



# GENERAL SPECIFICATION



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**Proposed:**

3 x 2 Storey Dwellings

**at:**

5 Athos Place, Paradise SA 5075

**For:**

Sofia Tatarelli

**Prepared by:**

Spectra Building Designers

**Date:**

19/09/2019

**Reference No.**

23.2018

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## A - PRELIMINARIES

### A.1: GENERAL REQUIREMENTS

This Specification shall be read as a "GENERAL SPECIFICATION" and shall be read in conjunction with the Working Drawings and Schedule attached.

The extent of the works, actual materials, finishes, fittings etc., required in a particular building are as shown in the accompanying Working Drawings and Schedule. Items contained in the General Specification, which obviously do not apply, shall be taken to be redundant.

Any additional requirements or conditions required by the Financing Authorities beyond those contained in the General Specification shall be included in the Building Contract.

The requirements of the Regulations under the Building Code of Australia (BCA) as amended and local by-laws shall be taken to be, and read as, part of this Specification.

This Specification, the Schedule and accompanying documents listed on Page 1 of the Schedule shall be deemed to form part of the Contract.

The proposed form of "Building Contract" under which the works specified herein shall be carried out, is to be nominated in the attached Schedule.

**Obvious Items:** The Builder shall include every item necessary and requisite for the full and proper construction of the buildings, and all items mentioned in the Schedule or relevant parts of the Specification, though not particularly shown on the drawings, shall be taken as included in this Contract. All minor works, which are an obvious necessity for completion in a tradesperson like manner, shall be taken as included in this Contract, although specific reference is not made or shown on the drawings or in the Specification.

It is the Builder's responsibility to ensure that lists of materials and quotations prepared by other Sub-Builders and Organisations outside his own are complete and contain Obvious Items such as those specified above.

### A.2: DEFINITIONS

**Authorities** in this Specification and attached Schedule shall mean: -

- a) Lending Institutions
- b) Local Councils
- c) Government Bodies
- d) Standards Association of Australia
- e) A Building Designer or other qualified persons employed by the Proprietor for the purpose of overseeing the works.

**Approved** shall mean the acceptance of any product, article or workmanship to the satisfaction of an Authority.

**Builder** and **Proprietor** shall in both cases mean the persons signing the Contract as such. Where the Contract is signed by a person on behalf of a Company, **Builder** or **Proprietor** shall mean the titular head of that Company.

**Current** as applied to a Standard, Code or Legislation shall mean that Standard, Code or Legislation, which is legally current at the time of commencing building works.

**Development Act 1993** shall mean the Development Act 1993 and regulations under that Act as amended.

**B.C.A.** shall mean the current Building Code of Australia.

### A.3: RESPONSIBILITIES OF THE BUILDING CONTRACTOR

**Pre-Tender Inspection:** The Builder shall visit the site of the proposed works and it shall be deemed that all natural and other visible features have been taken into consideration before submitting his tender. No extras will be paid for failure to do so.

**Notices and Fees:** Unless otherwise noted in the Schedule, the Builder shall pay all fees in connection with the work. The Builder shall also

conform to the rules and regulations of all legally constituted authorities, and shall give all notices, lodge all plans, specifications and computations.

**Notice before Commencing:** The Builder shall notify the Proprietor at least 24 hours before commencing work.

**Insurance:** Except where noted below, the Builder shall affect insurance to cover the new Building Work against damage from Storm, Fire and Tempest. The value of the above insurance shall be the full value of the Contract Sum plus cost of demolition and removal of debris.

The Contractor shall also affect insurance under an "All Risk" policy to cover Public Risk and Workman's Compensation Liability. A Cover Note incorporating the above insurance shall be supplied to the Proprietor on request.

Where proposed work involves additions and alteration to an **existing building**, refer to "Insurance" in Clause A.4 below.

**Care of Drawings:** The Builder shall retain one complete set of Drawings and Specifications, which must be protected from damage, on the site at all times.

**Contract Documents:** It shall be the Builder's sole responsibility to ensure that the provisions of the contract Documents are fully met, and that a first class job is carried out. Where the specifications indicate that work shall be constructed to detail, the contractor shall obtain the required detail from the Designer before commencing any such work.

**Setting Out:** The Builder shall be responsible for the setting out of the works according to the plan supplied. All figured dimensions on the drawings are to be followed in preference to scale. Any errors or discrepancies noted in the Drawings and/or Specification shall be reported to the Proprietor and Designer prior to proceeding with the work.

### A.4: RESPONSIBILITIES OF THE PROPRIETOR

**Site Identification & Surveyors Certificate:** It shall be the responsibility of the Proprietor to ensure that correct boundary alignments are established before the Builder commences any work. Where it is deemed necessary by a loan authority or any other responsible body a Licensed Surveyor's Certificate shall be furnished by the Proprietor certifying the position of the footings on the site.

**Insurance - Existing Premises:** Where the new work is in the nature of Additions, Alterations and/or Modifications, the Proprietor shall affect insurance to cover the existing structures together with contents, and also the **new works** including materials to be incorporated (excluding plant, tools and equipment).

### A.5: GENERAL PROVISIONS

**Materials and Workmanship:** Unless otherwise specified, all materials shall be new and the best of their respective kinds available at the time of the Contract. All work shall be carried out in a tradesman like manner.

In the case of Additions and Alterations, unless otherwise specified, all demolition materials shall become the Builder's property excepting materials and components scheduled for re-use.

**Plant and Equipment:** The Builder shall provide, at his own cost and charges, all materials, labour, tools, plant, scaffolding, haulage, storage, protection and all other requirements necessary for the proper and effectual completion of the works. All plant and materials brought on to the site by the Builder shall remain the property of the Builder, unless or until incorporated in the said works or any part thereof.

**Sanitary Arrangements:** Except where authorised use of existing sanitary facilities are available, the Builder shall allow for the installation of a worker's latrine to the approval of the Department of Labour.

**Water Supply:** Water shall be supplied to the Builder free on site. The Builder shall make application for a meter to be installed, and shall lay on a 20mm service, unless otherwise specified. Water shall be clean; fresh drinking water, free of all impurities (other than legal SA Water additives) which would react with specified lime or cement.

#### B.4: CONCRETE FILL TO HOLES

Where a tree or shrub has been removed, the holes which will be traversed by concrete footings shall be filled with plain concrete.

#### B.5: BACK FILLING

At the proper time, back fill around all footings, drainage and water pipes, posts and anywhere else affected by building operations as required, to bring earth to proper levels and grades, and thoroughly consolidate and grade away from external walls. Dispose of excess excavated material or spread on site as directed.

#### B.6: FILL UNDER SOLID FLOORS

Unless otherwise noted in Contract Documentation, refer to Consulting Engineers "Construction Footing Report" for details of underfloor filling.

Sand shall be clean, sharp non-plaster aggregate, free from clay organic matter and other foreign material.

Quarry Rubble shall be fine crushed rock of hard durable quartzite limestone or other suitable stone.

## C - CONCRETOR

#### C.1: CONCRETE

All concrete and reinforcements shall be in accordance with AS.3600. Where pre-mixed concrete is used, it shall comply with AS.1379 and be supplied by an approved firm. Concrete additives can only be used if specified and approved by the Structural Engineer.

#### C.2: FOOTINGS

Refer to "Construction Footing Report" for details of footing, layout, sizes, reinforcement and other details. Where an Engineer's Report has not been issued for the new work, footings shall be constructed as noted on Drawings and/or specified in Schedule.

All concrete shall be mechanically vibrated.

Where conduits, pipes, bolts, sleeves, fixing anchors etc. are required to be built into concrete work, the Builder shall allow for same. The Builder shall consult with other appropriate trades regarding above requirements prior to placing of concrete.

Openings, chases etc. in footings shall be formed to the requirements and approval of the Structural Engineer.

#### C.3: REINFORCEMENT

All reinforcing rods or bars shall be made and placed in accordance with the relevant current S.A.A. Codes. Reinforcement shall be free from scale and loose rust, lapped at least 450mm and wired to prevent displacement during pouring and consolidation.

Concrete cover to reinforcement unless noted elsewhere, shall be not less than 50mm to top, sides and bottom or as otherwise directed by Structural Engineer. Concrete or metal chairs or metal hangers shall adequately support reinforcement.

#### C.4: LIGATURES

At specified centres, place Mild Steel ligatures bent and lapped in accordance with the relevant current S.A.A. Codes or as scheduled. Refer to Footing Construction Report for size and spacing details.

#### C.5: IN-SITU CONCRETE FLOORS

Concrete floors shall be cast on filling previously specified. Refer to Drawings and/or Schedule for slab thickness and reinforcement.

Reinforcement shall have top cover of 25mm unless otherwise specified. Concrete shall be minimum compressive stress of grade N20 (20MPa) after 28 days.

Internal floor slabs shall be cast over a waterproof plastic membrane of 200µm thick polythene film, sealed and lapped at joints. Membrane shall be turned up at wall junctions.

Set floor level down where required for floor tiles or toppings. Refer to Schedule for final finish to top of slabs.

#### C.6: CEMENT TOPPINGS

Generally finishing coat shall be of equal parts cement and good sharp sand, sifted and trowelled to a true and even surface. Incorporate oxides as scheduled. Topping coats on concrete, other than one-operation slabs, shall be at least 25mm thick, the base well prepared with a bonding agent and applied over neat cement slurry. In areas where slabs have been stepped down for toilet, bathroom or laundry floors, the toppings shall be laid with a fall of at least 1:80 to the outlet or floor trap.

#### C.7: RAFT TYPE FOOTING/SLABS

Refer to Structural Engineers "Construction Footing Report" in detail regarding construction of footings.

Where no Construction Report has been issued, refer to information and details on attached Drawings and Schedule.

#### C.8: CURING OF CONCRETE

All concrete floors shall be protected from traffic by covering with plastic sheeting and sand during construction period. All surfaces and formwork shall be kept damp, as specified by Engineer, after placing of concrete. Concrete must be allowed to cure for a minimum of 7 days prior to building work commencing on the concrete - refer to requirements in Engineers report.

#### C.9: VERANDAHS & PORCHES

Concrete shall have average thickness of 75mm reinforced unless otherwise noted. Provide tooled joints at approximately 2.0 metre spacing each way. Finish with sealant joints at junction with building and avoid covering D.P.C.

#### C.10: GARAGES, CARPORT, DRIVEWAYS AND PARKING AREAS

These are to be grade N20 (20MPa) concrete unless otherwise noted and of 100mm minimum thickness, reinforced as scheduled and finished well with steel trowel, with "v" cut joints and depressed polished margins.

#### C.11: CONCRETE PAVING FOR FOOT TRAFFIC ONLY

All concrete paving shall be of 75mm minimum thickness, with tooled lines. Refer Drawing on Schedule for any steel reinforcement. Where concrete paving abuts masonry walls, provide vertical membrane as noted in Clause D.12: (d) and seal joint with continuous non-hardening butyl or silicon mastic to approval.

#### C.12: TERRAZZO FLOORS

Floors as scheduled shall be finished with a 20mm minimum thickness of terrazzo topping, consisting of 1 part of white cement coloured to approval and 2 parts of selected marble chippings. Borders, if any, to be formed with 3mm brass strips; when sufficiently set, the surface is to be ground by machine or hand ground with coarse stone, following which a grouting of neat white cement and colouring pigment shall be applied to properly fill all pores and holes in the surface. Finally, the surface shall be ground with fine stone to obtain a smooth even finish; free from stains and to show approximately 80% marble. To walls, form a cove to 40mm radius and 75mm high skirting in terrazzo.

Terrazzo partition slabs shall be reinforced, have a minimum thickness of 40mm and be polished on all sides exposed to view. Slabs shall be fixed to floors and walls with approved metal dowels.

#### C.13: SUSPENDED SLABS AND STRUCTURAL CONCRETE

All structural concrete, suspended slabs, staircases, footing systems etc. shall be designed by a qualified consultant Structural Engineer, and a copy of the calculations and details furnished to the local Authority.

#### C.13: SUSPENDED SLABS AND STRUCTURAL CONCRETE

B.P Areas: Floors shall be supported on non-combustible columns or walls.

#### C.14: CONCRETE RETAINING WALLS

Refer to Structural Engineer's instructions/detailed drawings relating to the construction of concrete retainer walls noted on plans. Back filling or placing of any surcharge material shall not be carried out without prior permission of the Engineer.

- c) complying with AS.2904, or  
 c) Annealed sheet aluminium not less than 0.100mm thick with a bituminous coat and sealed with polythene film not less than 0.200mm thick, or  
 d) Bituminous coated fibre felt and having a thickness of not less than 5mm.

**Brick Veneer construction on Raft Footings:** The damp proof course shall be carried up and fixed to the face of the studwork for a minimum height of 150mm. A separate damp proof course is to be placed between the bottom wall plate and the concrete slab, prior to securing the framing.

**Cavity Masonry Construction on Raft Footings:** A damp proof course shall be provided at the base of all external walling. The damp proof course is to be turned down 10mm over external faced slab, extended under the outer leaf, across the cavity, and then vertically up the cavity face of the inner leaf for a minimum height of 150mm and fixed 10mm into the next bed joint of masonry. A separate damp proof course is to be provided for the inner leaf brickwork, placed directly on the concrete slab at floor level.

**Brick Veneer Construction with Timber Floors:** The damp proof course shall be carried up and fixed to the face of the studwork for a minimum height of 150mm. Pockets must be cut in the D.P.C. directly opposite all external vents to maintain sub-floor ventilation where timber floors occur.

**Footings where concrete terminates at ground level:** Build up to datum, with hard burnt clay bricks of solid concrete masonry in damp proof mortar, to at least 75mm or more above the finished earth level or pavement level, and then place the damp proof course as described before.

**Footings 75mm or more above ground level:** This damp-proof course shall be placed on top of the concrete footing and extended across the full thickness of all masonry walls including the cavity. An additional such course shall be provided to walls abutting earth fill and concrete floors or paths, in the first course above the path, floor or fill. This additional course is to be stepped down to meet the lower special damp-proof course, where other walls abut.

Notes:

- The outer edges of the damp proof course shall remain VISIBLE AT ALL TIMES
- Where it is intended to render the footings, they shall be rendered in D.P.C. mortar, WHICH SHALL NOT BRIDGE THE SPECIAL D.P.C. in any way.
- A damp proof course as required above is to be built in to all chimneys above ceiling level.
- Where concrete floors and/or paving abut masonry walling, a membrane type vertical damp proof course shall be provided between the paving and the walling.
- Footing offsets shall be cleared of all mortar droppings after plastering is completed.
- Where splits in roof levels abut cavity walls, provide stepped D.P.C. across the full width of cavity.

#### D.13: ARCHES AND LINTELS

Walling over openings in masonry walls of the domestic class not carrying point loads may be supported by:

**Arch Bars** For opening sizes up to 950mm, use 50mm x 10mm minimum arch bars for each 76mm to 100mm leaf, with 100mm minimum end bearing to bar

#### Steel Angle Lintels

Span in millimetres	Roof Traditional Framing	Trussed Roof 6000mm span maximum	Trussed Roof 8500mm span maximum	Bearing to each end in millimetres
Up to 900	75 x 75 x 6	75 x 75 x 6	100 x 75 x 6	100
901 - 1200	75 x 75 x 8	100 x 75 x 6	100 x 75 x 8	100
1201 - 1500	100 x 75 x 6	100 x 75 x 8	125 x 75 x 6	100
1501 - 1800	100 x 75 x 8	100 x 75 x 8	125 x 75 x 8	125
1801 - 2400	125 x 75 x 8	150 x 90 x 8	150 x 90 x 8	150
2401 - 3000	150 x 90 x 8	150 x 90 x 10	not applicable	175

**In Brick Veneer construction** the external brickwork is non-loadbearing, hence the sizes used to support masonry can be the minimum required for that opening (truss roof & traditional roof consideration to span)

**All angles** or bars are to be painted with approved priming before fixing, or where exposed to sea air conditions they are to be galvanised and painted. Refer to AS.3700 regarding exposure classifications.

**Reinforced Brickwork** built in cement mortar may be used for spans up to 1800mm if approved by the authority and in accordance with the requirements of the current S.A.A. Codes.

**Concrete Lintels** Prestressed concrete lintels may be installed if supplied and branded by an approved manufacturer.

**Reinforced concrete lintels** are to be in accordance with engineer's details. Concrete masonry block lintels are to be formed in strict accordance with the manufacturer's recommendations and approved by the authority concerned.

**Other Lintels** such as those which may span greater than 3000mm, be point loaded or required to carry one or more additional stories, shall be in accordance with engineer's calculation sheets and/or as detailed. Such lintels to be approved by the proper authority.

#### D.14: CORNER OPENINGS OR COUPLED WINDOWS

Mild steel angles shall be provided over openings, welded at intersections and supported at corners by 60mm O.D. galvanised wrought iron pipe welded to 170 x 170 x 10mm steel cap and base plates. Base plates shall bear on footings or solid masonry.

#### D.15: VENTILATION

##### Sub-Floor Vents

**Tongue & Groove Timber Flooring:** Provide under floor vents to external walls and having an obstructed opening of 6000mm<sup>2</sup> per metre length of external wall. Internal walls shall have ventilation openings of not less than 4200mm<sup>2</sup> per metre length of external wall.

**Particle Board Flooring:** Provide under floor vents to external walls and having an unobstructed opening of 7500mm<sup>2</sup> per metre length of external wall. Internal walls shall have ventilation openings of not less than 2200mm<sup>2</sup> per length of internal wall equally spaced.

Note: Clearance space under all floor framing and ground level shall be not less than 400mm. Refer Clause F.15 for any variation, which may be applicable.

#### D.16: WEEP HOLES

Perpend joints shall be left open in external masonry walls at between 600mm and 800mm spacing immediately above the special damp-proof course and over flashing of all exposed openings and also to brick retaining walls and fender walls etc. as required or directed.

#### D.17: BUILD IN BATH

Build in bath between lip and floor with brick on edge set in cement mortar and leave holes for ventilation and drainage as required by Regulations.

#### 18: SILLS

Build in cement mortar sills to windows as shown on plan or indicated in Schedule.

#### D.19: FLASHINGS

Build in all necessary flashings and point same in cement mortar. Flashings of polythene, lead or other approved metallic flashings shall be built in over all exposed window and external door openings. Where openings are under eaves projecting not less than 400mm, omission of the flashings may be approved.

#### D.20: BOLTS

Build in bolts for securing posts, pitching plates etc. as required.

#### D.21: METAL DOORFRAMES

Build in where required. In masonry walling, grout in solid behind frames. Frames to be plumb and true and correctly aligned for plaster.

## E - TERMITE CONTROL

### E.1: GENERAL

All work shall comply with the requirements of current S.A.A. Codes. (Protection of Buildings from Subterranean Termites, Part 1 - New Buildings). Builder must provide underfloor treatment for Termite control in accordance with appropriate and current S.A.A. Codes.

### E.2: TERMITE RESISTANT MATERIALS

A "structural member" as defined in the Building Code of Australia consisting of, or a combination of, any of the following materials is considered not to be subject to termite attack; Steel, Concrete, Masonry, Fibre-reinforced cement, Naturally termite resistant timber Preservative treated timber.

### E.3: NOTICE REQUIREMENTS

A durable notice shall be permanently fixed to the building in a prominent location, such as the meter box or the like, indicating;

1. the method of protection,
2. the dates of installation of the system,
3. the need to maintain and inspect the system on a regular basis.
4. If a chemical barrier is used then the notice must also include the life expectancy as listed on the National Registration Authority label.

### E.4: TERMITE BARRIER SCHEDULE

#### A Cap and strip shields

**Projection:** Install so no edge is less than 55 mm from the vertical face of the wall or pier. (Installation and Inspection required)

**Material:** Galvanised steel.

- B Stainless steel mesh barriers (Single Installation)
- C Graded stone barriers (Single Installation)
- D Chemical soil barriers - spray application (Retreatable and Serviced)
- E Chemical soil barriers - reticulation systems  
**Chemical:** Testing of installation to AS.3660.1
- F Membrane Barriers (Single Installation) Australian Pesticides and Vestuary Medicines Authority registered. (APVMA)

Location	Barrier Types					
	A	B	C	D	E	F
Slab penetrations						
Slab control joints and footings/slab joints						
Under slab						
Building perimeters						
Under suspended floors						
Timber poles and posts						

## F - CARPENTER & JOINER

### F.1: ALL BUILDINGS

#### MATERIALS

##### Timber Species:

Except where otherwise provided, the following timbers seasoned to 12% maximum moisture content at time of manufacture shall be used. All timber shall be clear quality, free from defects, sloping or spiral grain.

**Door Sills:** Jarrah, Wandoo, Kapur or Merbeau.

Frames & Sashes – Kapur, Western Red Cedar, Joiners Oregon, Dark Red Meranti. Philippine mahogany or Radiata Pine (multi salt pressure impregnated and branded to requirements of the Radiata Pine Association).

**Internal Joinery:** Kapur, Western Red Cedar, Joiners Oregon, Dark

Red Meranti. Philippine mahogany or Radiata Pine or other approved species.

**Plywoods:** Exterior and Interior plywoods shall conform to the current S.A.A. Codes

### F.2: JOINER'S WORK

Shall be accurately set out and framed up with approved joints in accordance with trade practice.

All external joinery shall be put together with red lead and linseed oil, oil-based paint or waterproof adhesive. All surfaces shall be left free from mill marks or other defects and ready for painting.

All joinery, which is to be exposed to the weather, shall be prime treated with an approved water-repellent preservative.

### F.3: DOORS & FRAMES

**Door Frames** shall be at least 115x56mm or 140x42mm with 12mm planted stops. Mullions shall be at least 66mm thick solid rebated or 42mm thick with 12mm planted stops.

**Frames** shall be mortised and tenoned to 140x42mm kiln dried sills or dowelled with 50x10mm diameter M.S. pins to solid thresholds. Construction and fixing of all timbers doors shall comply with current S.A.A. Codes

**Jamb Linings** shall be a minimum of 25mm thickness with 12mm thickness planted stops. Where brick ribs are less than 90mm in width, the linings shall be bolted. Linings to brick-on-edge wall shall be rebated.

**Doors:** Internal flush doors shall be 35mm and 40mm thick. External flush doors shall be of 35mm thickness sheet on each face with 4mm thick waterproof ply or tempered hardboard and hung on three 85mm hinges. Full glass doors shall be not less than 38mm thickness.

**Sliding Doors:** Types and sizes shall be designated in Schedule. Doors shall be hung to approved sliding door track on side of room shown. Provide pelmet plate and face to conceal track.

**Fire Resistant Doors:** Frames, doors and fittings shall comply with current S.A.A. Codes

**Other Doors:** Refer to drawing and/or Schedule for details.

**B.P. Areas:** External Doors: Doors shall be hung in timber or metal frames. Sills shall be non-combustible or of hardwood. All external doors shall have draught seals of rubber, PVC or similar thermoplastic material fitted.

### F.4: WINDOWS & FRAMES

**General Notes:** Windows and frames shall be as specified below unless detailed or noted in the Schedule. Where buildings are located in category-1 wind areas, size of window framing and other details may require additional structural assessment to such wind load conditions. Builders should seek advice from a Structural Engineer in the above circumstances.

**Awning and Casement Frames** shall be 115x56mm or 140x42mm solid rebated or 115x42mm with 12mm planted stops. Mullions shall be at least 42mm thick. Sills shall be 42mm minimum thickness sunk, weathered and throated. In brick construction, sills unless specially channelled to take sill tiles and fixed on slope, shall be fitted with 0.6mm galvanised weather bars standing down 20mm.

**Box Frames** shall be of an approved stock construction complete with solid linings and with 42mm minimum thickness, double sunk weathered and throated sills. Brick construction sills, galvanised weather bars standing down 20mm.

**Sashes** shall be manufactured from stock material not less than 30mm thickness for awning, casement, horizontally sliding and double hung sashes. All sashes shall be properly framed with mortise and tenon or other approved joints and put together with an approved water-repellent adhesive.

**Others:** Where scheduled, erect special patented frames, sashes and window walls in accordance with manufacturer's instructions.

### F.13: WALL FRAMING INSULATION

Where specified, line internal timber frame wall with approved fibreglass or Rockwool having an 'R' factor of 1.5 minimum. Insulation shall be in the form of batts placed between studs facing internal linings.

Where noted in Schedule, line external face of timber framing with double-sided aluminium perforated foil fixed in accordance with manufacturer's recommendation.

**B.P. Areas:** Timber frame walls shall incorporate a fire retardant grade sarking having a flammability index of not greater than 5, immediately behind the external cladding. Bottom edge of any *combustible* wall cladding shall be at least 300mm clear of adjacent finished ground level.

### F.14: ROOF FRAMING

Timber roof framing shall be of Karri (Hardwood, Grade F11), Oregon, Canada Pine, Cypress Pine (Softwood, Grade F5) or Radiata Pine. Sizes for roof framing members are given in the current S.A.A. Codes.

Fascias, barge boards and any other dressed timbers used in roof construction shall be of Oregon, Western Red Cedar or pressure preservative treated Radiata Pine or other approved timbers. Fascias and bargeboards shall be 30mm minimum thickness. Fascias and bargeboards to be painted, shall be primed all round after the complete drying of the water repellent.

Where a stain finish is to be used, a similar drying period is required before application of the stain. All cuts holes. Notches and similar shall be flood brush treated with water repellent as above.

Note: No roof timbers shall pass over or through fire-resistant walls.

**Pitched Roofs:** Frame up roof to pitch as shown on drawings. Roof timbers to walls with ties specified to be built in by bricklayer (Clause D22: ROOF TIES). Neatly cut all junctions of rafters with ridges, hip and valleys. Trim for chimneys where necessary with an air space between timbers and brickwork. No strutting shall be off hanging beams or ceilings joists unless directly over walls. Provide 100 x 50mm chocks at the foot of the struts (except for) plumb struts) fixed with 3 – 100mm nails to ceiling joists or other members, which provide a firm base for nailing. Provide adequate thickness by 450mm blocking off masonry walls. Provide 45 or 50mm thickness x plate width x 600mm long stiffener on top plates of stud walls to support strut loads over two studs. Provide counter strutting where necessary.

For roof timber to wall tie down in **Brick Veneer Buildings** See Clause F.22 ROOF TIES.

**Eaves Construction:** Construct the eaves width as follows unless otherwise detailed on drawing:-

**900 / 600 mm Eaves Width:** shall have plates securely fixed to wall all round and fix trimmers at appropriate centres to this wall plate. Line underside of eaves with appropriate fibro-cement sheets fixed with galvanised clouts with all necessary cover moulds and finish at angles with quadrant mould.

Normally these spacings are 450mm for 4.5mm sheet and 600mm for 6.0mm sheet.

These spacings should not exceed manufacturer's recommendations.

See also N: 6 Soffitt Linings

**Gable Ends:** Frame up with studs at 600mm centres properly braced and covered with weatherboards or other material as indicated on drawing or scheduled. Provide and fix fillet scribed below tiles if required.

**Tank Platform for Hot Water Services:** in Roof Fix (if required) Jarrah bearers located over cross walls to take H.W. tank and floor with floor boarding to size required for H.W. tank. The platform supporting the tank shall be supported directly on wall plates and must NOT be supported on ceiling joists.

**Access hole:** Joists shall be trimmed for access hole (to roof space) where noted or scheduled. Opening shall be lined and fitted with a proper cover.

**Trussed Roofs:** Timber roof trusses are to be structurally designed in accordance with current S.A.A. Codes. All trusses to be branded with system and fabricators name. Pre-fabricated metal trusses may be used if approved by the Authority. Current S.A.A. Codes as appropriate apply to the installation of nailplated timber trusses.

**Skillion & Flat Roofs:** Pitches of roofs shall be not less than the manufacturer's recommendations for the particular roof covering to be used. Sizes of rafters and battens supporting such roofs and ceiling are given in the current S.A.A. Codes.

**Timber Posts:** Where timber posts are used for the support of Verandah, Carport or Porch Roofs, they shall be supported clear of floors and securely anchored to the support as detailed or specified.

**B.P. Areas:** Posts and Columns: All posts and columns shall be non-combustible or be protected within 300mm finished ground level by 0.6mm metal sheeting. Alternatively timber posts shall be supported on metal shoes so that no exposed parts of the timber are less than 100mm above ground level, paving or decking.

### F.15: FLOORING (See also D: 15 VENTILATION)

Flooring shall be laid having moisture content suitable for the average service conditions of the building, such moisture contents to be within 2% of the expected average. In any case moisture contents below 9% or above 15% neither shall nor be used without special approval of the Authority. Advice on suitable contents for flooring in particular buildings is obtainable from the Authority. Flooring must not be fixed until the roofing is completed, walls sheathed externally and the building is in a weatherproof condition.

#### a) T & G Timber Flooring

Boards shall be laid in straight lines and cramped only sufficiently to close the joints. High pressures beyond this point are not to be used. Boards shall be nailed, punched and machine surfaced. Flooring exceeding 60mm cover (on face) shall be double nailed. Clearance between flooring and walls must be provided. Finger jointed flooring may be used at the same spans as T & G flooring. End matched flooring may be used for domestic flooring only, and providing the minimum board length is not less than 600mm. All flooring shall comply with appropriate Australian Standards.

#### b) Plywood Sheet Flooring

Structural plywood may be used for flooring, providing it is manufactured in accordance with the relevant current S.A.A. Codes for Pinus and the relevant current S.A.A. Codes for hardwood structural plywood.

Plywood sheets shall be laid with the grain of the face veneers across joists and they must be continuous over at least two spans, unless the spans tabulated below are reduced by 25%. Longitudinal edges of plywood sheets are to be supported by 75 x 35mm (Minimum size) noggings except where they are tongued and grooved. Sheets shall be fixed with 50mm flat head nails at 150mm centres along ends of sheets and 300mm centres along edges.

Alternatively 50mm bullet head nails may be used at 100mm centres along sheet ends and 200mm centres along edges.

Recommended joist spacing for structural plywood flooring for domestic floor are as follows:

Joist spacing	400mm	500mm	600mm
Plywood Thickness	12mm	17mm	22mm

#### c) Particle Board Flooring

Particleboard manufactured with an approved waterproof adhesive may be used for domestic flooring under the following conditions.

**For ground floor,** sub-floor vents as specified shall be provided. Where site drainage conditions are poor, or the annual rainfall at the site area exceeds 500mm, use 160mm or 290 x 190mm galvanised metal vents at 800mm centres. Floor joists shall be at the spacing recommended by the manufacturer and of the size given in current S.A.A. Codes Residential Timber-Framed Construction.

### G.3: WORKMANSHIP

All work shall be fabricated to the dimensions and details shown on the drawings, and shall conform to the best trade practice. Generally, welding shall be disposed symmetrically about the axis of members. Welds shall be continuous around edges of surfaces in contact with each other. Particular care should be paid to preparation for welding. Welding, both in shop and field shall be carried out under supervision of an experienced operator.

### G.4: PROTECTIVE COATING OF STEEL

All steelwork shall be surface prime coated prior to delivery to the site. Unless otherwise noted in the Schedule, priming shall be as specified below: -

(Surface Preparation) Surface clean of all contamination's by "Abrasive Blast Clean to Class 1" in accordance with current S.A.A. Codes.

(Prime Coating) Red Oxide-Zinc Chromate to approximately 50/70 microns and allow for touching up on the site where necessary to equal coating standard.

### G.5: FABRICATE

All steel columns, beams, open web joists, special lintel beams, balustrades etc., as detailed on drawings and/or shown in Engineer's computation sheets, complete with all necessary seating plates, holding down bolts and other accessories necessary for the proper erection and installation.

### G.6: ERECTION OF THE STEELWORK

Except for those items normally erected or built in by other Trades, erection of Steelwork shall be the responsibility of the Steelworker, including the setting of such things as holding down bolts, which may be set by the Concreter but shall be supervised by the Steelworker.

### G.7: METAL DOOR & WINDOW FRAMES

Metal door and window frames and sashes complete with jambs where noted on drawings shall be installed in accordance with the manufacturer's requirements.

### G.8: STEEL WALL FRAMING

Steel wall framing may be used instead of timber and shall conform to the following requirements: -

- a) **Materials:** All framing section shall be manufactured from continuously galvanised steel conforming to current S.A.A. Codes.

**Galvanised materials** up to 3.2mm in thickness shall have a minimum average coating mass of 200g/m<sup>2</sup>

- b) **Fabrication and Erection:** All structural components may be prefabricated into frames either in the shop or on site before erection. Structural components shall be cut accurately to length so that they fit firmly against abutting members and shall be held firmly in position until securely fastened. Studs shall be seated squarely in bottom plates with webs at 90 degrees to the face of the wall.

**Studs shall be** accurately located, plumbed and securely fastened to flanges of top and bottom plates. Multiple studs shall be used as specified at all points of concentrated load. Plates shall be securely spliced at ends to maintain continuity. Splices in studs shall not be permitted.

In order to maintain structural integrity and to support linings, short studs shall be provided between bottom plates and windowsills, between top plates and window heads, and between top plates and door heads or in other areas around openings.

**All frames** shall be adequately braced for transport and to resist wind loads in service

**Structurally adequate heads** shall be fitted over openings in walls and areas where major loads occur away from studs. The preferred method of fastening is by welding using the metal insert gas technique (MIG). Carbon arc welding may also be used, or

alternative fastening methods of adequate strength, such as self drilling, self tapping screws, button punched fixings, tab fixings or approved blind rivets. All welds shall be cleaned and touched up with an approved zinc rich paint.

**Lifting, loading and transportation of prefabricated frames** shall be accomplished with sufficient care to prevent local damage to frames.

**Site connections shall be as specified.** The bottom plate shall be securely anchored to the sub-floor at the centres shown.

**Permanent earthing** of completed steel frames is essential and shall be carried out in accordance with the regulations of the local electrical authority. In addition, where power tools are to be used, steel framing should be earthed temporally as soon as possible during erection.

**Holes for plumbing or electrical services** shall be either plain holes of not more than 25mm diameter or flanged holes not more than 33mm diameter with flanges 5mm minimum length, and shall be placed only in approved locations. Service pipes shall be effectively separated from steel framing by lagging or similar material. Plain holes for electrical wiring shall be provided with bushes or grommets.

- c) **Where pre-fabricated steel framed walling is to be used,** the fabricator or shall supply all necessary details to the Council for approval prior to commencement of fabrication.
- d) **Finishing:** On completion of framing, all debris shall be removed from cavities and on bottom plates.
- e) **B.P. Areas:** Metal wall framing shall incorporate a fire retardant grade sarking having a Flammability Index not greater than 5 immediately behind the external cladding.

Note: Bottom edge of any combustible wall cladding shall be at least 300mm clear of adjacent finished ground level.

### G.9: STEEL ROOF FRAMING

Shall be fabricated by an approved firm, which shall supply all necessary details to the Council for approval prior to commencement of fabrication. Installation shall be carried out by the fabricator or by an experienced erector under the direct supervision of the fabricator, who shall accept full responsibility for the installation.

## H - SANITARY PLUMBER

### H.1: DRAINAGE SYSTEM

An appropriately licenced Sanitary Plumber shall carry out the whole of the drainage and plumbing.

In sewered areas, all sanitary and drainage plumbing shall be carried out in conformity with the Regulations and requirements of SA Water

In unsewered areas, all sanitary and drainage plumbing shall be carried out requirements in accordance with the requirements of the South Australian Health Commission.

Sewer drains where possible shall be located 1300-1700mm away from external walls or buildings. Where main sewer drains are required to be positioned nearer than 1300mm to a wall, approval must be obtained from SA Water inspectors.

A certificate of Approval shall be obtained from the appropriate Sewerage Authority. All sewerage pipe runs shall be kept 1300mm clear of external wall foundations. Where this is not possible because of obstruction, the drain shall be laid as near as practicable to these dimensions. Note: The full length of the drain is to be consolidated in the proper manner, as regulations require.

Foundations shall not be cut or chased for plumbing pipes, but may be sleeved under certain conditions. (See C.2 Concerto) Concreted P.V.C. Pipes shall have 75mm clearance from top of concrete to base of foundation or as otherwise directed by Structural Engineer.

### H.2: SEPTIC TANK SYSTEM

Septic tanks including Effluent Disposal Systems shall be designed to comply with provisions of the "Standards for Installation and Operation



and texture and free from cracks and other defects. It is to be neatly dressed without injury to the surface. Use wooden tools for dressing.

- c) Rods for Brazing Copper: Shall be approved brazing rods containing not less than 2% silver content and no zinc.

#### J.2: VALLEY GUTTERS

Valley gutters must be of 350mm wide 0.4mm plain galvanised iron, or pre colour treated (Colorbond), hemmed along each side of board, and lapped 230mm decreasing to 150mm for slopes above 26.5 degrees. Valley to extend under each side of roof.

#### J.3: EAVES GUTTERS

Eaves Gutters shall be formed from 0.6 galvanised steel sheeting to profile and size nominated on drawings or noted in Schedule. Eaves gutters should have a minimum fall of 1:500. Joins shall be 20mm minimum length and soldered or sealed and riveted in accordance with manufacturer's recommendations. Where girts exceed 300mm, laps shall be increased to 38mm.

#### J.4: BOX GUTTERS

Form box gutters to size indicated on drawings from 0.6mm galvanised sheet steel. Gutters should have minimum fall of 1:200 to downpipe outlet. Unless otherwise specified or detailed, support gutters at 900 centres with 0.6 x 40mm galvanised metal straps or other approved methods.

#### J.5: DOWNPIPES

All roofs to be fitted with 0.6mm minimum galvanised steel downpipes, sizes nominated on drawings and secured twice to walls with straps secured to downpipes. Take downpipes into stormwater drains, but avoid unnecessary bends.

#### J.6: FLASHINGS

Allow for flashing specified below to roof coverings which abut masonry walls, roof penetrations and junctions etc. Vertical flashings shall be at least 150mm high and over flashed externally. All flashings shall be competently executed to ensure a watertight joint, as deemed acceptable as good practice. Refer current S.A.A. Codes.

(Lead Flashings) 1mm thick generally fully supported and 1.8mm thick unsupported cover flashing. Refer current S.A.A. Codes.

(Galvanised Steel) 0.6mm to cover flashings - 0.8mm to bare flashings.

Note: Installation of compatible materials for roofing and flashing can be sought from current S.A.A. Codes

#### J.7: TANK

Set on tank stand as specified in Schedule, tanks to be 0.4mm double riveted and soldered inside and out complete with top, manhole and cover, tap, 50mm cleaning screw and overflow pipe brought down outside. Rainwater service from tank to fittings as scheduled to have 300mm-compo lead or suitable flexible connection.

#### J.8: ALTERNATIVE MATERIALS

Alternative materials such as Zinalume, PVC drains, plastic plumbing fittings, may be used where the relevant Authority approves of them and they have not been specifically scheduled, noted or detailed.

## K - ROOFER

#### K.1: GENERAL

The roofing material to be used shall be as noted on the attached schedule or drawings. The Contractor shall note any construction detail on drawings and comply with it.

#### K.2: SARKING

Where specified, roof shall be sarked with fire-resistant double-faced aluminium foil covered fabric, which shall be laid over rafters to ensure discharge of water without ponding into eaves gutter. The sarking shall be secured to the edge of fascias and dressed down 25mm into gutter. Where valleys occur, sarking shall turn neatly up at the end of the valley

board and shall extend over the side heading of the valley. Where roofing abuts walling, the sarking shall be neatly turned up the walling 50mm. Care shall be taken in all instances to ensure sarking is not damaged. Repair any damage to approval.

#### K.3: TILED ROOF

The whole of the roof shall be covered with terra-cotta/cement tiles as specified. Tiles shall be free from defects, blemishes etc. Tiles shall be laid on hardwood battens as set out in the Timber Framing Schedule or otherwise in accordance with the requirements of the relevant S.A.A. code. Battens shall be nailed to every rafter over which they pass.

All tile roof coverings shall be fixed in accordance with the manufacturers recommendations including minimum roof pitches. Additional special fixing of roof tiles shall be applied in exposed high wind areas. Consult with the manufacturers.

Terra cotta tiles to be supplied and fixed in accordance with current S.A.A. Codes. Cement tiles to be supplied and fixed in accordance with current S.A.A. Codes.

#### K.4: FIBRO-CEMENT ROOFING

Corrugated fibro-cement roofing shall be fixed in accordance with the manufacturer's instructions. Side laps shall be 1+1/2 corrugations and end laps from 150 - 250mm depending on pitch of roof and sealed where advised by manufacturer or instructed in the Schedule. Provide and fix ridge capping and accessories as required and ensure that roof is adequately bird proofed.

#### K.5: CORRUGATED STEEL ROOFING

Supply and fix 0.4mm corrugated galvanised steel, Zinalume or colour prefinished roofing with sheets branded according to gauge and fixed with a minimum side lap of 1+1/2 corrugations. Roofs shall have a minimum pitch of 5 degrees and except carports, shall be sarked. Sarking shall be continuous over hips and ridges and to be dressed over and into eaves, gutters and valleys. Roofing sheets shall be in single lengths from eaves to ridge or eaves to eaves and shall be fixed in accordance with manufacturer's recommendations.

Except where screwing is a requirement, the sheets shall be fixed with 60mm galvanised twisted shank spring head roofing nails to every alternate corrugation at ends and every third corrugation intermediately and in accordance with manufacturer's directions.

Unless roofing sheets are continuous over ridges, all ridges and hips shall be covered with ridge capping of a similar gauge and material to roof, lapped and secured as above. Hollows of end corrugations shall be turned up at ridges, hips and at apex of skillions and wall abutments. Refer to current S.A.A. Codes for Installation of metal roofing.

#### K.6: FLAT ROOFING

Roofs shall be covered where possible with single lengths of galvanised steel, aluminium or other nominated metal decking material. Sheets shall be fixed in accordance with manufacturers instructions. Where necessary, provide adequate protection against the reactions of dissimilar metals, masonry, plaster or other absorptive materials. Where specified or noted, the whole roof except carports shall be sarked. Alternatively a 50mm thickness of mineral wool shall be used as insulation over the whole ceiling areas.

#### K.7: OTHER ROOFING

Shall be as detailed or specified in the Schedule.

#### K.8: ROOFING (Bushfire Prone Areas)

The roof covering of a building shall be non-combustible. Protection of the roof space by such of the following measures as may be applicable to the type of roof construction to satisfy the appropriate sub-regulation.

- Non-combustible lining of the eaves, or sealing to the underside of the roof covering at the wall line.
- Roof tiles, slates or shingles, with a fire retardant grade sarking having a flammability index not greater than 5, covering the entire extent of the roof, and fixed directly below the tile battens; or

Appliances in accordance with E.T.S.A. requirements.

**Electrical Layout** The Proprietor shall provide the Electrician with information concerning the position of all fittings.

#### **L.9: TELECOMMUNICATION AND ANCILLARY SERVICES**

The Contractor shall install where directed or scheduled conduits, pipes or the like with large radius bends containing adequate draw wires for the future installation of telephone and any ancillary services.

A separate enclosure system shall be provided for each service and the telephone enclosure system shall comply with Australian Telecommunications Commission Specification no. 1091.

Where required and noted in Schedule, the Builder shall make application to Telstra Australia for an underground "lead-in" telephone pipe. The Builder will carry out all necessary work in accordance with Telstra Specification no. 1349 or any amendment or addition thereafter, and to approval of the Department's Supervisor. Payment by Telstra for the above work shall be to the Builder.

If any other service provider is used, that provider's appropriate specification must be used and all work completed must be in compliance with that specification.

#### **L.10: CONSUMERS TERMINALS**

The Contractor shall ascertain the location of the consumer's terminals. Where supply mains are reticulated overhead, consumer mains shall be the same unless specified otherwise in the Schedule. Consumer mains shall be underground where supply mains are so reticulated.

#### **L.11: WARRANTY**

The electrical installation shall be subject to the conditions of maintenance cited in the Contract. Exceptions shall be separately listed.

#### **L.12: SMOKE ALARMS**

The smoke alarm itself must comply with current S.A.A. Codes or be listed in the Scientific Services Laboratory (SSL) register of accredited products.

All Class 1a buildings must be fitted with 240V hard-wired smoke alarms with 9V battery back up, including new work and additions.

The required installation of smoke alarms is a life safety initiative designed primarily to awaken sleeping people and to give them adequate warning to evacuate the building in the event of a fire, prior to being overcome by smoke.

#### **L.13: AUTOMATION, COMMUNICATION & CONTROL**

Automation installation as specified herein and in the accompanying Schedule, shall be in accordance with the appropriate standards.

The Automation installation, and all fittings and appliances shall be carried out/ installed by an Approved Accredited Integrator, and licensed in accordance with the Security Investigation Agents Act 1995.

The contractor shall obtain the necessary certified approval of the installation and pay all fees associated with the approval.

The Contractor shall provide a controller box adequate for necessary wiring and future expansion if required.

The controller box shall be located where indicated on the drawings or as instructed, provision for access ducts, and adequate area shall be nominated on the drawings. It shall be located in a dry area away from moisture contamination.

The Proprietor shall provide the Integrator with information concerning the position of all fittings.

The accredited integrator shall install where directed or scheduled conduits, pipes or the like with large radius bends containing adequate draw wires for future installation of telephone and automation services.

Future proof wiring is recommended to be installed during construction.

Note: Telephone cable should be minimum Category 5 Rated. Coaxial Cable to be minimum RG6 Rated

## **M - PLASTERER**

### **M.1: WORKMANSHIP**

**Commencement:** Prior to beginning plastering, ensure that all conduits and other work to be concealed or penetrate walls have been completed.

**Preparations:** All work shall be wetted with water and kept damp as required to prevent excessive suction from rendering. Grade work with even surfaces true to levels, vertically and horizontally. Angles shall be rounded or finished with metal beads. Cut all work free from window and doorframes. Taping frames with pressure sensitive adhesive PVC tape before plastering is acceptable. Bonding agents shall be used on concrete or brick on flat surfaces.

**Coat Thickness:** Both cement rendered and float and set coats shall be a minimum thickness of 12mm.

Generally wait upon other trades as required and clean excess or plaster spots from work at completion.

### **M.2: RENDERING**

**Splash Coat:** Shall consist of 1 part cement and 3 parts sand with sufficient water to make thick slurry.

**Floating Coat:** Shall consist of 1 part lime putty, 1 part cement and 6 parts clean sand and shall be 10mm minimum thickness.

**Cement Render:** Shall consist of 1 part cement to 3 parts of clean sand with 10% lime putty added.

**Lime Putty:** Is to be run 24 hours before use. Prepare lime putty by slowly adding one bag (25kg) of hydrated lime to 40 litres of clean water, mixing continuously to avoid lumps.

**Special Note:** The use of additive as a substitute for lime is NOT acceptable.

### **M.3: SETTING**

All external angles shall be set in neat hard plaster gauged with 10% lime putty and rounded off to a 12mm radius to within 50mm of skirting. Setting coat for general areas shall be composed of 1+1/2 parts of lime putty and 1 part approved hard plaster.

Bathroom, Laundry and WC shall be in neat, hard plaster, omitted where tiled, finish well down to floors and right up to door and window linings, the cut joints struck with a steel trowel.

Finish all work to a smooth trowelled surface. Make good all plastering damaged by other trades and cut out and completely make good any plaster surrounding holes, etc. made by plumbers, hot water filter's etc.

### **M.4: TILING PREPARATION**

All walling to be tiled shall be prepared for the tiler by being splash coated and floated and scratched, straightened to plumb and level faces and finished to a thickness to allow back of tiles to line with the adjacent finishing coats where occurring.

### **M.5: EXTERNAL WORK**

All exposed concrete in footings, lintels, beams, heads and slabs shall be rendered in cement and finished off with wood floats. All angles shall be finished with arrises. Point all flashings in cement mortar. Floating for external work shall be in cement mortar 1:3 in the two-coat work and floated to a fine finish. Include oxides or finish in white cement or grey cement as directed all angles shall be finished with arrises.

Note: The base DPC in walls are not to be bridged by rendering to footings or walls over - this is most important.

### **M.6: FLOWER BOXES**

Render insides of all flower boxes in water-resistant 1:3 cement mortar, finished off with a wooden float. Refer to Designers drawings for appropriate details.

### **M.7: PARAPETS AND COPINGS**

All parapets and copings shall be weathered with 1:3 cement mortar finished off with a wooden float and lightly pressed with the face of the steel trowel when firm enough.

thickness of glass shall be 3mm.

Safety glass and fixing where specified shall comply with current S.A.A. Codes.

Type: Refer to the Schedule for types of glass and glazing materials and system.

#### R.2: WORKMANSHIP

Rebates and grooves shall be true and square and clear of any dust or other deleterious substances. All glass shall be back puttied, sprigged into primed or oiled rebates and weather puttied. Where wood bead glazing is used, a putty bed shall be provided on each face of the glass.

Glass shall be cut accurately to sizes required and shall be finished with clean cut edges to allow even bearing around the pane. Carefully trim and clean off any excess putty on completion.

## S - PAINTER

### S.1: MATERIALS

All paints, oils, spirits, turpentine, varnishes etc. shall be first quality proprietary brand products recommended by the manufacturer as those most suited to the intended application, delivered to the site in unopened cans.

### S.2: PREPARATION

1. Prior to painting, all switches fittings and furniture to be carefully removed and refixed on completion.
2. Galvanised iron to be degreased with appropriate solvent and given 1 coat of etch primer.
3. Structural steel. Refer Clause of Metal and Steelworker.
4. Woodwork - remove grease and oil marks by rubbing down and washing with mineral turpentine.

For painted woodwork, apply knotting to knots, shakes and resin pockets, followed by 1 coat of pink primer applied to all surfaces before fixing.

For clear or stained woodwork - remove stains and marks and apply 1 coat of sealer - preservative to all surfaces before fixing.

5. Plastered or masonry surfaces must be dry, free of efflorescence and dusted.

### S.3: PAINTING

Refer current S.A.A. Codes for the Painting of Buildings.

1. Metalwork - to be lightly rubbed down and to receive 1 coat of undercoat and 1 coat of scheduled finishing coat.
2. Woodwork painted - rub down, stop nail holes with linseed oil putty, fill grain and cracks as required. Apply 1 coat of undercoat and 1 coat of scheduled finish, lightly sanding between coats.
3. Woodwork, clear or stained - rub down and apply 1 coat of clear or stain, putty up with coloured putty of matching colour and finish with stain or clear as required, lightly sanding between coats.
4. Plasterboard, plastered areas and masonry - apply 2 coats of scheduled finish, lightly sanding between coats.

### S.4: CLEANING

Remove paint spots from glass, tiles, chromed surfaces and face brickwork. Remove empty containers from site.

### S.5: REPAINT WORK

Refer to current S.A.A. Codes for a Glossary of paint and painting terms.

Prior to commencing as in paragraph S.2.

Remove all blistering, peeling or defective paintwork by scraping, burning off or using suitable paint remover. Rub down existing paint to featheredge, prime, and stop up and fill as required.

Proceed as specified for "NEW WORK"

## T - CLEAN UP

### T.1: CLEAN UP

Clean all glass throughout house.

Clean bath, basin, WC Suite.

Clean solid floor areas, i.e. Laundry, WC, Bathroom etc.

Sweep out wooden floors.

Remove all contractors rubbish, paper and debris from site.

## U - HAZARDOUS MATERIALS

### U.1: ASBESTOS WORK

#### ASSESSMENT

A Builder/Owner/Manager shall not carry out work, which may involve exposure to asbestos, unless a competent person has made a suitable and sufficient assessment of the health risk created by that work.

A person would be considered competent to carry out an assessment if they have sufficient knowledge, skills and appropriate experience to evaluate the health and safety risks to people arising from work involving exposure to asbestos. Relevant professional consultants may assist with elements of an assessment, which require special expertise such as provided by Occupational Health and Safety professionals.

Any asbestos removal work should be carried out in accordance with the Approved Code of Practice for the Safe Removal of Asbestos 2<sup>nd</sup> edition 2005

#### USES OF ASBESTOS

Asbestos cement is a Grey, hard, very brittle material in which fibres are bound in a cement mixture.

Main uses of asbestos cement are in:

Corrugated and flat sheets (e.g. roofing and cladding of farm buildings, factories, warehouses etc.);

Accessories for corrugated or flat sheeting (e.g. fillers for roofs roof cladding); Sheeting (e.g. Partitioning, cladding, door facings, eaves linings, jointing strips); Fibro pipes (e.g. water, drainage or flues); Roofing tiles and slates; Vinyl sheet flooring, Vinyl floor tiles (asbestos backed);

Switchboards, insulation panels enclosure linings.

#### RISK OF EXPOSURE

The hardness and structure of asbestos cement and its relatively low asbestos content mean that it is less likely to generate asbestos dust than many other products. There is negligible risk to health if asbestos products are in good condition and are not subject to cutting, drilling or other operations, which could generate airborne asbestos fibres.

Exposure to airborne asbestos can occur during work on worn, crumbly or damaged asbestos cement and in dust producing processes such as machine sawing, grinding or cutting without exhaust ventilation equipment and cleaning old or weathered asbestos cement, particularly if the surface is dry or cleaned by high pressure means.

#### DISPOSAL

The Contractor / Builder / Manager in charge of asbestos removal and disposal shall undertake that asbestos contaminated waste has been transported and disposed of in accordance with current statutory regulations.

#### COMPLETION CERTIFICATION

The Contractor / Builder / Manager in charge of asbestos removal and disposal shall provide owner with written confirmation that asbestos contaminated waste has been transported and disposed of in accordance with current statutory regulations.

### U.2: LEAD BASED PAINT

#### ASSESSMENT

A Builder / Owner / Manager shall not carry out work, which may involve exposure to lead, unless a competent person has made a

# **X-OCCUPATIONAL HEALTH, SAFETY & WELFARE**

## **X.1: GENERAL**

All work shall be in accordance with the requirements of the Occupational Health, Welfare and Safety Act as amended and the National Standard for Construction Work.

## **X.2: NATIONAL STANDARD FOR CONSTRUCTION WORK**

This national standard applies to:

- a) Clients and designers of construction projects;
- b) Persons with control of a construction project;
- c) Persons with control of construction work;
- d) Persons engaged to undertake construction work; and
- e) Construction sites;

but does not apply to owners and / or occupiers of dwellings personally performing construction work on those dwellings.

Those persons specified in the standard shall aim to protect persons from the hazards associated with construction work by:

- a) Requiring specified classes of persons to ensure these hazards are identified, the risks they pose assessed, and either the risks eliminated or, where this is not reasonably practicable, the risks are minimised; and
- b) Requiring the provision of information, consultation, planning, documentation, training and other measures to ensure occupational health and safety.

## **Z-EARTHQUAKE LOADS**

### **Z.1: DESIGN**

Building design for earthquake loads shall be determined by an engineer in accordance with AS1170.4 as amended.

## **AA-ALTERNATIVE SOLUTIONS**

### **AA.1: PERFORMANCE**

All building works shall be in accordance with the Building Code of Australia (BCA) and the South Australian Housing Code (SAHC) as amended. Where an alternative solution is proposed this must meet the performance requirements of the BCA and be approved by the appropriate authority. Details of the approved materials, systems and /or method must be attached to this specification.

# STANDARDS ADOPTED BY REFERENCE

This Specification shall be read in conjunction with the standards listed below (and subsequent amendments) and the Building Code of Australia (B.C.A.)

AS 1056.1	1991	Storage water heaters - General Requirements
AS/NZS 1170.0	2002	Structural design actions - General principles
AS/NZS 1170.1	2002	Structural design actions - Permanent, imposed and other actions
AS/NZS 1170.2	2002	Structural design actions - Wind actions
AS 1170.4	2007	Minimum design loads on structures - Earthquake loads
AS/NZS 1200	2000	Pressure equipment
AS 1273	1991	Unplasticized PVC (UPVC) downpipe and fittings for rainwater
AS 1288	2006	Glass in buildings - Selection and installation
AS 1289.6.3.3	1997	Methods of testing soils for engineering purposes - Soil strength and consolidation tests - Determination of the penetration resistance of a soil - Perth sand Penetrometer test
AS 1316	2003	Masonry cement
AS 1379	2007	Specification & Supply of Concrete
AS 1397	2001	Steel sheet and strip - Hot-dipped zinc-coated or aluminium/zinc-coated
AS 1428.1	2001	Design for access and mobility - General requirements for access - New building work
AS/NZS 1428.4	2002	Design for access and mobility - Tactile indicators
AS 1478.1	2000	Chemical admixtures for concrete, mortar and grout - Admixtures for concrete
AS 1530.1	1994	Methods for fire tests on building materials, components and structures - Combustibility test for materials
AS 1530.2	1993	Methods for fire tests on building materials, components and structures - Test for flammability of materials
AS 1530.4	1997	Methods for fire tests on building materials, components and structures - Fire-resistance tests of elements of building construction
AS/NZS 1530.3	1999	Methods for fire tests on building materials components and structures - Simultaneous determination of ignitability, flame propagation, heat release and smoke release
AS/NZS 1530.4	2005	Methods for fire tests on building materials, components and structures - Fire-resistance test of elements of construction
AS 1562.1	1992	Design and installation of sheet roof and wall cladding - Metal
AS/NZS 1562.2	1999	Design and installation of sheet roof and wall cladding - Corrugated fibre-reinforced cement
AS 1562.3	2006	Design and installation of sheet roof and wall cladding - Plastic
AS 1627.0	1997	Metal finishing - Preparation and pretreatment of surfaces - Method selection guide
AS 1657	1992	Fixed platforms, walkways, stairways and ladders - Design, construction and installation
AS/NZS 1664.1	1997	Aluminium structures - Limit state design
AS/NZS 1664.2	1997	Aluminium structures - Allowable stress design
AS 1668.2	2002	The use of mechanical ventilation and air-conditioning in buildings - Mechanical ventilation for acceptable indoor-air quality
AS 1672.1	1997	Limes and limestones - Limes for building
AS/NZS 1680.0	1998	Interior lighting - Safe movement
AS 1684.2,3,4	2006	Residential timber-framed construction
AS 1720.1	1997	Timber structures - Design methods
AS 1720.2	2006	Timber structures - Timber properties
AS 1720.4	2006	Timber structures - Fire-resistance for structural adequacy of timber members
AS 1851	2005	Maintenance of fire protection systems and equipment
AS 1860.2	2006	Particleboard flooring - Installation
AS 1926.1	2007	Swimming pool safety - Safety barriers for swimming pools
AS 1926.2	2007	Swimming pool safety - Location of safety barriers for swimming pools
AS 1926.3	2003	Swimming pool safety - Water recirculation systems
AS 2047	1999	Windows in buildings - Selection and installation

## STANDARDS ADOPTED BY REFERENCE

(cont'd)

This Specification shall be read in conjunction with the standards listed below (and subsequent amendments) and the Building Code of Australia (B.C.A.)

AS 4055	2006	Wind loads for housing
AS 4100	1998	Steel structures
AS/NZS 4200.1	1994	Pliable building membranes and underlays - Materials
AS/NZS 4200.2	1994	Pliable building membranes and underlays - Installation requirements
AS 4234	2008	Heated water systems - Calculation of energy consumption
AS 4254	2002	Ductwork for air-handling systems in buildings
AS/NZS 4256.1	2006	Plastic roof and wall cladding material - General requirements
AS/NZS 4256.2	2006	Plastic roof and wall cladding materials - Unplasticized polyvinyl chloride (uPVC) building sheets
AS/NZS 4256.3	2006	Plastic roof and wall cladding materials - Glass fibre reinforced polyester (GRP)
AS/NZS 4256.5	2006	Plastic roof and wall cladding materials - Polycarbonate
AS 4285	2007	Skylights
AS 4299	1995	Adaptable housing
AS/NZS 4347.0	1995	Damp-proof courses and flashings - Methods of test - General introduction, list of methods and test specimen requirements
AS 4440	2004	Installation of nailed timber roof trusses
AS/NZS 4455.1	2008	Masonry units, pavers, flags and segmental retaining wall units - Masonry units
AS/NZS 4455.3	2008	Masonry units, pavers, flags and segmental retaining wall units - Segmental retaining wall units
AS/NZS 4505	1998	Domestic garage doors
AS 4552	2005	Gas water heaters
AS/NZS 4586	2004	Slip resistance classification of new pedestrian surface materials
AS 4597	1999	Installation of roof slates and shingles (Non-interlocking type)
AS/NZS 4600	2005	Cold-formed steel structures
AS/NZS 4663	2004	Slip resistance measurement of existing pedestrian surfaces
AS/NZS 4666	2000	Insulating glass units
AS 4786.2	2005	Timber flooring - Sanding and finishing
AS/NZS 4858	2004	Wet area membranes
AS/NZS 4859.1	2002	Materials for the thermal insulation of buildings - General criteria and technical provisions
AS 4992.1	2006	Ceramic tiles - Grouts and adhesives - Terms, definitions and specifications for adhesives
AS 4992.3	2004	Ceramic tiles: Products for installation - Grouts: Definitions and specifications
AS 5039	2008	Security screen doors and security window grilles
AS 5040	2003	Installation of security screen doors and window grilles
AS 5601	2004	Gas Installations
AS/NZS ISO 717-1	2004	Acoustics - Rating of sound insulation in buildings and of building elements - Airborne sound insulation
AS ISO 717.2	2004	Acoustics - Rating of sound insulation in buildings and of building elements - Impact sound insulation
	2002	South Australian Housing Code (As amended)
ABCB	2006	Protocol for House Energy Rating Software, Version 2006.1
ASTM D2898	1996	Standard test methods for accelerated weathering of fire-retardant-treated wood for fire testing W1
ASTM D3018-90	1994	Class A asphalt shingles surfaced with mineral granules
ISO 8336	2009	Fibre-cement flat sheets
NASH Standard .1	2005	Residential and low-rise steel framing - Design criteria
NOHSC	2005	Code of Practice For The Safe Removal Of Asbestos- 2 <sup>nd</sup> Edition
HZW013	2002	Safeguard - Asbestos Removal
SA F1.7	2004	South Australian Minister's Specification - Waterproofing of wet areas in buildings
SSL		Register of Accredited Products - Fire Protection Equipment
TN 61		Cement and Concrete Association of Australia - Articulated walling
HB 161	2005	Guide to plastering
HB 230	2008	Rainwater Tank design and installation handbook
AS 4072.1	2005	Components for the protection of openings in fire-resistant separating elements - Service penetrations and control joints