal distance from the face of one riser to that of the next.

HANGING BEAM – A beam above the ceiling used to support ceiling joists.

HEAD – The upper horizontal member at the top of an opening or frame.

HEADER – A brick laid with its greatest dimension across a wall usually used to tie two skins together or under a door sill or window.

HEARTH – The floor of a fireplace and immediately adjacent area.

HERRINGBONE BOND – A brick bond giving a diagonal pattern in the form of a series of vees or inverted vees.

HIP – The meeting line of two inclined surfaces.

HIP ROOF – A roof which is pyramidal in shape with sloping surfaces and level edges all round.

HOOP IRON STRAP – A strip of thin steel (usually about 25mm wide) which is usually built into brickwork or nailed to frames as a tie-down for wind.

IN-FILL CONCRETE SLAB – A concrete slab poured between base brick walls laid on concrete footings. An in-fill slab is supported by formwork or compacted filling.

JOIST – A timber or steel beam supported by a bearer which the flooring is fixed directly to.

KING POST – A vertical member which connects the ridge and beam of a roof.

LAMINATE – A product made by bonding together two or more layers.

MELAMINE LAMINATE – A laminate manufactured from layers of paper, textile, plastic, wood or wood veneer compressed at high temperature and set in melamine plastic. Often used as shelving in robes or kitchens.

LINTEL – A horizontal supporting member spanning over a window or door opening. A "galintel" is a steel lintel used to support brickwork over an opening.

MORTAR – A mixing of bush sand (white or yellow), cement (grey or off-white) and water for brickwork. Usually at the rate of 6 part sand to one part cement (by volume) and if required one part lime. Can have a flush, raked or round finish.

NEWEL POST – A post at the top or bottom of a stair flight to support the handrail and/or winders in the stair treads.

NOGGING – A horizontal timber member fixed between joists or trusses to provide stiffening or to support ceiling lining.

NOMINAL SIZE – The size of a timber that is used as a convenient description but not an exact size. Also usually before the timber is dressed.

PARAPET – A low wall to protect the edge of a roof, balcony or terrace. Many shops have a parapet at the front of the building for signage.

PARTICLE BOARD – A flat floor sheeting of good dimensional stability made from wood flakes and synthetic resin / binder under heat and pressure. Can be produced with decorative elements for joinery work.

PELMET – A built-in head to a window to conceal the curtain rod or to a sliding door to conceal the tracks. Usually made of wood.

PERP – A vertical joint in masonry construction.

PITCH ROOF – The ratio of the height to span, usually measured in degrees.

PICTURE RAIL – A wooden or plaster moulding fixed to a wall at or above door height for hanging pictures or for decorative purposes.

PLYWOOD – Sheeting made from thin layers of veneer at right angles to each other and bonded together under heat and pressure. Can be used as flooring, wall sheeting, bracing and formwork.

POINTING – The completion of jointing between ridge or hip tiles with a matching colour after bedding of tiles or troweling of mortar into joints after bricks have been laid to touch up.

ACROW PROP – A strut which is light enough to be man-handled, often adjustable in length and used in scaffolding or to support beams temporarily.

QUAD MOULDING – A moulding with a cross-section of a quadrant of a circle used to cover joints often in eaves or at junctions of walls and/or ceilings.

RAFTER – A sloping member in a roof providing the principal structural support for the roofing material.

RAFTER (COMMON) – A rafter spanning the full distance from the eaves to the ridge.

RAFTER (CRIPPLE) – A rafter connecting a hip and a valley.

RAFTER (GABLE) – A common rafter at the end of a pitched roof.

RAFTER (HIP) – A rafter forming the hip at the external line of intersection of two roof surfaces. Jack rafters meet against it.

RAFTER (JACK) – A rafter between a ridge and a valley or a hip rafter and the eave.

RAKED JOINT – A brick joint raked out by the bricklayer for a key for plaster or as a decorative finish.

RENDER – The covering of a brick wall with one or more coats of cement mortar consisting of Sydney Sand, cement and plasterers clay.

RIDGE – The highest part (apex) of a roof, which is usually a horizontal line.

RISER – The vertical face of a step in a stair flight.

SCISSOR TRUSS – A truss or strut with a sloping bottom chord to produce a raked ceiling at a cheaper cost than rafters.

SCOTIA – A concave moulding.

SEASONING – The elimination of excess moisture from timber by air or kiln drying.

SHIPLAP – Timber boards that are edge dressed and rebated so that the edges of each board lap over the edges of the adjacent boards.

SHORING – The temporary or permanent support of an existing building, often due to demolition or of footing excavation to prevent collapse.

SKEW NAILING – The driving of nails at an oblique angle often in different directions to improve the strength of a joint of fixing.

SKIRTING – A wooden board fixed to the bottom of a wall at the junction of the floor to prevent damage to the wall or to conceal small gaps.

SLIP JOINT – A joint designed to allow movement between two members usually in the form of two layers of sheet metal with grease installed on top of a brick wall prior to installation of a concrete slab.

SOFFIT – The underside of a slab or eave.

SOLDIER COURSE – A course of brickwork laid on its end.

SPROCKET – A framing timber used in eaves construction.

STRETCHER BOND – The most common masonry bond in Australia in which all bricks are laid with half overlaps and not using half bricks or cross bonds.

STUCCO – Traditionally an external render to provide a decorative finish but now generally referred to as a fibro wall sheet with a decorative finish.

TERRAZZO – A material consisting of irregular marble or stone fragments set in a matrix of cement and mechanically abraded and polished after casting to produce a smooth hard surface.

THRESHOLD – The step or sill at an external door of usually timber tile or brickwork.

TOUGHENED GLASS – Glass made by rapidly cooling the glass to make it shatter into small pieces when broken for safety, it usually cannot be cut and needs to be made to order to size. It is unlike laminated glass which is made from layers of glass with silicon between to crack only when broken for safety and can easily be cut on site.

TRIMMER – A timber member fixed between joists or trusses to provide stiffening or to support ceiling lining.

UNDERPINNING – The construction of new footings or concrete piers under an existing footing to prevent its collapse or failure.

VALLEY – The meeting line of two inclined roof surfaces at a re-entrant angle.

WEEP HOLES – Vertical joints or perpend in brickwork left open above the flashing line to allow water from behind the wall to escape.

WINDERS – Wedge shaped treads in a staircase landing.

Z-PURLIN – A metal purlin with a cross section in the shape of the letter Z.

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MAINTENANCE

The following information is supplied as a general recommendation that should be adopted to help maintain the building in a serviceable condition.

REQUIREMENTS

Maintenance is the necessary repair and restoration of a building resulting from:

- Wear and tear.
- Obsolescence of fittings.
- Breakdown of structure or finish resulting from load, thermal changes or earth movement, moisture entry or the effects of weathering.

WEAR AND TEAR

- Masonry, plaster, timber and metallic finishes are subject to knocks resulting in chips, indentations and abrasions. Paintwork and other surface finishes become marked, scratched and stained.
- A chipped or broken brick or block in facework can be cut out and replaced with a sound unit.
- In plaster, clean, moisten and patch with plaster or a proprietary patching material.
- In timber, in the body of the surface, fill small holes with proprietary filler. On arises and for large holes, cut out the block with matching timber or veneer.
- In metal, replace the component. Some shallow indentations in a painted surface can be filled with proprietary metal filler.
- After patching or filling, paint as described in **PAINTING**.
- To achieve a uniform finish, it is important that after patching a wall or ceiling and painting the patched area, then the whole of that wall or ceiling containing the patched area shall be included in the final coat.
- Soiled paintwork is washed or rubbed down and repainted in one or two coats.
- Flaking or peeling paintwork must be scraped or burnt off, and the base surface treated as for new work.
- Paint used in damp areas such as Bath Rooms should be fungus resistant, such as oil based enamel.
- Damaged carpet, vinyl and laminated plastic can be partially replaced. Proprietary acrylic composition bench tops can be repaired.

OBSOLESCENCE

Many fittings, such as cookers, hot water units and air conditioner units deteriorate in condition with age to the point where replacement is a more attractive alternative (newer models, features etc) than continued and perhaps costly maintenance. Ten to twelve years is a reasonable life for these items.

BREAKDOWN IN STRUCTURE AND FINISH

Structural breakdown usually derives from an original construction fault.

The life of finishes, both natural and applied, may be more limited, but can be likewise shortened by errors or omissions in original building.

Principal of these problems are:

- Entry of dampness.
- Masonry cracking.
- Concrete cracking.
- Corrosion.
- Paint deterioration.
- Breakdown of adhesion of applied finishes.
- Subsidence.
- Timber anomalies.
- Drainage problems.

DAMPNESS ENTRY

Entry of dampness is caused by:

- Failure or absence of damp course or flashing.
- Incorrect location of damp course or flashing.
- Bridging of cavity.
- Roof leaks.
- Gutter leaks.
- Fracture or blockage of water or drainpipes.

Horizontal damp course can be replaced and/or inserted in existing walling by removing masonry coursing in alternate 700 mm to 800 mm lengths, or sawing out the joint with a disc or chainsaw, to allow replacement. After replacement mortar has set, remaining intervening panels are similarly treated. Each damp course section must lap over the piece adjoining.

The cavity in external perimeter masonry walling must be maintained.

Cavity bridging usually occurs by accumulation of mortar at the bottom of the cavity or on cavity ties, and is rectified by the physical removal of bricks as necessary to give access to the cavity, to permit cleaning out of the mortar.

Inadvertent closing of the cavity by masonry is rectified by sawing through and inserting a positive mechanical barrier of damp course material.

Moisture entry around door and window openings is usually due to absence of or incorrectly located flashings. In metal-framed windows, dampness at sill level is sometimes caused by absence or blockage of weep holes which allow water caught in the sill channel to discharge.

Flashing problems can sometimes be overcome with mastic pointing at the junction of the frame and wall externally.

There is no substitute for a properly installed positive mechanical flashing.

ROOF LEAKS

Most metal roof leaks originate from perforations through the roof-pipes, ventilators, aerial fixings and the like. Small holes and short laps in sheet roofing must be sealed, and flashings made watertight. The minimum pitch and fixings must always be to the Manufacturer's recommendations.

Other causes of leaks are:

- Inadequate side, apron and gutter flashings.
- Cracked or displaced tiles.
- Inadequate lapping of roof sheeting.
- Unsealed laps at very low pitches.
- Pop-riveting of ridge and hip cappings in lieu of bolts or screws.
- Inadequate pointing of hip and ridge tiles.
- Gutter and downpipe overflows.

GUTTERS

Gutters should be checked throughout the year especially before winter to ensure they are kept free of blockages.

CONCRETE PROBLEMS

The greatest of care must be taken when building with concrete, because any serious or continuing problem is usually solved only by the costly process of removal and relaying.

Principal maintenance problems are:

- Cracking
- Slab surface defects
- Spalling
- Corrosion

Cracking can be either right through the element, or on its surface. In concrete on fill, full thickness cracking may be caused by uncontrolled linear drying shrinkage, or earth movement.

Rectification is by saw-cutting out a panel and relaying with ruled, and if required, pointed joints. In suspended concrete, structural cracks result from improper or inadequate design, misplacement of reinforcement, and concrete below required design strength or excessive loading during curing period. The remedy for structural failure is removal and reconstruction.

Surface defects may be drying shrinkage cracks in topping and surface powdering.

Shrinkage cracking in topping is usually in the form of crazing, and whilst not structurally critical, is unsightly. For an exposed finish, rectification would require hacking off the topping and laying a new topping.

Surface powdering is caused by a low cement aggregate ratio, incorrect proportioning of aggregate fines, excessive water in mix, or excessive addition of pigment. Minor powdering can be arrested by flooding the surface with a proprietary hardening agent.

Major powdering on an exposed surface would require removal and relaying of the top 25 mm to 35 mm.

Spalling is caused by expansion of rusting reinforcement not sufficiently covered, or by decay of quartz or other impurities in concrete. Replacement or patching would be required.

Corrosion of concrete by external factors (chemical attack by sugars or acids) is rarely a problem in domestic buildings.

MASONRY DEFECTS

Cracks in walls may result from:

- Inadequate foundations.

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- Uncontrolled thermal movement in long walls.
- Inadequate support over openings.
- Differential movement of junction of different materials.
- Seismic activity.

Movement occurs in plastic clayey soils as a result of moisture and thermal changes. Subsidence or pressures resulting will in the absence of adequate foundations, cause cracks in walls.

Thermal movement in long masonry walls will cause cracking in the absence of control joints. Absence of, or inadequate support can result in cracks at the heads of openings.

A crack can always be anticipated at the junction of brickwork and concrete. This should be controlled with a "bond breaker" membrane. Rectification of above faults may, dependent on severity, require:

- Saw cutting in new control joints.
- Removal of brickwork or block-work both sides of crack and re-laying.
- Raking back cracked joint 35 mm and pointing with mastic joint sealer.

PAINT DETERIORATION

External paintwork is broken down by the action of sunlight, air and moisture. Full deterioration may take from 3 to 10 years, manifested by powdering, flaking or peeling.

Powdered areas may be rubbed down and repainted in preferably 2 coats.

Flaked or peeling paint must be scraped or burnt off to the original surface, which is then treated as for new work.

Adequacy of protection will depend on paint film thickness and opacity.

It is recommended that external painted finishes be renewed every 5 to 7 years.

METAL CORROSION

Damp courses, flashing, roof sheeting, gutters and plumbing piping in buildings are all subject to corrosion by either chemical or electrolytic action.

For example, unprotected metallic damp-coursing is subject to the corrosive action of mortars, and electrolytic corrosion will occur in the junction of copper and steel piping. In replacement, ensure that the attacked metal is adequately insulated with a neutral material. In new building work, steel exposed externally will rust unless adequately protected, according to conditions, and particularly coastal.

FRETTING

Improperly slaked or hydrated lime can result in powdering and fretting of mortar due to the continuing hydration process.

Rake out the soft mortar 25mm to 40mm deep and point up with strong composition mortar.

Fretting of actual brick surface can result from the trapping of salts in the pores of bricks during manufacture, which becomes active with moisture.

TIMBER PROBLEMS

Timber, properly installed in a building is a strong, durable and decorative material.

Problems usually originate from building faults or neglected protection.

Inadequate paint coverage or lack of maintenance will result in external timber such as posts, beams doors and window frames, door faces, barge boards, fascias etc., developing surface cracks and opening up joints. If deterioration has not advanced too far, these items can be repaired.

- **Termite attacking timber.**
Karri near the ground is particularly vulnerable. Building sites require pre-treatment against termites in accordance with AS 2057 1981. Rectification includes Replacement of affected timber and specialist treatment. Because nests can be under concrete floors treatment may require boring through concrete or cutting trap door in floor.

EFFLORESCENCE ETC.

This is a furry powdery deposit of water soluble salts which form on the surface or brickwork. Water soluble or acid solution salts of vanadium, iron or manganese in film can also form on the surface of brickwork, showing as a stain. Drips from unsealed hardwood can also stain light coloured masonry.

The white powder of efflorescence is water soluble, can be washed off, and will eventually disappear.

The green and yellow vanadium stains which sometimes appear on cream brickwork respond to chemical treatment such as oxalic acid, hypochlorite type bleaching agents and caustic soda in different cases.

Note that hydrochloric acid should not be used on cream brickwork because it tends to set the vanadium salts in the surface and turn them black.

Timber stains usually respond to a solution of oxalic acid in water, or a household bleach based on sodium hypochlorite.

Hose down after chemical treatment.

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FUNGUS

Porous masonry and some porous plastic paints, for example, PVA, are susceptible to fungus attack in conditions of sustained moisture or humidity. Proprietary preparations such as those containing Sodium and Calcium Hypochlorites, and Sodium carbonate can be used to bleach the mildew stain. Vinegar solutions will kill mould growth if used at correct strength. We advise customer to consult www.mould.com for severe mould problems.

The application of silicone sealing, or impervious oil based paint will inhibit regrowth.

ADHESION LOSS

Breakdown of adhesion will result in loosening and detachment of:-

- Ceramic tiles from floors and walls.
- Vinyl tiles and sheet from floors and walls.
- Timber mosaic and parquet from floors
- Papers and vinyl from walls
- Laminated plastics from backing

Causes of breakdown include:

- Ceramic tiles bedded in cement mortar - substandard mortar, tile suction (i.e. tiles not soaked before laying), no provision for thermal movement in restrained positions, pre-setting or drying of screed.
- Rectification requires relaying to correct procedure, and incorporation of mastic filled control joints as may be necessary.
- Moisture in sub-surface. This can cause lifting of adhered ceramics, vinyl and timber mosaics. Testing can establish adequacy of dryness of sub-surface. Laying must be carried out with the recommended bonding agent.
- Wall papers and vinyl's lose adhesion because of excessive suction of the subsurface. Porous backgrounds require sealing.

PLASTICS

Rigid PVC piping used externally will break down under prolonged exposure to heat and sunlight. Mechanical impact to plastic products can cause fracture. UPVC should therefore be protected from impact damage and direct sunlight. Replacement is readily effected.

Detached contact-adhered laminates are rebonded and cramped.

ROMAN BATHS

Some houses have what is typically described as a 'Roman' bath constructed below the shower. The bath is constructed from brick and is rendered and tiled. In our experience, 95% of the baths are prone to leaking. It is recommended that the corners of the bath be sealed with a flexible silicon based grout of appropriate colour, and that the arrangement not be used as a bath.

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CONDITIONS FOR THE PROVISION OF THE REPORT

1. The Report is expressly produced for the sole use of the Client and in accordance with AS4349.1. Legal liability is limited to the Client.
2. No advice is given regarding the presence, or effect, of termites on the Property. A specialist company should be approached to provide such certification if required.
3. Any dimensions given are approximate only.
4. Any cost estimates are approximate only. Should the Client wish to define a price more accurately, trade quotations can be arranged.
5. The Client acknowledges, and agrees that any comments contained in the Report relating to matters of an electrical, or plumbing nature, are based on a visual inspection only carried out by the Inspector on the day of the inspection, and should not in any way be relied upon by the Client as a substitute for obtaining expert professional advice from a licensed electrician, or plumber.
6. Any charge-out rate quoted relates to normal work and are not applicable for work relating to arbitration, mediation, conciliation, expert witness, court appearance or any other legal application.
7. The Report comments on only those features which were reasonably visible, and reasonably accessible, at the time of the inspection without recourse to viewing platforms, the removal, or moving, of building components, or any other materials of any kind, or any other unusual methodology including measuring or testing of building components to confirm structural soundness or major defects.
8. We have not inspected woodwork or other parts of the structure which are covered, unexposed or inaccessible and are therefore unable to report that any such part of the structure is free from defect.
9. Inspections and or surveys shall be made only by a qualified Building Consultant with No less than 5 years experience.
10. Only those items in the Report, which have been commented upon, have been inspected. If there is no comment against an item it has not been inspected. The Inspector gives no undertaking that they will inspect all items present on the day of the inspection.
11. We will not (even if requested to do so) provide you any advice regarding asbestos at the property that we are asked to inspect, including whether or not any building materials used in the construction of a home are made from asbestos or not. However, if we identify that a building material is made from asbestos, we may without any obligation or requirement to do so, mention this to you so that you can then have this view confirmed by someone appropriately qualified to advise you about (a) whether the material is made from asbestos and (b) how to deal with it. If we provide you such advice, then you must not accept or rely upon our view as being in any way determinative and you agree that it is stated to you so that you then will engage someone appropriately qualified to advise you on the presence of asbestos and related matters, and not act on or rely upon our view in any other way.
12. All advice given by the Inspector not included in the Report is given in good faith. However no responsibility is accepted for any losses - either direct or consequential - resulting from the advice.
13. The Report is confirmation of a visual inspection of the Property carried out by the Inspector on the day of the inspection, and only covers those items which could reasonably be detected by such visual inspection at the time of such inspection.

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14. All statutory or implied conditions and warranties are excluded to the extent permitted by law. The report is not intended to be a Certificate of Compliance for Building Codes.
15. To the extent permitted by law, liability under any condition or warranty which cannot legally be excluded is limited to:
 - (a) supplying the Report again; or
 - (b) paying the cost of having the Report supplied again.
16. If the Report fails to conform in any material respect to the term and conditions set out herein then
 - (a) the Inspector is not liable unless the Client notifies the Inspector of the failure within 90 days after the date of delivery of the Report; and
 - (b) the liability of the inspector is in any case limited to the cost of providing the inspection and the inspector is not liable for any consequential damage
17. The provisions of clause 15 above are subject to the provision of any statutory condition or warranty which cannot legally be excluded.
18. Payment to the Inspector will be made at the time of inspection or prior to the supply of the report.
19. The Report will be posted within 48 hours of the inspection or as directed by the Client upon receipt of payment.
20. The terms and conditions contained herein:
 - (a) constitute the entire agreement and understanding between the Client and the Inspector, on everything connected to the subject matter of the Agreement; and
 - (b) supersede any prior agreement or understanding or anything connected with that subject matter.
21. These are the standard terms and conditions under which we provide our service to you. When we provide you our service, we do so on the basis that (a) these terms and conditions make up the terms of the contract between you and us (b) and, you agree to be bound by these terms and conditions. If you do not agree to be bound by these terms and conditions then you must contact us prior to us providing you our service to advise us that (a) you do not want to make a contract with us and (b) do not want us to provide our service to you.

