



TENDER DOCUMENTS

Mornington Shire Council

Forward Remote Capital Program

RFT Reference: MSC-2024-001

Date of issue: Tuesday 19 March 2024

Closing Date: 4pm Tuesday 16 April 2024

Contents

Contents	2
Part 1 – Preamble	3
Tender Scope	6
Part 2 – Tender Information	11
Part 3 – Conditions of Tendering.....	13
Part 5 – Supplier Response Form	28
Annexure 1 - Concept/Schematic Design.....	31
Annexure 2 - Design and Construction Standards for Remote Housing August 2016	44
Annexure 3 - Design Specification Remote Housing Version 2 25 May 2020.....	124
Annexure 4 - Product Standards - . Social Housing Dwellings June 2016.....	134

Part 1 – Preamble

Background

Mornington Geography

Mornington Island is the largest of the North Wellesley Islands located in the Gulf of Carpentaria. The town of Gunana (a Lardil word) was founded in 1914 and is the primary residence of most of the Shire's population and the location of the Council Offices.

Mornington Island is located about 125kms north-west of Burketown, 200kms west of Karumba, and 444kms from Mt Isa. Mornington Shire incorporates twenty-one of the twenty-two islands and has an area of 1,248.4 square kilometers. The Shire is arguably one of the most remote and isolated Local Governments in Northern Australia.

The Wellesley Islands are remnants of the mainland now submerged by the syncline that formed the Gulf of Carpentaria and are essentially flat platforms with little relief. There are substantial areas of intertidal flats and fringing reefs associated with most Islands. After the end of the Ice Age, approximately 6,500 years ago, rising sea levels reached their current height. Before this change, the Wellesley Islands formed a peninsula that was part of the Carpentaria mainland.

Rex Airlines offer passenger flights 4 days a week between Mornington Island and Cairns. Carpentaria Freight offers a weekly freight barge (no passengers) service to Mornington Island, via Kurumba. They have a depot in Cairns and a fleet of trucks travelling directly between Cairns and Kurumba, to assist with customer's freight.



Our Nature and Environment

The region remains one of the most pristine anywhere, featuring internationally renowned art works, rich cultural heritage, harmonious multicultural (predominately indigenous Australian) communities and one of the best fishing destinations in Australia. The land is covered by native flora like Teatree with swamp flats providing a habitat for many species of wildlife.

Community History and Culture

Whilst the Island was founded in 1914, Mornington Shire was formed in 1978. The region is renowned for its rich Indigenous culture, expressed most prominently through the Mornington Island dancers and the internationally acclaimed artwork that has emerged from the community in recent times. Lardil are the original custodians of Mornington Island and are the largest tribal group, who formerly occupied the North Wellesley Islands (Mornington, Sydney, and Wallaby). Yangkal tribal lands consist of the islands between Mornington and the mainland. The Kaiadilt tribal group occupied the South Wellesley Islands (Bentinck and Sweers).

Over the years, following European settlement, children and people from tribes on mainland Australia and other Islands were brought here. Lardil people had little or no contact with the outside world before the early 1900s. Pre-contact, Lardil people lived in family groups of fifteen to twenty people who owned a portion of land and water.

Each Lardil group was separated into four tribal areas. These boundaries were set by the four winds according to traditional Lardil beliefs. For social and ceremonial purposes, they were divided into the Windward (south and east) and Leeward (north and west) moieties.

Council Services

Council's Vision is as follows:

- To empower our Community – Our people
- To feel solid and strong like the rock in Mundalbe
- To taste and hear the breaking waves of change
- To establish clean, safe, healthy lifestyles togetherness
- Pride and respect for each other in our culture, achievements and successes
- To see and smell the compassion and peacefulness of our community

The Mornington Shire Council is responsible for local government services such as road construction and maintenance, water infrastructure, sewerage infrastructure and maintenance, environmental health, and parks & gardens.

In addition to these primary functions Council also provides the following services and facilities:

- Workshop
- Bakery
- Warehouse
- Airport
- Animal Control

Tender Scope

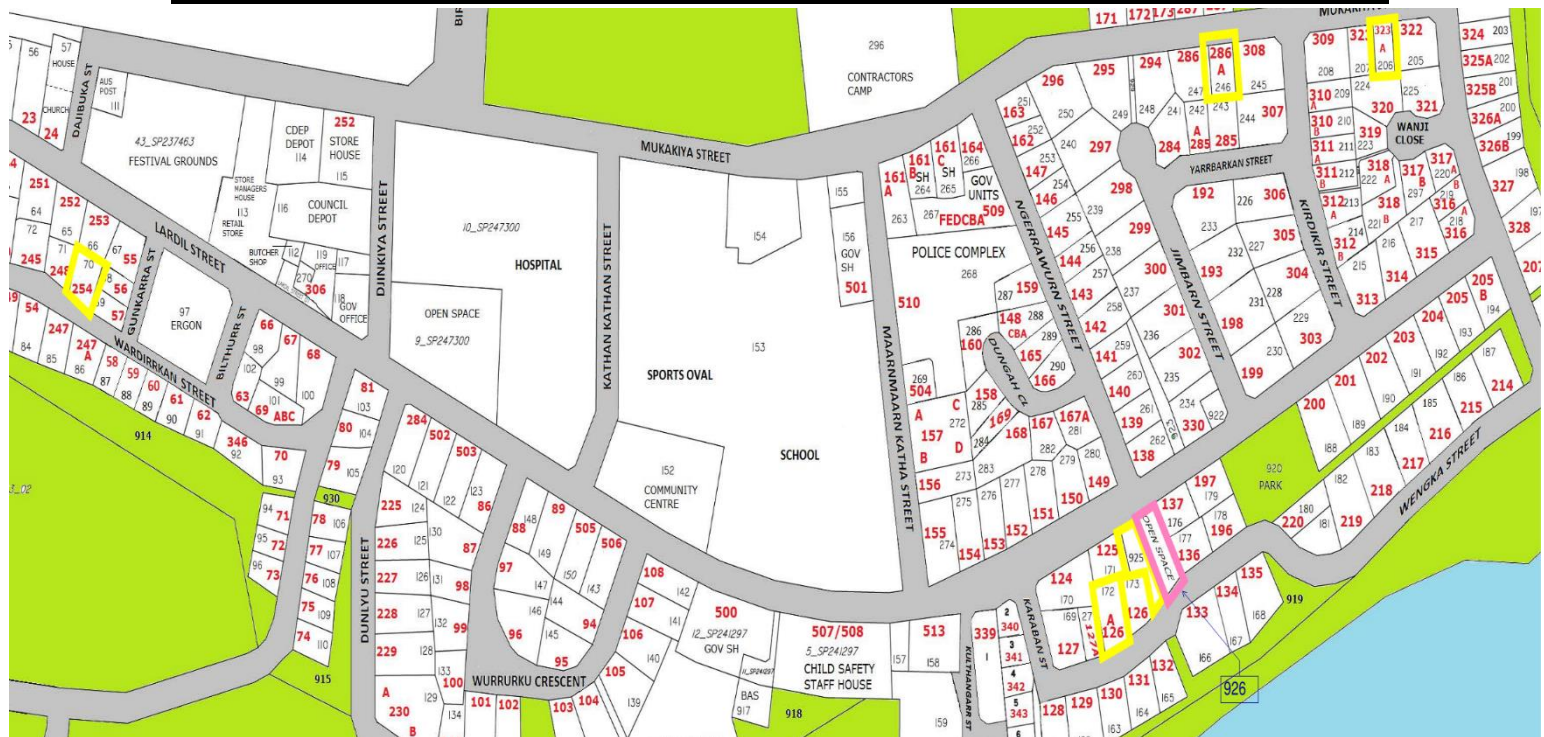
Project Scope

The project scope is to design and construct (or alternative as set out below for prefab) the 5 Individual houses and 4 single men's houses on various sites along with the carports. Mornington Shire Council is committed to ensuring continued support to working partnerships with local communities in which they operate and encourage the successful Tenderer to engage the local workforce and local sub-contractors where possible.

Construction Site Locations

Below is a birds-eye view of the site locations. Individually highlighted in yellow are the 5 individual homes and highlighted in pink 4 single men's units.

Map 1 – The Site



Project General:

Contract Terms and Conditions

Contract General and Special Terms and Conditions shall be in accordance with the Australian Standards General Conditions suite applicable to the tenderer's proposal, namely:

- AS2124-1992 Construct only; or
- AS4300-1995 Design and Construct

Lump-Sum Pricing

The Tenderer must provide a complete lump sum price for the Design and Construct (or alternative prefab and construct) based on the Council supplied Concept/Schematic Design – Annexure 1 (attached) the following;

- The project involves the full design and construction of five individual homes and 4 Single Men's Units (refer Annexure 1 for concept drawings), each will be allocated and constructed on locations as identified.
 1. Lot 246 on SP270889, 286A Mukakiya Street – 3 x Bedroom
 2. Lot 206 on SP270889, 323A Mukakiya Street – 3 x Bedroom
 3. Lot 2 on SP323793, 26A Wengka Street – 1 x Bedroom
 4. Lot 70 on SP270889, 254 Wardirrkkan Street – 4 x Bedroom
 5. Lot 925 on SP270889, 925 Lardill Street – 3 x Bedroom
 6. Lot 926 on SP282722, 296 Lardill Street – 4 x 2 Bed Single men's units(together "the Site").
- Design is to include, but not limited to
 1. **Architectural Drawings:** Floor plans, elevations, sections, and details showing the layout, dimensions, materials, finishes, and overall aesthetics of the building. Including Specifications, Colour boards and FF&E schedules
 2. **Structural Drawings:** Foundation plans, framing plans, details of structural elements, and calculations to ensure structural integrity and compliance with building codes.
 3. **Mechanical Drawings:** HVAC (ventilation, and air conditioning) layouts, and specifications for mechanical components.
 4. **Electrical Drawings:** Power distribution plans, lighting layouts, wiring diagrams, panel schedules, and specifications for electrical fixtures and equipment.
 5. **Plumbing Drawings:** Plumbing diagrams, piping layouts, fixture schedules, and details of plumbing fixtures and fittings.

6. **Landscape Drawings:** Design and specify materials for hardscape.

Applicable Design, Regulations Compliance and Standards:

- This is a D&C fixed lump sum contract. The Tenderer takes responsibility for all quantities and design that form part of the build. The Tenderer is responsible for any discrepancies between any tender allowance versus installed quantities.
- The Tenderer will include and acknowledges that all the works includes design, and the Tenderer shall develop, amend and finalise the design of the works (with the written approval of MSC) to ensure that the works achieves and is fit for its intended purpose.
- The Tenderer will include and acknowledges that all the design, and develop of the works has been done in accordance with the Design and Construction Standards for Remote Housing August 2016 – Annexure 2 (attached)
- The Tenderer will include and acknowledges that all the design, and development of the works has been done in accordance with the Design Specification Remote Housing Version 2 25 May 2020 – Annexure 3 (attached)
- The Tenderer will include and acknowledges that all the design and development of the works has been done in accordance with the Product Standards – Social Housing Dwellings June 2016 – Annexure 4 (attached)
- The Tenderer will include and acknowledges that all the design, and development of the works has been done in accordance with the Building in Queensland's climate zone 1
- The Tenderer will include and acknowledges that all the design, and development of the works has been done in accordance with the Cyclone Resilient Building Guidance for Queensland Homes
- All works are to be completed in accordance with Australian Standards, the Australian Building Code and relevant Regulations.
- The Tenderer acknowledges the installation specifications must be followed as per manufacturer's guidelines.
- All works are to be completed in accordance with the relevant Occupational Health and Safety Legislation, Acts, Regulations, Industry Standards, Codes of Practice etc.
- All works are to be completed in accordance with relevant local council and government environmental protection guidelines.
- It is the responsibility of the Tenderer to ensure all works and associated installations are carried out in accordance with local authority and statutory requirements.
- Allow for all documentation as required including certificates for compliance for Code Compliance Certificate

Additional Requirement for Prefabricated Option

- A proposed alternative for building five separate homes and four Single Men's Units is for conceptual designs, namely the use of prefabricated houses. The tender should encompass the procurement, transportation, placement, and commissioning complete with all final certificates of these prefab structures.

- All Design, Regulations Compliance and Standards as set out above to be demonstrated by the Tenderer.

Planned Contract Commencement Date

Per Tender Information (Part 2) and Conditions of Tendering (Part 3).

Contract Term

The intention to have the Duplex Housing and Plug-ins completed/commissioned onsite no later than August 2023 which will complete the terms of the contract.

Part 2 – Tender Information

	Mornington Shire Council					
Project Name:	MSC-2024-001 - Forward Remote Capital Program					
Scope:	See Part 1 Preamble (Tender Scope)					
Site:	Refer to Map 1					
Proposed Timetable:	Action					Proposed date
	Tenders open					19 March 2024
	Tenders close					16 April 2024
	Tenders evaluated					29 April 2024
	Tenders awarded					08 May 2024
Tender briefing or site inspection:	Description	Time and Date	Place	Maximum attendees	Mandatory or optional	RSVP
	N/A	N/A	N/A	N/A	N/A	N/A
Communication Method:	<input checked="" type="checkbox"/> Email: tenders@mornington.qld.gov.au					
Communication Closing Time:	2 calendar days prior to the Tender Closing Time as amended, if at all, pursuant to the conditions of tendering.					
Tender Closing Time:	4pm 16 April 2024 <i>Note// The tenderer must allow adequate time for the tender (including all supporting documents) be received in the Tender Box by the Tender Closing Time.</i>					
Evaluation Criteria:	Criteria					Weighting (%)
	1. Price					50
	2. Remote Area Industry Experience					15
	3. Quality Assurance Accreditation					5
	4. Program					15
	5. Local contribution and support					15
	TOTAL					100
Tender Box:	All tenders must be lodged at Tenders@mornington.qld.gov.au by the close time/ date.					
Tender Format:	Tenders must consist of: <ul style="list-style-type: none"> 1x set of the Response Schedules (signed) in the format provided by the Principal in Part 5. 1x cover letter/ proposal addressing each of the Evaluation Criteria; Copies of evidence required (insurances/ quality assurance etc). All electronic files must be in single paginated PDF file. File names must include the contract number and a brief description of the document (MSC-2024-001)					
Page Limit	No limit.					
Tender Validity Period:	90 calendar days from the Tender Closing Time					
Procurement Administrator:	Dr Chris McLaughlin E: tenders@mornington.qld.gov.au					
Principal's Complaints	Name:	Gary Uhlmann				

Manager:	Telephone:	0477 348 503
	Email:	ceo@Mornington.qld.gov.au

Part 3 – Conditions of Tendering

1. BACKGROUND

- 1.1 **(Invitation to tender)** The Principal invites tenders from suitably qualified Tenderers for the provision of the work, services and/or goods detailed in the Scope.
- 1.2 **(Proposed Timetable)** The Principal proposes to adopt the process and timing identified in the Proposed Timetable but may change these in accordance with these Conditions of Tendering.
- 1.3 **(Acceptance of terms)** By submitting a tender, the tenderer will be taken to have accepted and be bound by these conditions of tendering.
- 1.4 **(Interpretation)** Unless otherwise separately defined in these conditions of tendering, capitalised terms used in these conditions of tendering have the meanings given in the Tender Information. References to time are to local time in Queensland.

2. COMMUNICATIONS

- 2.1 **(Communication Method)** Subject to clause 2.5, all communications by the Procurement Administrator to the tenderer or by the tenderer to the Procurement Administrator regarding this tender shall be conducted at first instance using the Communication Method. Where the Communication Method is email, the Procurement Administrator shall direct communications to the email address notified by the tenderer to the Procurement Administrator.
- 2.2 **(Tenderer's responsibility)** The tenderer must ensure that it is capable of receiving and does receive all communications to the tenderer in connection with the request for tender process.
- 2.3 **(Communication Closing Time)** The Principal will not respond to any communication received after the Communication Closing Time. In the event of technical difficulties only, the tenderer may contact the Procurement Administrator directly.
- 2.4 **(No reliance)** The tenderer must not rely on any information which is communicated by a means other than that described in paragraph 2.1 unless and until it is communicated in writing in accordance with paragraph 2.1.
- 2.5 **(Complaints)** Complaints in relation to this process should be directed to the Principal's Complaints Manager.

3. TENDER BRIEFING AND SITE INSPECTION

- 3.1 **(Tender briefing and site inspection)** The tenderer must attend any tender briefing and site inspection that is identified in the Tender Information as mandatory. The tenderer must confirm that it intends to attend a tender briefing or site inspection to the email address and by the time and date stated in the Tender Information.
- 3.2 **(No reliance)** The tenderer must not rely on any verbal statements made during a tender briefing or site inspection unless those statements are confirmed in writing by the Procurement Administrator.

4. LODGEMENT OF TENDER

- 4.1 **(Method of lodgment)** A tender must be lodged:
- (a) if the Tender Box is a website, by uploading it to the Tender Box;
 - (b) if the Tender Box is an email address, by sending it as an attachment to an email to the Tender Box;
 - (c) if the Tender Box is a physical address, by delivering it to the Tender Box.

The Procurement Administrator may, on request by the tenderer, allow a tender to be lodged by an alternative method.

4.2 **(Time of Lodgment)** A document forming part of a tender shall be deemed to have been lodged:

- (a) where the Tender Box is a website, at the time that the document is successfully uploaded to the Tender Box, as indicated on the electronic receipt issued to the tenderer;
- (b) where the Tender Box is an email address, at the time that an email attaching the document is successfully delivered to the Tender Box, as indicated on the email system on which the Tender Box is hosted;
- (c) where the Tender Box is a physical address, at the time that the document is physically received at the Tender Box; or
- (d) where the tender is lodged by an alternative method allowed by the Procurement Administrator, when it is received by the Procurement Administrator by that method.

4.3 **(Tender opening)** Tenders will not be opened publicly, and the tenderer will not be permitted to attend the opening of tenders.

4.4 **(Tender format)** A tender must be lodged in the Tender Format.

4.5 **(Tender Validity Period)** A tender must remain valid and open for acceptance for the Tender Validity Period.

4.6 **(Conforming tender)** A tender is a conforming tender if, in the opinion of the Principal, it:

- (a) is substantially in the form of and contains substantially all information and documentation required by the response schedules included in Part 5 – Response Schedule;
- (b) is substantially in accordance with the Tender Format;
- (c) does not substantially exceed the Page Limit (if any); and
- (d) contains no significant alternatives, qualifications or amendments to or departures from the Scope or the form of contract contained or referenced in Part 4 – Contract ('the Contract').

4.7 **(Non-conforming tender)** A tender which does not comply with the requirements of paragraph 4.6 is a non-conforming tender ('Non-conforming Tender').

4.8 **(Alternative tender)** A tender which, in the opinion of the Principal contains significant alternatives, qualifications or amendments to or departures from the requirements of the Scope or the Contract but otherwise complies with paragraph 4.6 is an alternative tender ('Alternative Tender').

4.9 **(Late tender)** A tender which is not received in the Tender Box by the Tender Closing Time is a late tender ('Late Tender').

5. CONDUCT OF PROCESS

5.1 **(General)** The Principal:

- (a) **(Conduct of process)** may conduct the request for tender process in any manner which it sees fit, but will endeavor to do so in a manner which is consistent with this request for tender and the sound contracting principles in section 104 of the *Local Government Act 2009* (Qld) ('sound contracting principles'); and
- (b) **(no representation or undertaking)** makes no representations and provides no undertakings other than to invite the submission of tenders.

5.2 **(Specific rights)** Without limiting clause 5.1, the Principal may do anything which it considers to be prudent or necessary for the proper conduct of the request for tender process at its absolute discretion, without reference to the tenderer and without providing reasons, including, without limitation:

- (a) **(Alteration of request for tender documents)** amend, add to or delete any part of this request for tender including:
 - (i) the procedures and timeframes provided in the request for tender;
 - (ii) the evaluation criteria (including weightings); and/or
 - (iii) any document issued by or on behalf of the Principal in connection with the request for tender, including the scope and the Contract;
- (b) **(Suspension or termination)** suspend or terminate the request for tender process;
- (c) **(attendances)** request any one or more tenderers to attend a tender briefing, site inspection or other meeting or to make a presentation of their tender in person at the Principal's office at no cost to the Principal;
- (d) **(Change or error in request for tender documents)** request any one or more tenderers to change their tender to take account of a change in the scope or other document issued in connection with this request for tender or any error in such documents;
- (e) **(Clarification or alteration)** request any one or more tenderers to clarify or alter any aspect of the tenderer's tender;
- (f) **(Additional information)** request additional information from one or more tenderers relating to a tender, the request for tender process, the tenderer's compliance with the conditions of tendering or any other matter which the Principal considers relevant to its assessment (including information that should have been, but was not, included in the tenderer's tender);
- (g) **(investigations)** undertake its own investigations, or engage third parties to do so on its behalf, in relation to any aspect of a tender or any other matter which it considers relevant to the conduct of the request for tender process;
- (h) **(negotiation)** negotiate amendments to any aspect of a tender with any one or more tenderers and suspend or terminate such negotiations at any time.

6. **PRINCIPAL'S LIABILITY**

6.1 Neither the Principal nor any of its officers, employees, agents, Tenderers, consultants, agents, representatives (including elected representatives) or other persons for whom it is vicariously liable shall under any circumstances, whether in tort (including for negligence), contract (including for breach of an express or implied term), statute, equity or otherwise at law be liable to the tenderer for any special, indirect or consequential loss, damage, cost or expense in connection with this request for tender process (including, without limitation, loss of or loss of anticipated profit, income, opportunity or contract).

7. **TENDERER'S WARRANTIES AND REPRESENTATIONS**

7.1 By submitting a tender, the tenderer warrants and represents that:

- (a) **(reliance)** the tenderer:
 - (i) has received or obtained copies of all of the documents referred to in this request for tender;
 - (ii) has not relied on the accuracy, adequacy or completeness of any documents or information provided by or on behalf of the Principal in connection with this request for tender in preparing its tender and has notified the Principal of any ambiguity, inconsistency, uncertainty, error or omission which it has

discovered in or from any document supplied by or on behalf of the Principal in connection with the request for tender on which the tenderer intends to rely;

(iii) has undertaken its own enquiries and investigations to satisfy itself of:

A. the nature and extent of the Scope, its contractual obligations and all other risks, contingencies and other circumstances which could have an impact on its ability to carry out and complete the obligations which it will have under the Contract if its tender is accepted for its tendered price; and

B. the suitability, appropriateness and adequacy of the Scope (including, in respect of contracts under which the successful tenderer is required to design works, any preliminary design included in the Scope) for the purposes stated in or to be reasonably inferred from the Scope;

(b) **(Accuracy of tender)** all information provided in or with the tender is accurate;

(c) **(ability)** the tenderer and to the extent relevant to them, the tenderer's officers, employees, agents, subcontractors, consultants, representatives and other persons who will carry out an obligation of the tenderer under the Contract in the event that the tenderer's tender is accepted:

(i) hold (and are compliant with all requirements of) all necessary competencies, licenses, accreditations, certifications, permits, clearances and other authorization's which will be required; and

(ii) have and will maintain the necessary experience, expertise and skill,

to perform the obligations that the Tenderer will have under the Contract if the tenderer's tender is accepted, in accordance with the requirements of the Contract;

(d) **(price)** the tendered price (along with any rates, sums and prices included in the tender) allows for:

(i) all of the risks, contingencies and other circumstances which could have an effect on the tenderer's ability to carry out and complete the obligations which it will have under the Contract if its tender is accepted, except to the extent that the Contract expressly allows an adjustment;

(ii) the provision of all materials, plant, labour and other services necessary for the proper completion of the obligations it will have under the Contract if its tender is accepted, whether or not those items are expressly mentioned in the Contract; and

(iii) unless the Contract expressly allows an adjustment, rise and fall in costs;

(e) **(Conduct of tenderer)** neither the tenderer nor any of its officers, employees, agents, subcontractors, consultants, representatives or other persons for whom it is vicariously liable has:

(i) engaged in misleading or deceptive conduct in connection with the request for tender process;

(ii) engaged in any collusive tendering, anticompetitive conduct, or any other unlawful or unethical conduct with any other tenderer, or any other person in connection with the request for tender process;

(iii) attempted to improperly influence any of the Principal's officers, employees, agents, Tenderers, consultants or representatives (including elected representatives) or violated any applicable law regarding the offering of inducements in connection with the request for tender process;

(iv) accepted or invited improper assistance of any current or former officer, employee, agent, Tenderer, consultant or representative (including an elected representative) of the Principal, in preparing the tenderer's tender;

(v) used any information improperly obtained, or obtained in breach of any obligation of confidentiality in preparing the tender;

(vi) breached any law in connection with the request for tender process;

- (vii) engaged in any aggressive, threatening, abusive, offensive or other inappropriate behavior in connection with the request for tender process; or
- (viii) engaged in conduct contrary to sections 199 and 200 of the *Local Government Act 2009* (Qld).
- (f) **(Intellectual Property Rights)** the exercise by the Principal of any right provided in these conditions of tendering will not infringe the Intellectual Property Rights of a third party in connection with the Tenderer's Tender;
- (g) **(Conflicts of interest)** the tenderer has disclosed in its tender any conflict of interest (whether actual, potential or perceived) arising or which is likely to arise as a result of this request for tender process or the performance of the obligations which it will have under the Contract if its tender is accepted; and
- (h) **(Competitive neutrality)** if the tenderer is required by law to comply with principles of competitive neutrality, the tenderer has properly considered, assessed and complied with the applicable competitive neutrality principles in relation to the Request for tender process and the acceptance by the Principal of the tenderer's tender will not breach those principles.

8. ASSESSMENT OF TENDER

- 8.1 **(Criteria)** The Evaluation Criteria will be considered but not necessarily exclusively in assessing tenders.
- 8.2 **(Considerations)** In assessing tenders, the Principal may consider any information which the Principal reasonably considers to be relevant to its assessment (however obtained), including:
 - (a) information contained in the tender, any amendment to or clarification of a tender or provided at a meeting with or presentation by the tenderer;
 - (b) information obtained from the tenderer's referees (if any);
 - (c) information obtained pursuant to clause 5.2(g);
 - (d) the tenderer's past performance under other contracts with the Principal or third parties; and
 - (e) the reasonably held subjective opinions of the persons appointed by the Principal to evaluate tenders or any advisor to such persons.
- 8.3 **(Uncertainties)** The Principal may ignore any part of a tender which is ambiguous, uncertain, unclear or illegible without seeking clarification from the tenderer and may assess the balance of the tender.
- 8.4 **(Right to exclude)** The Principal may, but shall not be obliged to, reject or exclude from assessment any tender including:
 - (a) a Non-conforming Tender, an Alternative Tender or a Late Tender;
 - (b) a tender, in respect of which the Principal reasonably believes that:
 - (i) the tenderer has failed to comply with these conditions of tendering, or any request made by or on behalf of the Principal pursuant to them within the time required;
 - (ii) the tenderer has breached a warranty given or representation made pursuant to these conditions of tendering or that a warranty or declaration given, or representation made in the tenderer's tender was false or misleading in any material respect;
 - (iii) the tenderer cannot comply with the obligations which it will have under the Contract if its tender is successful for the tendered price;
 - (c) a tender which fails to achieve a satisfactory score against any of the Evaluation Criteria, even if the overall score of the tender is satisfactory.

8.5 **(Local preference)** The Principal may accept a tender lodged by a Local Supplier in preference to comparable tenders from Non-Local Suppliers even if the tenders from the Non-Local Suppliers have been assessed as more favourable in terms of one or more criteria, so long as the overall differences are not substantial, and so long as it is clear that the Local Supplier can meet the Principal's requirements at an acceptably high standard which is generally comparable to that of the Non-Local Suppliers. In this clause:

- (a) Local Supplier has the same meaning as in the Principal's published procurement policy or where the Principal does not publish such a policy, or the policy does not contain a definition of 'local supplier', means a supplier that:
 - (i) is beneficially owned and operated by persons who are residents or ratepayers of the local government area of the Principal has determined under the *Local Government Regulation 2012* (Qld); or
 - (ii) has its principal place of business within that local government area; or
 - (iii) otherwise has a place of business within that local government area that solely or primarily employs persons who are residents or ratepayers of that local government area; and
- (b) Non – Local Supplier means a supplier that is not a Local Supplier.

9. ACCEPTANCE OF TENDER

9.1 **(No obligation)** The Principal is not bound to accept the tender with the lowest price, or the tender with the highest score against the Evaluation Criteria, or any tender but will, if it accepts a tender, accept the tender which is most advantageous to the Principal having regard to the sound contracting principles, to the extent that they are applicable and relevant to the request for tender process.

9.2 **(Form of acceptance)** A tender will not be taken to be accepted, and no contract for the provision of any work, services and/or goods will exist, unless and until the successful tenderer receives written confirmation of the acceptance from the Principal.

9.3 **(Form of Contract)** If a tender is accepted, the tenderer will be required to enter into a contract with the Principal in the form contained in Part 4 – Contract as amended, if at all, by agreement between the parties. The contract will not include any alternative terms, conditions or qualifications which the tenderer submits with a tender unless specifically and expressly accepted in writing by the Principal.

9.4 **(Unsuccessful tenderers)** Unsuccessful tenderers will be notified after a tender has been accepted. The Principal may provide feedback to unsuccessful tenderers if requested to do so, but such feedback, if given, may be general in nature and limited to the tenderer's tender only.

10. DOCUMENTS AND INFORMATION

10.1 **(Ownership of tender)** The tender will become the property of the Principal upon submission.

10.2 **(Intellectual Property Rights)** All rights of intellectual property, including copyright, in documents and information provided on behalf of a party in connection with this request for tender remain, as between the parties, with the party on whose behalf they were provided. The tenderer grants to the Principal irrevocable, perpetual, non-exclusive, royalty free license to exercise the rights provided to it in clause 10.5 and the Principal grants the tenderer a revocable, non-exclusive, royalty free license to exercise the rights provided to it in clause 10.5.

10.3 **(Information Privacy Act)** If the tenderer collects or has access to 'Personal Information' as that term is defined in the *Information Privacy Act 2009* (Qld) in connection with the request for tender process, the tenderer must comply with Parts 1 and 3 of Chapter 2 of that Act in as if the tenderer was the Principal.

10.4 **(Confidentiality)** Subject to clause 10.5, each party shall keep confidential the documents and information provided by the other party in connection with this request for tender which are of their nature confidential.

10.5 **(Use of documents and information)** Documents and information provided on behalf of a party to the other party in connection with this request for tender (including, if the tenderer's tender is accepted, information relating to the tenderer's price) may be used, copied, modified or disclosed as required by any law and otherwise:

- (a) by the Principal, as the Principal considers to be reasonably necessary to properly conduct the request for tender process and/or to properly carry out its functions as a local government authority;
- (b) by the tenderer, as is reasonably necessary to enable the tenderer to:
 - (i) prepare the tender;
 - (ii) obtain legal, accounting or other professional advice; or
 - (iii) comply with the tenderer's corporate governance requirements.

10.6 **(Media)** The tenderer must not, either on its own account or in conjunction with other parties, issue any publication, advertisement, document, article or information whether verbal or written, in connection with the request for tender process in any media without the prior approval of the Principal.

Part 4 – Special Conditions of Contract

In addition to the applicable Australia Standards General and Special Conditions of Contract applicable to this engagement, the following Special Conditions of Contract shall apply.

1. Insurance Requirements under the Contract

- Public and product liability \$20 million (per claim)
- Professional Indemnity Insurance \$5M (per claim)
- Motor vehicle compulsory 3rd party (per legislated requirements)
- Workers' compensation (per legislated requirements)
- Plant/equipment Insurance (per legislated requirements)
- Product Liability Insurance (per legislated requirements).

2. Monthly Progress Reporting

- A summary of the progress made in each key area of the project
- Supply a photo log of the completed work showing clear and sufficient detail of all stages of the project
- Analysis of the progress against the planned project schedule
- An explanation of the causes of any delays
- An assessment of any quality and design issues
- Analysis of key performance indicators
- Weather reports
- An assessment of any health, safety, and environmental issues
- Report of any issues with locals (such as noise, dust, vibrations, access, safety, environment, traffic etc)
- An assessment of any other issues that need to be addressed and proposals for addressing them
- Following month lookahead that includes specific requirements for upcoming progress milestones.

3. Disclosure of Tendered Rates

To maintain confidentiality, pricing submitted will not be disclosed. Confidentiality in relation to other tenderers' prices will be maintained and will not be disclosed to other tenderers per the Conditions of Tendering.

4. Work Health and Safety Management Plan

The successful tenderer will be required to submit a Work Health and Safety Management Plan for the work prior to commencing the contract works, addressing specific Work Health and Safety ('WHS') issues relevant to the contract. The management plan must state:

- Brief description of the contract work
- Statement of responsibilities, names and positions of all persons who have specific WHS (Work Health and Safety) responsibilities
- Details of induction training
- Contact details of the person responsible for responding to any WHS incidents
- Safe Work Method Statements relevant to the contract
- Site Specific Risk Assessment
- First Aid and Emergency Procedures
- Consultative Arrangements with Employees
- Incident Reporting.

5. Risk Assessment

The initial risk assessment should be undertaken in consultation with the Council Officer responsible for the contract. This process needs to be documented, stating who undertook the risk assessment, the hazards identified and the controls to be implemented to reduce the associated risk of the identified hazards. In addition to this, the risk assessment must be used to develop a safe work method statement ('SWMS'); see below for further details. The risk assessment must always be available for the duration of the contract term.

6. Safe Work Method Statements ('SWMS') for Onsite Works

The Tenderer must provide the Council with a copy of SWMS (Safe Work Method Statements) for all onsite tasks associated with the contract that has been identified as having safety risks. SWMS should be derived from the risk assessments undertaken (Refer to Risk Assessment above). The Tenderer is required to comply with all relevant areas of the WHS Act 2011, WHS Regulations 2011 and associated Workcover guidelines and/or documentation providing the Council with SWMS for all areas of the contract works. Prior to the commencement of any onsite contract works, the Council must be satisfied that all functions undertaken by the Tenderer are covered by an appropriate SWMS and it is the Tenderer's responsibility to ensure that the Council approves their SWMS.

7. Plant Specific Risk Assessment

Under the WHS Act 2011 and Regulations 2011, the Tenderer is required to ensure plant, vehicles and equipment is safe for use and that a risk assessment is available that identifies hazards, controls and how to maintain these effectively. The Tenderer is required to meet the legislative requirements by making available a documented risk assessment confirming that the plant, vehicles, and equipment utilised on the Council's worksite have been assessed against relevant legislation and

Australian standards.

8. Hazard Identification

During risk assessments, the Tenderer must identify hazards associated with all tasks to be undertaken and continually undertake risk assessments for the duration of the contract. The following is a guide of hazards that may be identified:

- Physical hazards: noise, manual handling and working from heights
- Chemical hazards: possible inhalation, skin contact and ingestion
- Electrical hazards: underground cabling and overhead power lines
- Biological hazards: handling of waste
- Psychological hazards: conditions that may lead to stress.

9. Hazard Reporting

The Tenderer is required to identify and control any hazards that arise during the contract works. The Tenderer must report and communicate all significant hazards that occur whilst undertaking contract works to the relevant Council Officer immediately. In addition to this, a hazard register is required to be maintained throughout the contract, as stipulated under the WHS Regulations.

The Tenderer is required to utilise their own reporting system in accordance with WHS legislation to record the hazards identified. A copy of the register is required to be submitted at the completion of the contract or if the contract is terminated.

It is the responsibility of the Tenderer to ensure compliance with the Work Health and Safety Act 2011 and the Work Health and Safety Regulations 2011, and any relevant Federal and State Acts governing the contract works. If a hazard presents an imminent danger, the Tenderer must take appropriate action to eliminate the hazard and report it to the Council immediately by contacting the appropriate Council Officer overseeing the contract works.

10. Hazard Control

When implementing controls, the Tenderer is required to apply the below risk management principles:

- Elimination
- Engineering controls
- Separation
- Personal Protective Equipment
- Administration.

11. Drug and Alcohol Policy

Tenderer's employees may be subject to random and post incident alcohol and drug testing.

12. Skills and Competencies

Where plant, vehicles or equipment operation is required under the contract works, the successful tenderer must produce to the Council their original certificates of competency and any relevant licenses. Council will require a copy of these certificates prior to the work commencing on site.

If the Tenderer provides the Council with fraudulent certificates or licenses, the Council has the right to terminate the contract and report this to the relevant authorities.

It is the responsibility of the Tenderer onsite to ensure that their employees are supervised, trained, instructed, and supplied with the appropriate PPE (Personal Protective Equipment) as stipulated under the WHS Act 2011.

The Tenderer and their employees will be informed of the following procedures that must be discussed during the induction process or toolbox meetings and must be documented:

- Emergency procedures and responses
- Incident/accident procedures
- Onsite security
- Hygiene procedures
- Workplace hazards
- Site-specific rules.

13. Inductions

It is the Tenderer's responsibility to ensure their employees have undergone the relevant Work Health and Safety induction training in accordance with Workcover requirements and always carry the induction certification ticket with them. The Council can request the evidence of the Tenderer's employees at any time during the contract term and during random and unannounced inspections onsite.

The Tenderer is required to ensure their employees have been inducted onto the site where they will be working. This induction will be documented, stating the employee's name, the site they have been inducted to and have a copy of the risk assessment attached.

14. Daily Onsite Prestart Meeting/Toolbox Meetings

Tenderer must undertake a daily onsite prestart meeting/toolbox meeting with their employees and subcontractors (if any). The initial meeting must be undertaken in conjunction with the site-specific risk assessment and induction process. Site meetings must be conducted daily as a minimum and when job situations or employees/subcontractors change.

A record of all toolbox meetings must be documented, stating the employees who attended the meeting and their signatures indicating attendance and the topics that were discussed. The Tenderer must keep a register of all ongoing workplace/site audits undertaken during the term of the contract works. This register shall also contain corrective actions undertaken to eliminate or control hazards.

15. Electrical

In addition to the WHS Act 2011 and WHS Regulations 2011, the Tenderer must comply with the Australian Standard (AS) 3000: 2000 Electrical Installations (known as the Australian Wiring Rules) and the Code of Practice for Electrical Practices for Construction Work, where relevant.

Tenderer must ensure all employees are appropriately trained in the use of all electrical equipment they will be using during the contract term and ensure equipment is inspected by a suitably qualified person. Tenderer must keep a record of the currency of all electrical equipment and ensure this record is kept up to date.

16. Hazardous Substances

Tenderer must provide a list of hazardous substances that will be utilised throughout the contract term. The Tenderer, as required under WHS legislation, must keep a register of the substances and all relevant Safety Data Sheets ('SDS'). The Tenderer must ensure all SDSs (Safety Data Sheet) are current and ensure hazardous substances are stored in accordance with the SDS. The Tenderer is requested to use chemicals with lower hazard levels without compromising the technical requirements of the contract works.

17. Lifting Gear

Tenderer must keep a register of all lifting gear (chains, slings, strops, wire rope, shackles, and hooks) and ensure their employees are trained in the use of all lifting gear they will be using whilst undertaking the contract works. All lifting gear is to undergo annual and quarterly inspection checks by a competent person before commencing the contract work. Daily inspection checks must also be undertaken prior to works commencing.

18. Personal Protective Equipment (PPE)

Tenderer and their employees and subcontractors (if any) are required to wear the appropriate PPE in accordance with the relevant Australian Standards and Codes of Practice. The Tenderer must provide their employees with the appropriate PPE, maintained to the Australian Standards to undertake the contract works safely and ensure they are trained in their correct use. Where hazards are identified on the worksite the Tenderer must implement corrective controls and inform employees and subcontractors of the hazards ensuring they are equipped with the correct PPE. Tenderer has the right (and responsibility) to instruct people not suitably protected to leave the area.

19. First Aid

The Tenderer must ensure that a fully stocked first aid kit meeting Workcover requirements is available at the workplace/site with a designated first aid person clearly identified to their employees, including emergency contact numbers. If the work is of a nature that specialized first aid equipment, or materials is needed it is the Tenderer's responsibility to provide it.

As a Tenderer, you are legally responsible for providing first aid facilities for use by yourself and your employees, irrespective of any provisions made by the Council.

20. Emergency Procedures

Tenderers must provide adequate fire protection and fire extinguishers relevant to the contract works being undertaken and ensure they are always available at the workplace/site. The Tenderer must ensure all firefighting equipment is supplied, maintained and inspected in compliance with AS-1851.

Tenderers must keep a register of fire protection equipment available whilst undertaking the contract works and the Council has the right to request this information at any time during the term of the contract.

Tenderers must have emergency procedures in place and ensure their employees and subcontractors are familiar with the procedures. Where the Tenderer is working on the Council's worksite, the Tenderer must ensure their employees and subcontractors know the Council's emergency procedures relevant to that workplace/site.

21. Amenities

Tenderers must provide amenities for their employees and subcontractors. The amenities must comply with the Code of Practice for 'Managing the Work Environment and Facilities.'

22. **Permits**

Tenderers must ensure they have the correct permits defined in relevant legislation and Codes of Practice.

23. **Subcontractors**

Tenderer is responsible for selection of suitably qualified/trained subcontractors (if subcontractors are required):

- Ensure subcontractors have the relevant insurance policies.
- Induction of subcontractors are completed and supervision of subcontractors while onsite is required.
- Ensure subcontractors work in a safe manner and have adequate health and safety procedures.

Engagement of subcontractors must first be approved by the Council prior to the subcontractor's commencing works. The Tenderer must be able to provide evidence of the subcontractor being inducted and ensure the subcontractor holds the relevant licenses/tickets for the task.

24. **Signage and Public Safety**

Tenderer must ensure that the required signs and warning systems defined in relevant legislation, Codes of Practice and/or Council instructions are used.

Tenderer must ensure that people are warned by way of signs, barriers and/or other means where the work is likely to present potential hazards.

25. **Tenderer's Environmental Responsibilities with Respect to Plant, Vehicles and Equipment**

Tenderer must ensure that the use of equipment does not pose any risk to the environment. The risks specifically relate to exhaust and noise emissions and oil or fuel leaks to the environment.

The necessary facilities and systems of work must be provided and maintained to minimise the risk to the environment whilst transporting, maintaining, inspecting, servicing, repairing, or cleaning plant, vehicles, and equipment on Council's site. All transporting, inspecting, servicing, repairing, or cleaning work must be carried out by competent personnel.

26. Tender Documents Discrepancies and Omissions

Tenderers finding discrepancies or omissions with this document/drawings/specification or having any doubt as to the meaning or intent of any part of the tender documents, must notify the Tender Administrator. All revisions or corrections will be communicated and issued with an addendum.

Part 5 – Supplier Response Form



Mornington Shire Council

Supplier Response Form

Suppliers responding to this request are required to complete all sections of this form. Failure to do so may result in an invalid offer. Please enter responses and prices into the designated shaded boxes. Response boxes will expand as required.

Section 1: Supplier Information				
Supplier Name:				
Supplier ABN or ACN:				
Contact Name:				
Position:				
Phone:				
Email:				
Section 2: Mandatory Requirements				
The Supplier must answer the following mandatory questions.				
Is the Supplier a <i>Local Supplier</i> ?				
A <i>Local Supplier</i> is a supplier which:				
a. is beneficially owned by persons who are residents in the Local Government Area of Council; or		Yes <input type="checkbox"/> No <input type="checkbox"/>		
b. has its principal place of business within the Local Government Area of Council.				
Section 3: Conditions				
If successful, does the supplier agree to enter into the applicable Australia Standards General and Special Conditions of Contract as well as Council's Special Conditions (Part 4)?		Yes <input type="checkbox"/> No <input type="checkbox"/>		
Section 4: Conflict of Interest				
The Supplier is to give details of any possible Conflict of Interest (COI) that exists or may arise in the relation to making and/or acceptance of their quote. If there is nothing to declare please insert "None".				
Section 5: Insurance Details				
Insurance Type	Insurance Company	Policy No.	Extent of cover	Expiry Date
Workers' Compensation				
Public Liability				
Insurance				

Plant & Equipment				
Motor Vehicles				
Section 6: Evaluation Criteria				
The Supplier is to detail how they will meet the specified Evaluation Criteria in Part 2.				
Criteria 1: Price				
Criteria 2: Remote Area Industry Experience				
Criteria 3: Quality Assurance Accreditation				
Criteria 4: Program				

Criteria 5: Local contribution and support
Section 7: Pricing

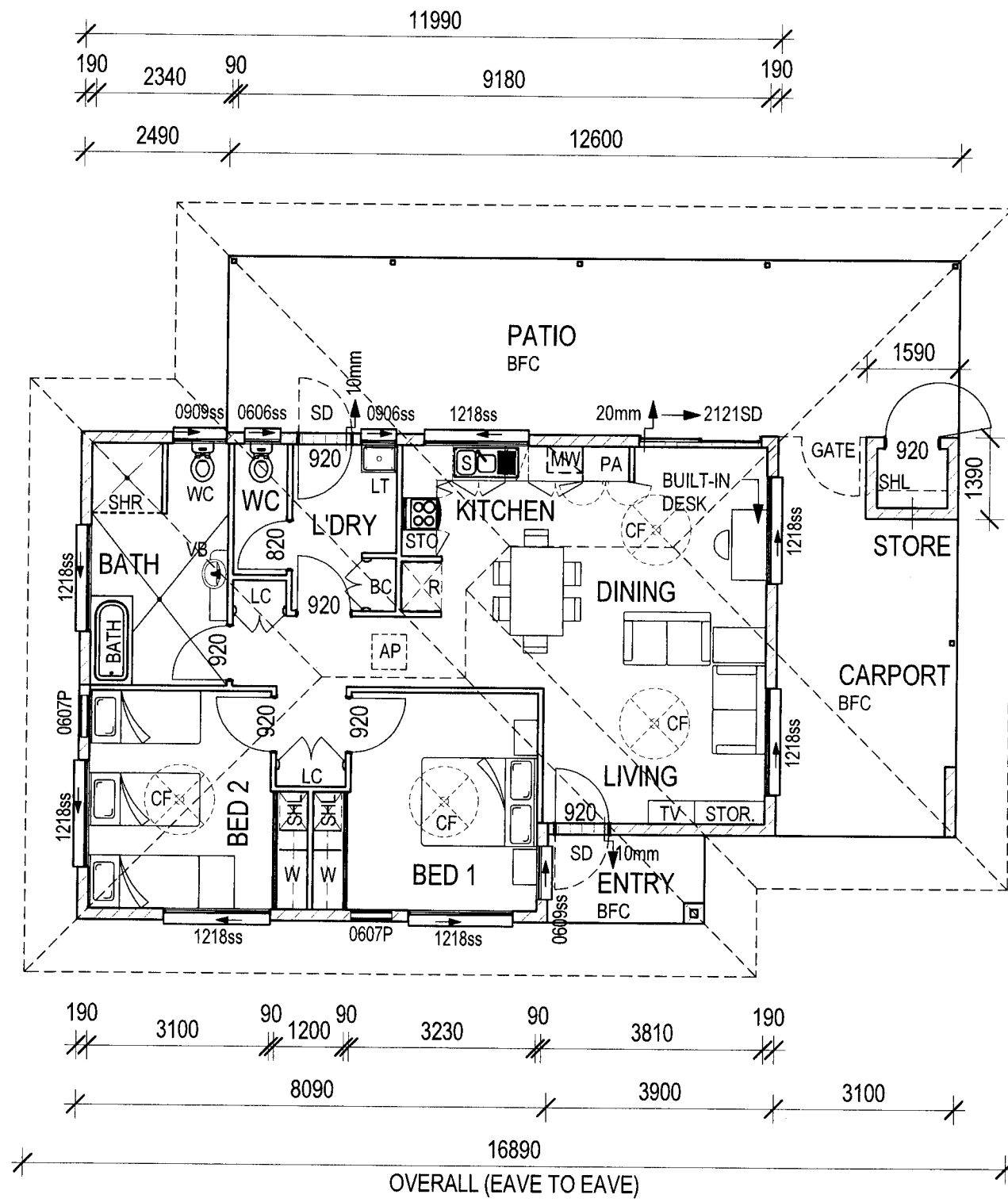
Goods/ Services Offered and Pricing Description	Supplier Response	
	Price (Excl GST)	TOTAL Price (Incl GST)
INSERT		
INSERT		
INSERT		
INSERT		

Section 8: Supplier Authorisation

This quote is submitted by the Supplier's authorised representative. By signing, the Supplier is offering to enter a Contract on terms set out in this document and the General Conditions of Contract herein.

Name	
Position:	
Signature	
Date	

ANNEXTURE 1 - Concept/Schematic Design



CONCEPT DRAWINGS ONLY
- NOT FOR CONSTRUCTION

WALL CONSTRUCTION TYPE SHOWN IS
DIAGRAMATIC ONLY. ROOM DIMENSIONS
SHOWN TO BE MAINTAINED IF ALTERNATE
CONSTRUCTION METHOD IS CHOSEN

- NOTES**
1. SEMI-ADAPTABLE DESIGN AS PER 'DESIGN AND CONSTRUCTION STANDARDS FOR REMOTE INDIGENOUS HOUSING.
 2. AC PROVISION ONLY, KNOCK OUT STACK BLOCK CONSTRUCTION TO BE FREE OF REINFORCEMENT.
 3. MSB LOCATION OPTIONS (NOT IN CARPORT)
 4. SUNSHADES TO BE INSTALLED ON WESTERN ELEVATION
 5. PROVIDE WALL EXTRACT FAN TO KITCHEN.
 6. DOOR FROM L'DRY INTO HALLWAY TO BE SOLID CORE WITH LOCK.

GFA (GROSS FLOOR AREA)	
GROUND FLOOR	= 93.55 Sq.M
CARPORT / STORE	= 21.05 Sq.M
PATIO	= 37.80 Sq.M
TOTAL	= 152.40 Sq.M
F.E.C.A	= 85.99 Sq.M

MINIMUM FRONTAGE = 19.9m
1500 min. to eaves from side boundaries.

LEGEND	
ABBREV.	DESCRIPTION
BC	BROOM CUPBOARD
CF	CEILING FAN
LC	LINEN CUPBOARD
LT	LAUNDRY TUB
MW	MICROWAVE SHELF
PA	PANTRY
R	REFRIGERATOR (NIC)
S	SINK
SD	SECURITY DOOR
SHL	SHELVING
SHR	SHOWER
STO	STOVE
VB	VANITY BASIN
W	WARDROBE
WC	TOILET SUITE WITH CISTERN

AMENDMENTS			
ISSUE	DATE	SUBJECT	AUTHORISED

DRAWING INDEX SYSTEM	
FOR PROJECT SERVICES - LOGISTICS USE ONLY	
<input type="checkbox"/> CEILING PLANS	<input type="checkbox"/> MISCELLANEOUS DETAILS
<input type="checkbox"/> CONSTRUCTION DETAILS	<input type="checkbox"/> OTHER
<input type="checkbox"/> ELEVATIONS	<input type="checkbox"/> PLAY STRUCTURES
<input type="checkbox"/> EXTERNAL WORKS	<input type="checkbox"/> ROOF PLANS
<input type="checkbox"/> FITOUTS	<input type="checkbox"/> SECTIONS
<input checked="" type="checkbox"/> FLOOR PLANS	<input type="checkbox"/> SETOUT PLAN
<input type="checkbox"/> FURNITURE & EQUIPMENT	<input type="checkbox"/> SITE PLAN
<input type="checkbox"/> HYDRAULICS	<input type="checkbox"/> STANDARDS
<input type="checkbox"/> MASTER PLAN	



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Department of Public Works
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J.STEWART MARCH 2012
DRAWN DATE

J.WRIGHT
DISCIPLINE TEAM LEADER DATE

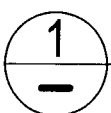
AUTHORISED FOR ISSUE DATE

DEPT OF HPW

STANDARD PLANS
2 BEDROOM HOUSE
PLAN No: 2.01

FLOOR PLAN - GROUND

SCALE	AT
As indicated	A3 SIZE
MASTER SITE NUMBER	CLIENT REFERENCE NUMBER
DRAWING NUMBER	ISSUE SHEET NO
70209/--- /A02.01	B



FLOOR PLAN - GROUND

SCALE 1 : 100

**CONCEPT DRAWINGS ONLY
- NOT FOR CONSTRUCTION**

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DIAGRAMATIC ONLY. ROOM DIMENSIONS
SHOWN TO BE MAINTAINED IF ALTERNATE
CONSTRUCTION METHOD IS CHOSEN

NOTES

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AND CONSTRUCTION STANDARDS FOR
REMOTE INDIGENOUS HOUSING.
2. AC PROVISION ONLY, KNOCK OUT STACK
BLOCK CONSTRUCTION TO BE FREE OF
REINFORCEMENT.
3. MSB LOCATION OPTIONS (NOT IN CARPORT)
4. SUNSHADES TO BE INSTALLED ON
WESTERN ELEVATION
5. PROVIDE WALL EXTRACT FAN TO KITCHEN.
6. DOOR FROM L'DRY INTO HALLWAY TO BE
SOLID CORE WITH LOCK.

GFA (GROSS FLOOR AREA)

GROUND FLOOR	= 101.51 Sq.M
CARPORT / ENTRY	= 21.45 Sq.M
PATIO / STORE	= 32.61 Sq.M
TOTAL	= 155.57 Sq.M
F.E.C.A	= 92.92 Sq.M

MINIMUM FRONTAGE = 16.900m
1500 min. to eaves from side boundaries.

LEGEND

ABBREV.	DESCRIPTION
CF	CEILING FAN
D	DRAWER
LC	LINEN CUPBOARD
LT	LAUNDRY TUB
MW	MICROWAVE SHELF
PA	PANTRY
R	REFRIGERATOR (NIC)
S	SINK
SD	SECURITY DOOR
SHL	SHELVING
SHR	SHOWER
STO	STOVE
VB	VANITY BASIN
W	WARDROBE
WC	TOILET SUITE WITH CISTERN

AMENDMENTS

ISSUE	DATE	SUBJECT	AUTHORISED
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DRAWING INDEX SYSTEM
FOR PROJECT SERVICES - LOGISTICS USE ONLY

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<input type="checkbox"/> FURNITURE & EQUIPMENT	<input type="checkbox"/> SITE PLAN
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<input type="checkbox"/> MASTER PLAN	



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Department of Public Works

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DEPT OF HPW

STANDARD PLANS
2 BEDROOM HOUSE
PLAN No: 2.02

FLOOR PLAN - GROUND

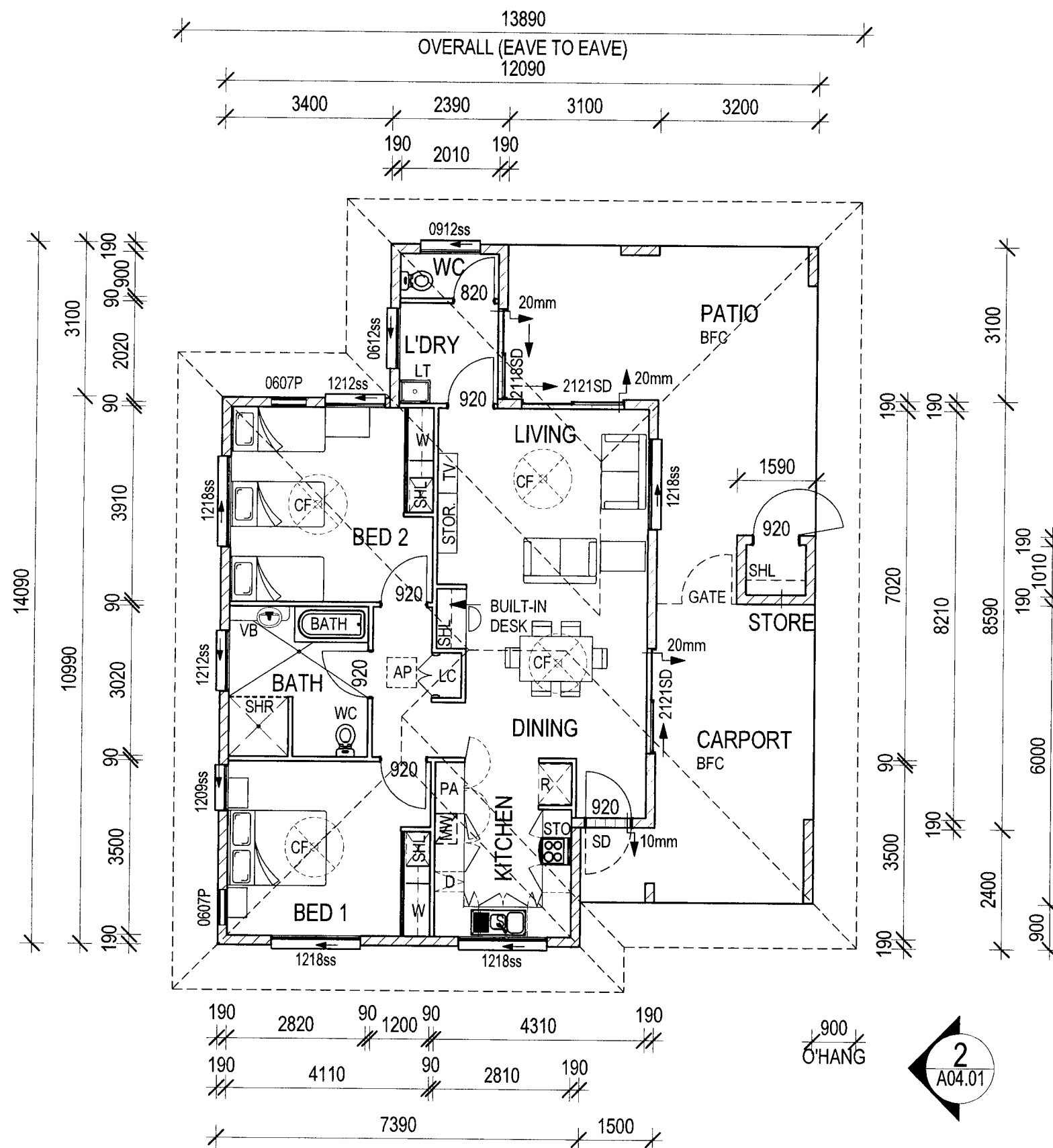
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MASTER SITE NUMBER CLIENT REFERENCE NUMBER

DRAWING NUMBER ISSUE SHEET NO

70209/--- /A02.01

B



FLOOR PLAN - GROUND

SCALE 1:100

**CONCEPT DRAWINGS ONLY
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SHOWN TO BE MAINTAINED IF ALTERNATE
CONSTRUCTION METHOD IS CHOSEN

NOTES

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2. AC PROVISION ONLY, KNOCK OUT STACK
BLOCK CONSTRUCTION TO BE FREE OF
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3. MSB LOCATION OPTIONS (NOT IN CARPORT)
4. SUNSHADES TO BE INSTALLED ON
WESTERN ELEVATION
5. PROVIDE WALL EXTRACT FAN TO KITCHEN.
6. DOOR FROM L'DRY INTO HALLWAY TO BE
SOLID CORE WITH LOCK.

GFA (GROSS FLOOR AREA)

GROUND FLOOR	= 103.22 Sq.M
CARPORT / ENTRY	= 23.38 Sq.M
PATIO	= 23.10 Sq.M
TOTAL	= 149.70 Sq.M
F.E.C.A	= 94.06 Sq.M

MINIMUM FRONTAGE = 16.7m
1500 min. to eaves from side boundaries.

LEGEND	
ABBREV.	DESCRIPTION
BATH	BATH
BC	BROOM CUPBOARD
CF	CEILING FAN
D	DRAWER
LC	LINEN CUPBOARD
LT	LAUNDRY TUB
MW	MICROWAVE SHELF
PA	PANTRY
R	REFRIGERATOR (NIC)
S	SINK
SD	SECURITY DOOR
SHL	SHELVING
SHR	SHOWER
STO	STOVE
VB	VANITY BASIN
W	WARDROBE
WC	TOILET SUITE WITH CISTERN

AMENDMENTS

ISSUE	DATE	SUBJECT	AUTHORISED
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FOR PROJECT SERVICES - LOGISTICS USE ONLY**

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<input type="checkbox"/> CONSTRUCTION DETAILS	<input type="checkbox"/> OTHER
<input type="checkbox"/> ELEVATIONS	<input type="checkbox"/> PLAY STRUCTURES
<input type="checkbox"/> EXTERNAL WORKS	<input type="checkbox"/> ROOF PLANS
<input type="checkbox"/> FITOUTS	<input type="checkbox"/> SECTIONS
<input checked="" type="checkbox"/> FLOOR PLANS	<input type="checkbox"/> SETOUT PLAN
<input type="checkbox"/> FURNITURE & EQUIPMENT	<input type="checkbox"/> SITE PLAN
<input type="checkbox"/> HYDRAULICS	<input type="checkbox"/> STANDARDS
<input type="checkbox"/> MASTER PLAN	



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Project Services

Department of Public Works

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J.STEWART MARCH 2012
DRAWN DATE

J.WRIGHT
DISCIPLINE TEAM LEADER DATE

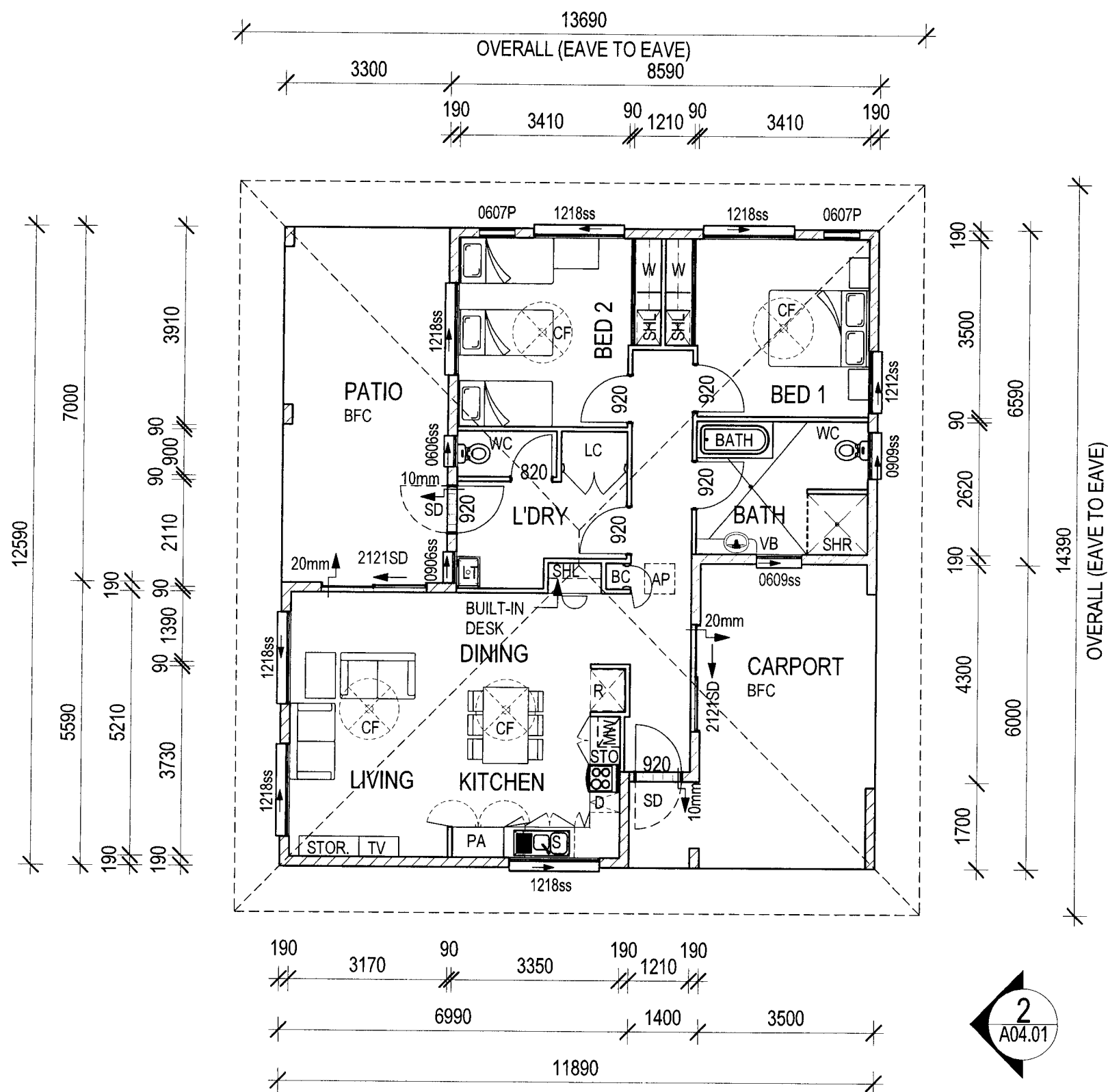
AUTHORISED FOR ISSUE DATE

DEPT OF HPW

STANDARD PLANS
2 BEDROOM HOUSE
PLAN No: 2.03

FLOOR PLAN - GROUND

SCALE	AT
As indicated	A3 SIZE
MASTER SITE NUMBER	CLIENT REFERENCE NUMBER
DRAWING NUMBER	ISSUE SHEET NO
70209/--- /A02.01	B



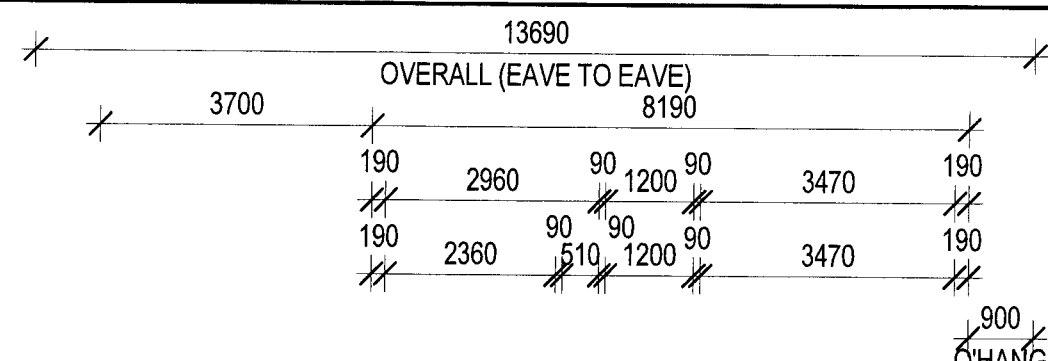
2
A04.01

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A04.01

1
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FLOOR PLAN - GROUND

SCALE 1 : 100



CONCEPT DRAWINGS ONLY
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 CONSTRUCTION METHOD IS CHOSEN

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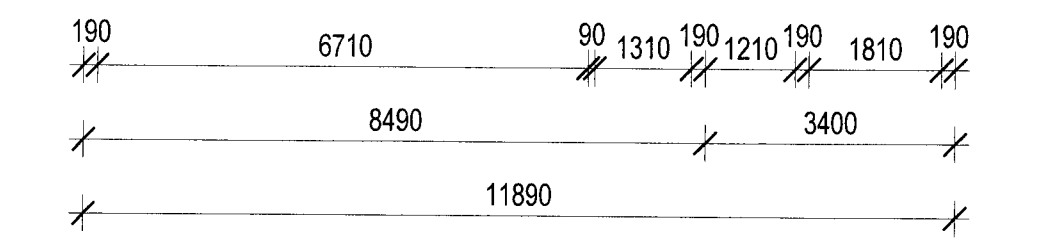
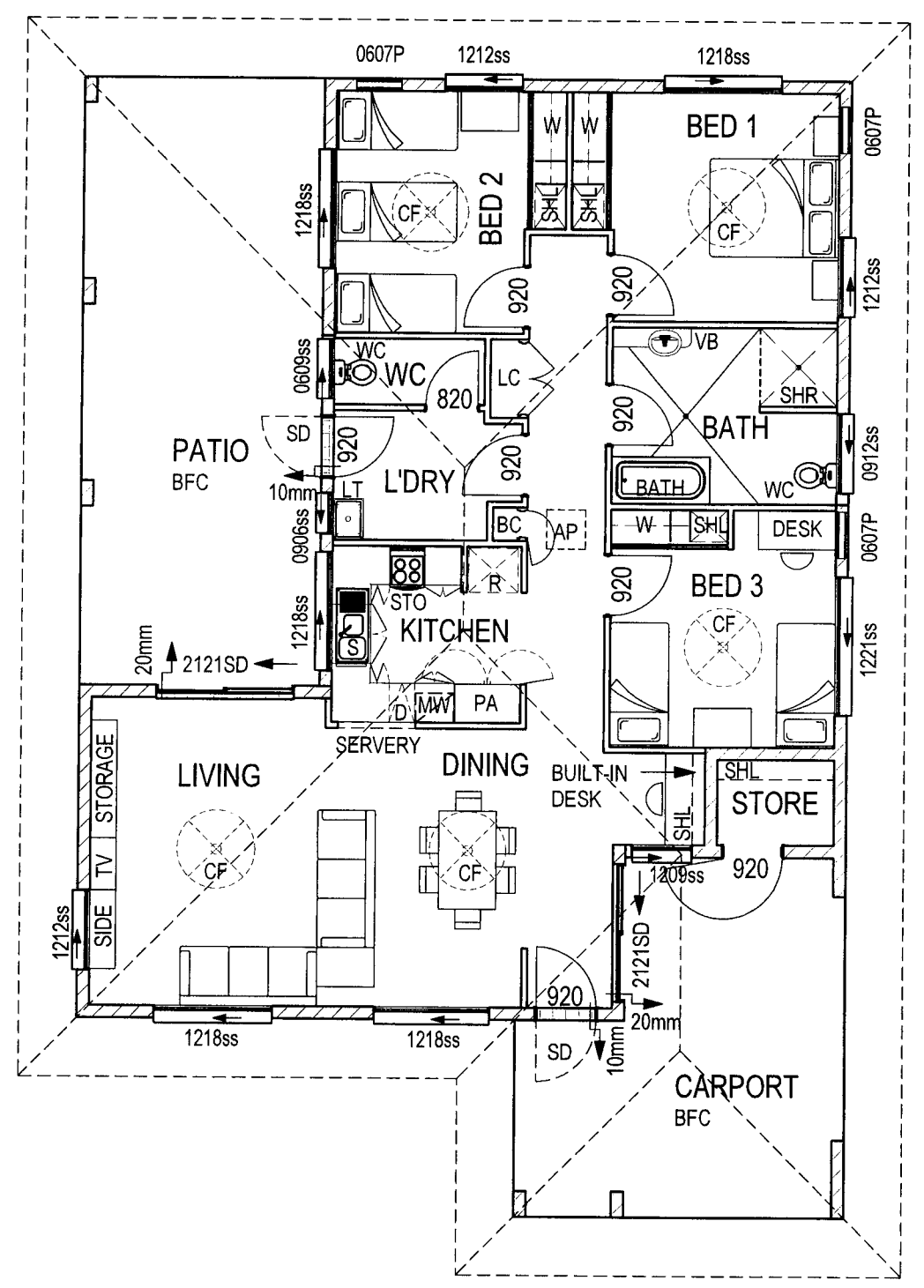
GFA (GROSS FLOOR AREA)

GROUND FLOOR	= 128.19 Sq.M
CARPORT / ENTRY	= 23.77 Sq.M
PATIO	= 34.41 Sq.M
TOTAL	= 186.37 Sq.M
F.E.C.A	= 118.35 Sq.M

MINIMUM FRONTAGE = 16.7m
 1500 min. to eaves from side boundaries.

LEGEND

ABBREV.	DESCRIPTION
BC	BROOM CUPBOARD
CF	CEILING FAN
D	DRAWER
LC	LINEN CUPBOARD
LT	LAUNDRY TUB
MW	MICROWAVE SHELF
PA	PANTRY
R	REFRIGERATOR (NIC)
S	SINK
SD	SECURITY DOOR
SHL	SHELVING
SHR	SHOWER
STO	STOVE
VB	VANITY BASIN
W	WARDROBE
WC	TOILET SUITE WITH CISTERN



1 FLOOR PLAN - GROUND
 SCALE 1 : 100

AMENDMENTS

ISSUE	DATE	SUBJECT	AUTHORISED

DRAWING INDEX SYSTEM
 FOR PROJECT SERVICES - LOGISTICS USE ONLY

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<input type="checkbox"/> CONSTRUCTION DETAILS	<input type="checkbox"/> OTHER
<input type="checkbox"/> ELEVATIONS	<input type="checkbox"/> PLAY STRUCTURES
<input type="checkbox"/> EXTERNAL WORKS	<input type="checkbox"/> ROOF PLANS
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<input type="checkbox"/> FURNITURE & EQUIPMENT	<input type="checkbox"/> SITE PLAN
<input type="checkbox"/> HYDRAULICS	<input type="checkbox"/> STANDARDS
<input type="checkbox"/> MASTER PLAN	



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 Department of Public Works
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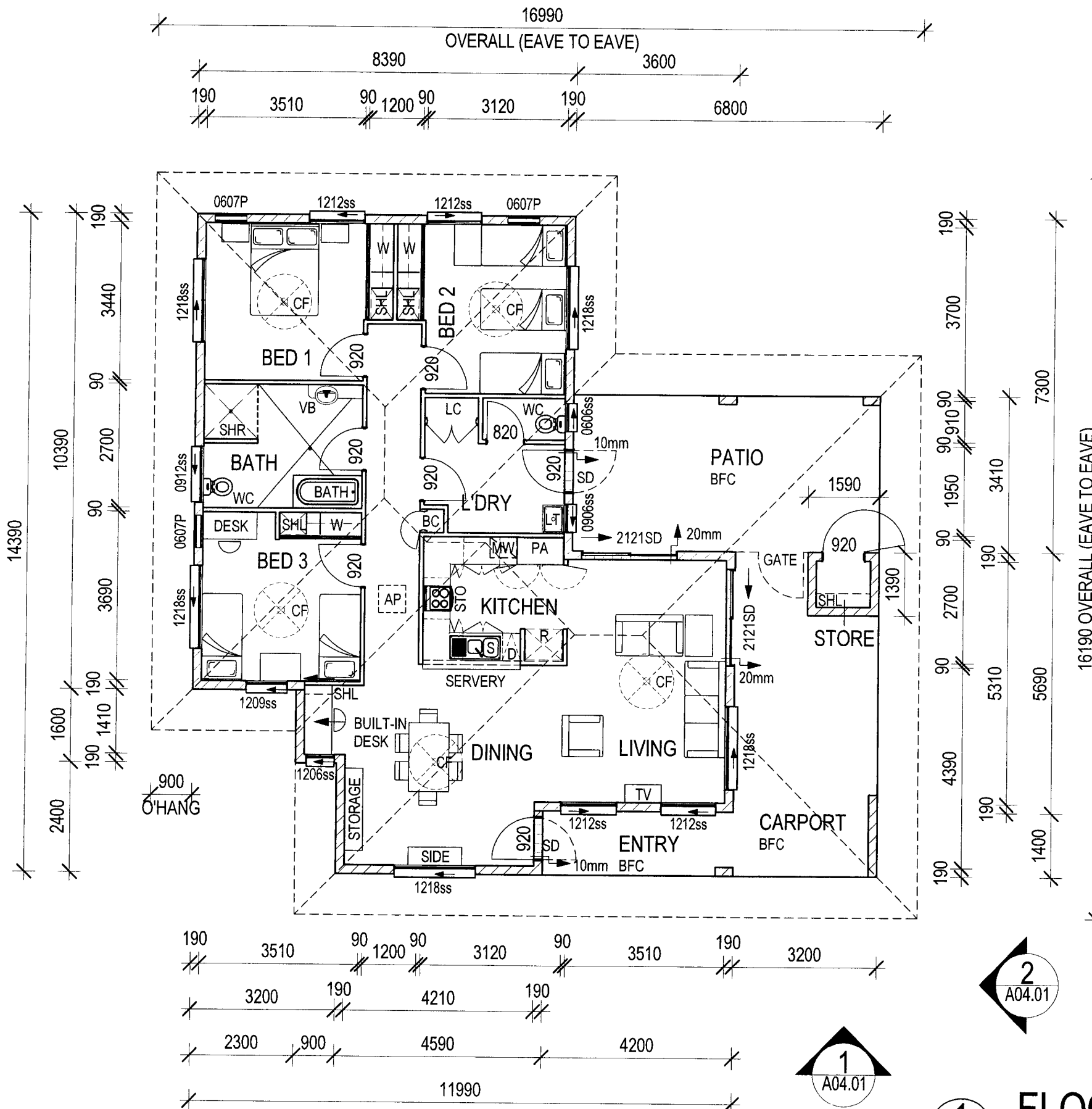
J.WRIGHT
 DISCIPLINE TEAM LEADER DATE

AUTHORISED FOR ISSUE DATE

DEPT OF HPW
 STANDARD PLANS
 3 BEDROOM HOUSE
 PLAN No: 3.01

FLOOR PLAN - GROUND

SCALE	AT
As indicated	A3 SIZE
MASTER SITE NUMBER	CLIENT REFERENCE NUMBER
DRAWING NUMBER	ISSUE SHEET NO
70209/--- /A02.01	B



FORM BPRS F101A

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CONSTRUCTION METHOD IS CHOSEN

NOTES

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3. MSB LOCATION OPTIONS (NOT IN CARPORT)
4. SUNSHADES TO BE INSTALLED ON
WESTERN ELEVATION
5. PROVIDE WALL EXTRACT FAN TO KITCHEN.
6. DOOR FROM L'DRY INTO HALLWAY TO BE
SOLID CORE WITH LOCK.

GFA (GROSS FLOOR AREA)

GROUND FLOOR	= 129.02 Sq.M
CARPORT / ENTRY	= 28.57 Sq.M
PATIO	= 23.19 Sq.M
TOTAL	= 180.78 Sq.M
F.E.C.A	= 119.14 Sq.M

MINIMUM FRONTAGE = 20.0m
1500 min. to eaves from side boundaries.

LEGEND	
ABBREV.	DESCRIPTION
BATH	BATH
BC	BROOM CUPBOARD
CF	CEILING FAN
D	DRAWER
LC	LINEN CUPBOARD
LT	LAUNDRY TUB
MW	MICROWAVE SHELF
PA	PANTRY
R	REFRIGERATOR (NIC)
S	SINK
SD	SECURITY DOOR
SHL	SHELVING
SHR	SHOWER
STO	STOVE
VB	VANITY BASIN
W	WARDROBE
WC	TOILET SUITE WITH CISTERN

FLOOR PLAN - GROUND

SCALE 1 : 100

AMENDMENTS

ISSUE	DATE	SUBJECT	AUTHORISED
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DEPT OF HPW

STANDARD PLANS
3 BEDROOM HOUSE
PLAN No: 3.02

FLOOR PLAN - GROUND

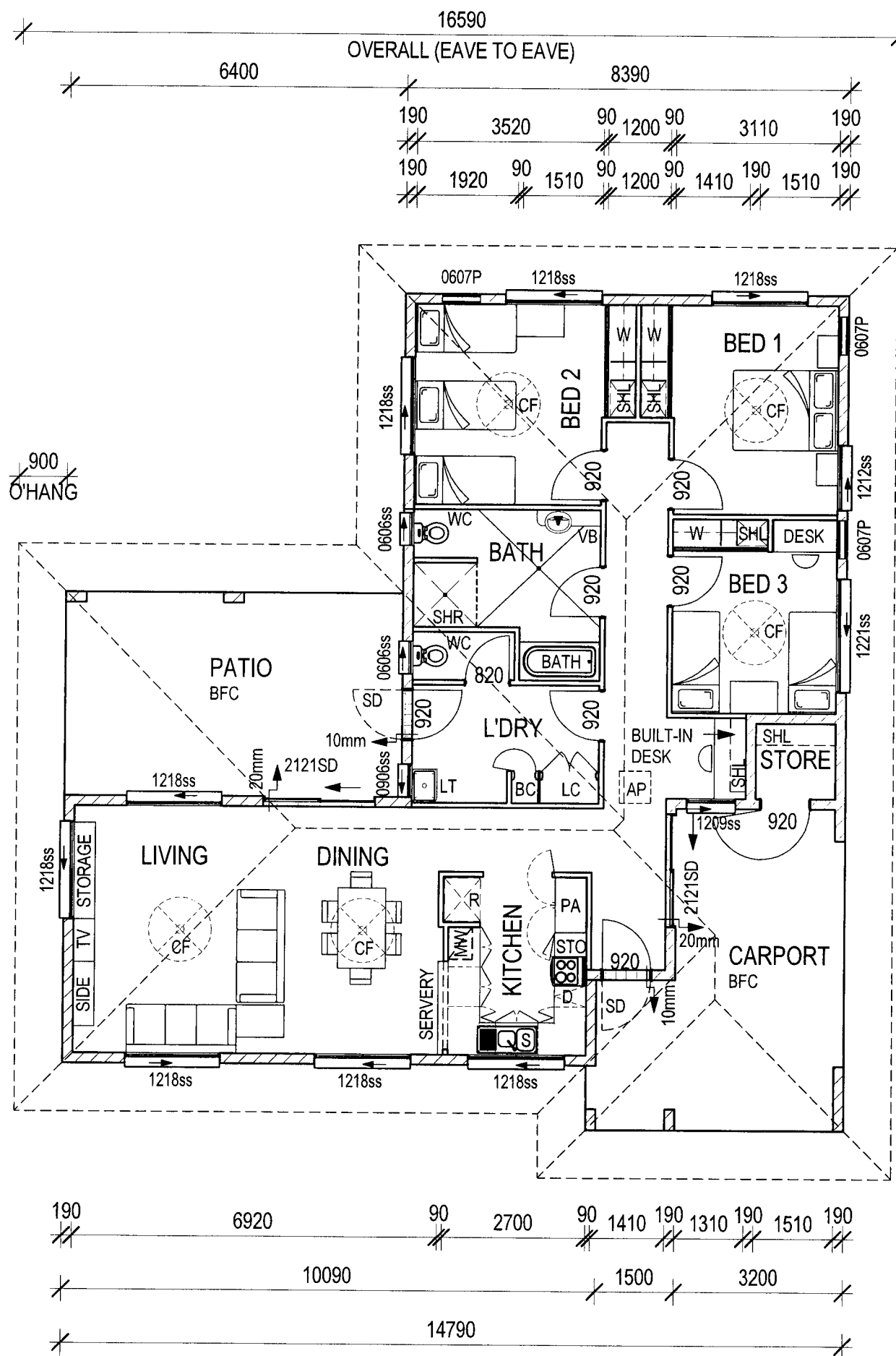
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SHOWN TO BE MAINTAINED IF ALTERNATE
CONSTRUCTION METHOD IS CHOSEN

- NOTES**
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 3. MSB LOCATION OPTIONS (NOT IN CARPORT)
 4. SUNSHADES TO BE INSTALLED ON WESTERN ELEVATION
 5. PROVIDE WALL EXTRACT FAN TO KITCHEN.
 6. DOOR FROM L'DRY INTO HALLWAY TO BE SOLID CORE WITH LOCK.

GFA (GROSS FLOOR AREA)

GROUND FLOOR	= 134.91 Sq.M
CARPORT / ENTRY	= 23.63 Sq.M
PATIO	= 24.32 Sq.M
TOTAL	= 182.86 Sq.M
F.E.C.A	= 123.96 Sq.M

MINIMUM FRONTAGE = 19.6m
1500 min. to eaves from side boundaries.

LEGEND	
ABBREV.	DESCRIPTION
BATH	BATH
BC	BROOM CUPBOARD
CF	CEILING FAN
D	DRAWER
LC	LINEN CUPBOARD
LT	LAUNDRY TUB
MW	MICROWAVE SHELF
PA	PANTRY
R	REFRIGERATOR (NIC)
S	SINK
SD	SECURITY DOOR
SHL	SHELVING
SHR	SHOWER
STO	STOVE
VB	VANITY BASIN
W	WARDROBE
WC	TOILET SUITE WITH CISTERN



1 FLOOR PLAN - GROUND
SCALE 1 : 100

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<input type="checkbox"/> FURNITURE & EQUIPMENT	<input type="checkbox"/> SITE PLAN
<input type="checkbox"/> HYDRAULICS	<input type="checkbox"/> STANDARDS
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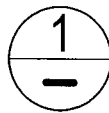
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DEPT OF HPW
STANDARD PLANS
3 BEDROOM HOUSE
PLAN No: 3.03

FLOOR PLAN - GROUND

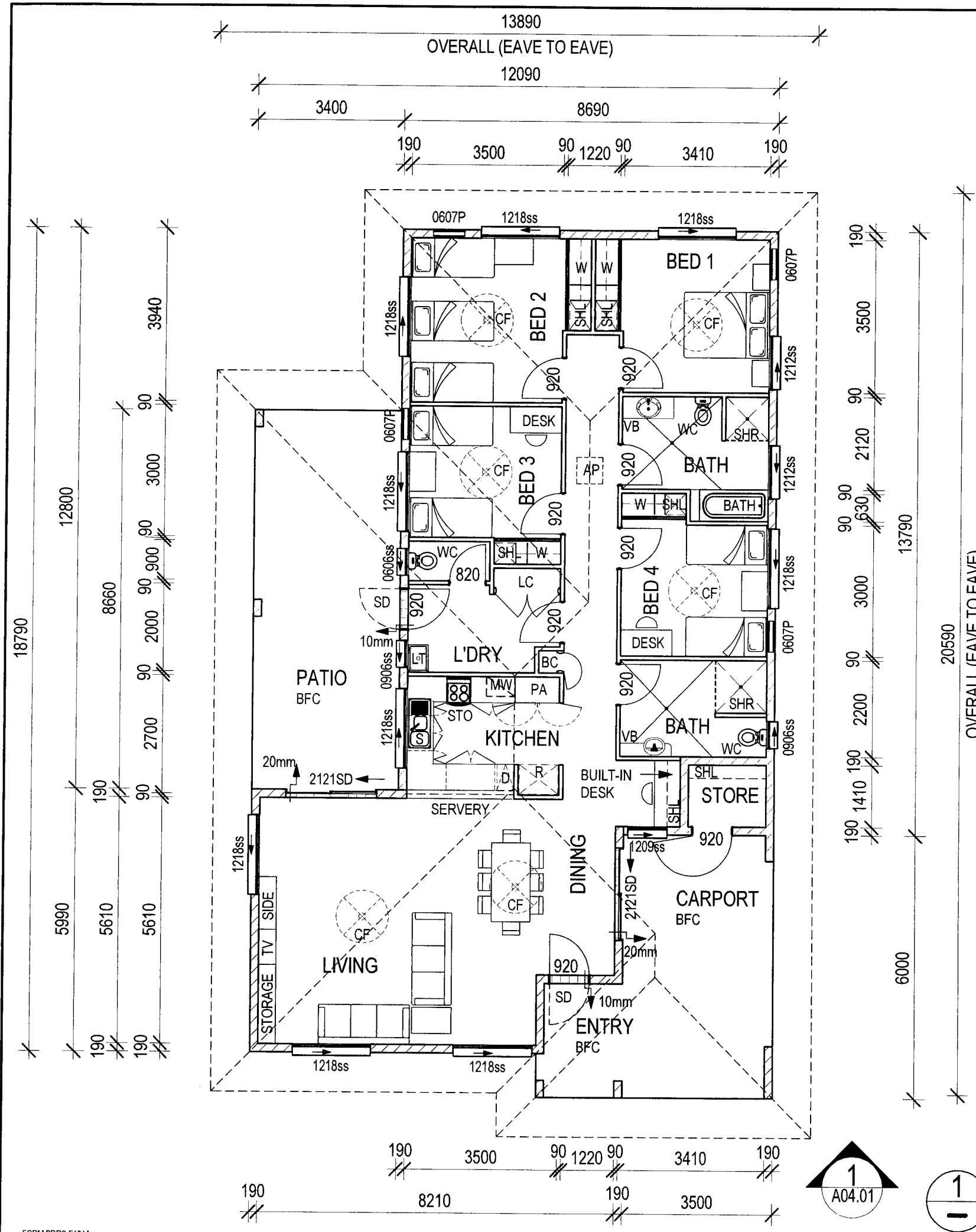
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SCALE 1 : 100

LEGEND	
ABBREV.	DESCRIPTION
BC	BROOM CUPBOARD
CF	CEILING FAN
D	DRAWER
LC	LINEN CUPBOARD
LT	LAUNDRY TUB
MW	MICROWAVE SHELF
PA	PANTRY
R	REFRIGERATOR (NIC)
S	SINK
SD	SECURITY DOOR
SHL	SHELVING
SHR	SHOWER
STO	STOVE
VB	VANITY BASIN
W	WARDROBE
WC	TOILET SUITE WITH CISTERN

10



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GFA (GROSS FLOOR AREA)	
GROUND FLOOR	= 163.26 Sq.M
CARPORT / ENTRY	= 25.89 Sq.M
PATIO	= 29.44 Sq.M
TOTAL	= 218.59 Sq.M
F.E.C.A	= 151.74 Sq.M

MINIMUM FRONTAGE = 16.9m
1500 min. to eaves from side boundaries.

LEGEND	
ABBREV.	DESCRIPTION
BATH	BATH
BC	BROOM CUPBOARD
CF	CEILING FAN
D	DRAWER
LC	LINEN CUPBOARD
LT	LAUNDRY TUB
MW	MICROWAVE SHELF
PA	PANTRY
R	REFRIGERATOR (NIC)
S	SINK
SD	SECURITY DOOR
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AMENDMENTS

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<input checked="" type="checkbox"/> FLOOR PLANS	<input type="checkbox"/> SETOUT PLAN
<input type="checkbox"/> FURNITURE & EQUIPMENT	<input type="checkbox"/> SITE PLAN
<input type="checkbox"/> HYDRAULICS	<input type="checkbox"/> STANDARDS
<input type="checkbox"/> MASTER PLAN	

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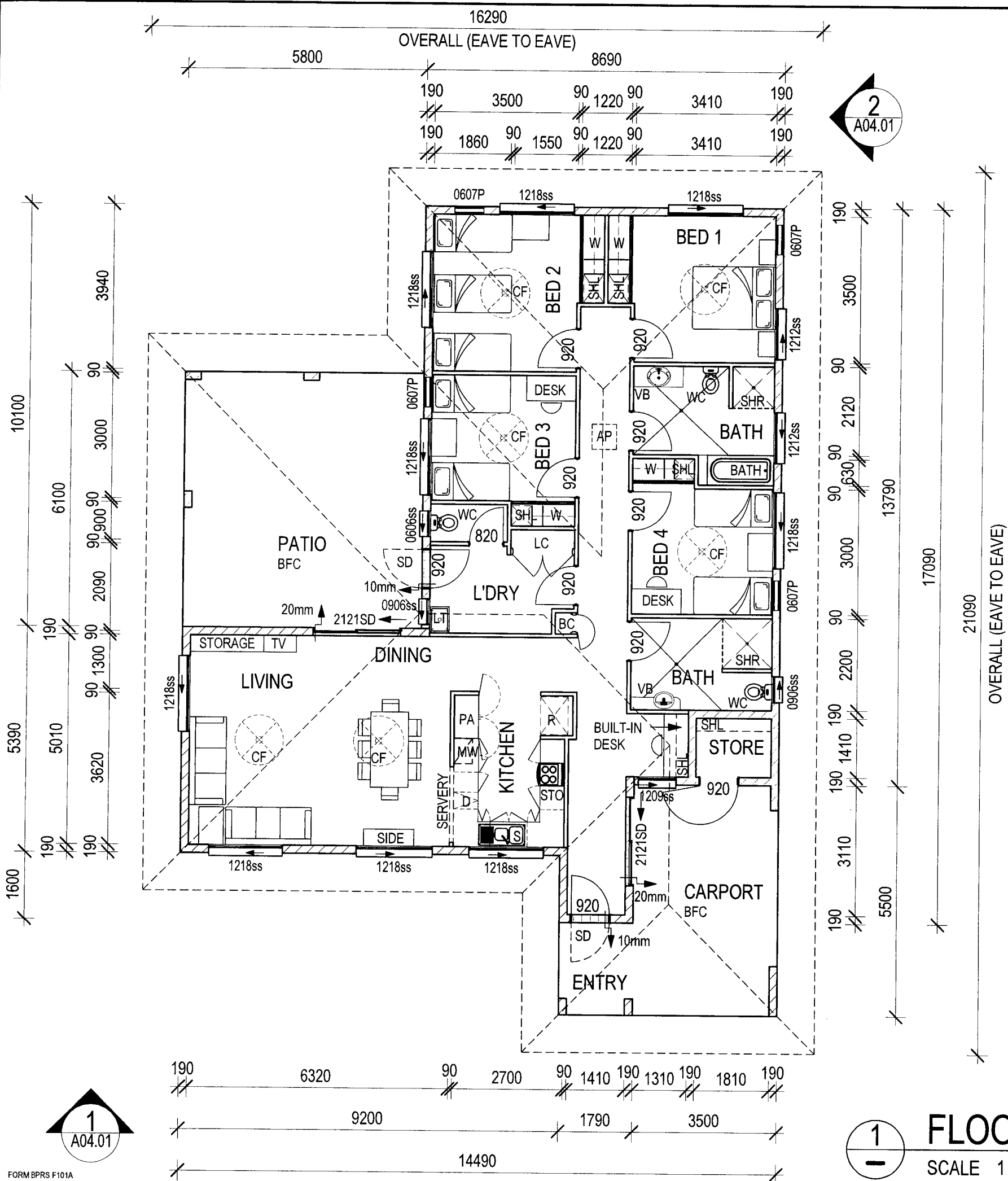
STANDARD PLANS
4 BEDROOM HOUSE
PLAN No: 4.02

FLOOR PLAN -
GROUND

SCALE	AT
As indicated	A3 SIZE
MASTER SITE NUMBER	CLIENT REFERENCE NUMBER

DRAWING NUMBER	ISSUE	SHEET NO
70209/--- /A02.01	B	

FLOOR PLAN - GROUND
SCALE 1:100



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FORM BPRS F101A

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FLOOR PLAN - GROUND
SCALE 1:100

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SHOWN TO BE MAINTAINED IF ALTERNATE
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NOTES

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5. PROVIDE WALL EXTRACT FAN TO KITCHEN.
6. DOOR FROM L'DRY INTO HALLWAY TO BE
SOLID CORE WITH LOCK.

GFA (GROSS FLOOR AREA)

GROUND FLOOR	= 162.78 Sq.M
CARPORT / ENTRY	= 23.19 Sq.M
PATIO	= 35.40 Sq.M
TOTAL	= 221.37 Sq.M
F.E.C.A	= 150.93 Sq.M

MINIMUM FRONTAGE = 19.300m
1500 min. to eaves from side boundaries.

LEGEND

ABBREV.	DESCRIPTION
BATH	BATH
BC	BROOM CUPBOARD
CF	CEILING FAN
D	DRAWER
LC	LINEN CUPBOARD
LT	LAUNDRY TUB
MW	MICROWAVE SHELF
PA	PANTRY
R	REFRIGERATOR (NIC)
S	SINK
SD	SECURITY DOOR
SHL	SHELVING
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W	WARDROBE
WC	TOILET SUITE WITH CISTERN

AMENDMENTS

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<input type="checkbox"/> FURNITURE & EQUIPMENT	<input type="checkbox"/> SITE PLAN
<input type="checkbox"/> HYDRAULICS	<input type="checkbox"/> STANDARDS
<input type="checkbox"/> MASTER PLAN	



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**STANDARD PLANS
4 BEDROOM HOUSE
PLAN No: 4.03**

**FLOOR PLAN -
GROUND**

SCALE As indicated AT A3 SIZE

MASTER SITE NUMBER CLIENT REFERENCE NUMBER

DRAWING NUMBER ISSUE SHEET NO
70209/--- /A02.01 B

**Annexture 2 - Design and Construction Standards for Remote Housing
August 2016**

Design and Construction Standards for Remote Housing.

August 2016



Table of contents

Additional reference documentation	6
Introduction.....	6
Housing types.....	7
Accessibility.....	8
Gold Level.....	8
Platinum Level	8
Town planning	9
Design principles.....	10
Basic approach	10
Facing the street or park	10
Fitting into the neighbourhood	11
Individuality, variety and scale within the streetscape	11
Car parking and street presentation.....	12
Privacy and the neighbours	12
Public spaces.....	12
Crime prevention through environmental design.....	13
Equitable design	13
Personalisation	13
Climatic design	13
Indoor/outdoor living connection	14
Covered outdoor spaces.....	14
Planting and turf	15
Innovation and Normality	16
Building types.....	17
Acceptable building styles.....	17

Target Floor Areas.....	19
Site Design	20
Drainage and Stormwater.....	21
Concrete driveway and paths	21
Carport.....	22
Letterbox	23
House numbering	23
Garden store	23
Rubbish bin storage	23
Clothes line	24
Yards	25
Fencing.....	25
Retaining walls.....	26
Water tanks	26
Cleaning bench.....	27
Internal Space.....	28
Corridors, thresholds and doorways.....	29
Entry porch and Foyer.....	30
Living and Dining.....	31
Kitchen	33
Cooking.....	33
Bench space and clearances	34
Fridge space	35
Cabinets.....	35
Sink and taps.....	36
Splashback	37
Bathrooms and toilets	38
Application of LHDG for bathrooms and toilets	38
Design and clearance considerations	38
Shower.....	39
Bathroom and shower floor drainage and membrane.....	40
Vanity.....	40
Storage	41
Toilet.....	41
Bath	42
Tapware.....	43
Towel rails and accessories	43
Wall coverings, skirtings, splashbacks	43
Laundry	44

Access and ventilation	44
Laundry tub and tapware	44
Appliance space	45
Circulation space	45
Storage	46
Floor waste	46
Skirting and splashback.....	46
Bedrooms	47
Bedroom 1	47
Bedroom 2	48
Bedrooms 3,4 and 5+	48
Linen cupboard and broom storage	49
Covered outdoor living space	50
Bedroom/bathroom additions	51
General construction (all house dwelling types)	52
Energy efficiency	52
Orientation	52
Shading.....	52
Air Movement and ceiling fans	52
Air conditioning	53
Thermal insulation	53
Use of timber	53
External walls/cladding	53
Sub floor screening (highset and lowset houses).....	54
Roofing	54
Floor Construction.....	55
Internal.....	55
Bathroom and laundry	55
Floor finishes	55
Internal.....	55
External.....	55
Steelwork - external	55
Fasteners.....	56
External Stairs.....	56
Internal Ceiling Linings	56
Internal Wall Linings and skirting boards	56
Doors	57
Aluminium framed sliding glass doors	57
External door thresholds.....	57

Door hardware	57
Windows.....	58
Glazing.....	58
Window coverings	58
Security and insect screening	58
Paint and protectant finishes.....	59
Internal walls.....	59
External walls and soffits	59
Colours	59
Natural Timber Decking.....	60
Electrical.....	60
Gas.....	60
Television and internet reception	61
Meter box.....	61
Sewerage.....	61
Water Supply.....	62
Water Heating.....	62
Hot water system capacities.....	62
Solar Hot Water Systems	63
Heat pumps	63
Gas Hot Water Systems	63
APPENDIX 1: Furniture requirements and sizes.....	64
APPENDIX 2: Bathroom configurations	66
APPENDIX 3: Electrical requirements	67
APPENDIX 4: Version control.....	71

Additional reference documentation

This document is to be read in conjunction with:

- All other relevant building codes, regulations and mandatory standards
- Relevant planning schemes and council policies
- Department of Housing and Public Works document: *Product Standards: Social Housing Dwellings*, which provides minimum standards for building products, fixtures, fittings and other items typically required in dwellings. This document is to be applied only to the extent that particular products are relevant to remote Indigenous housing
- *Livable Housing Design Guidelines* (LHDG) – as provided on the <http://livablehousingaustralia.org.au> website

For other design considerations refer to the Crime Prevention Through Environmental Design (CPTED) guidelines located on the Queensland Police website.

If there is an inconsistency between these Design Standards and the non-binding reference documents listed above, these design standards shall apply to the extent of the inconsistency.

Introduction

These standards apply to new construction in Indigenous communities, including remote communities, Cherbourg and Yarrabah. They aim to ensure that new dwellings are sustainable, meet service delivery and community requirements, provide appropriate amenity, and minimise ongoing maintenance.

Projects should look 'domestic', with design features and finishes avoiding any 'institutional' appearance. In principle, every dwelling should deliver a variety of qualities including:

- be comfortable, pleasant and safe to live in, and be designed to meet its residents' needs, both current and future
- use its site well and not waste built space or land
- respect neighbours' privacy and amenity
- overlook any adjacent street or parkland opposite to provide better 'neighbourhood watch'
- be well designed for the local climate and not rely substantially upon mechanical cooling or heating systems
- respond sensitively and creatively to the characteristics of its site.

Some possible alternative solutions are described in this document as 'not preferred'. Adopting items described as 'not preferred' requires written approval from the State. Items described as 'preferred' or 'preferable' must be provided unless otherwise approved by the State.

Housing types

This design standard describes the following housing types:

Dwelling type	Bedroom number	Description
Bedrooms / bathroom additions	2	Freestanding, bedrooms and bathroom additions, located on the same site as an existing house and typically connected to the house via a covered walkway. Does not contain a kitchen, dining or living room.
Duplex	2	Two single storey houses separated by a common wall.
Attached	2	Two storey houses sharing common walls. Allows two or more houses to be attached side-by-side typically with bedrooms upstairs, living downstairs.
Dual occupancy	1,2	Two detached houses on one site.
Cluster	1,2	Three or more detached houses on one site.
Detached	3,4,5 +	Completely separate structure on its own site which does not share any facilities with neighbours.

Accessibility

Features for enhanced mobility are an important component of housing. The State identifies two levels of accessibility for remote Indigenous housing, categorised as:

Gold Level

Incorporates:

- *Livable Housing Design Guidelines* (LHDG) Gold Level (developed by Livable Housing Australia)
- additional requirements as outlined in this document.

Application:

- minimum standard for all dwelling types
- note: LHDG Gold Level requirements are *not* required to:
 - the upper level of highset houses
 - pathway to the front door of lowset (*not* slab on ground) dwellings. Lowset dwellings are required to be designed internally to minimum Gold Level, assuming the possible future installation of ramps for access
- only one bathroom containing at least a shower, vanity and toilet in each dwelling is required to incorporate LHDG Gold Level features. (The *additional* requirements outlined in this document are still applicable).

Platinum Level

Incorporates:

- *Livable Housing Design Guidelines* (LHDG) Platinum Level (developed by Livable Housing Australia)
- additional requirements as outlined in this document.

Application:

- in response to identified portfolio or client need
- design allows for a *future* Platinum Level bathroom at the ground floor of highset dwellings, where the ground floor is a habitable level (e.g. not subject to flooding, tidal inundation or otherwise inaccessible)
- only one bathroom containing at least a shower, vanity and toilet in each Platinum Level dwelling is required to incorporate LHDG Platinum Level requirements.

Town planning

The majority of Indigenous Councils have planning schemes in place (with the remainder likely to have planning schemes adopted by mid to late-2016). These planning schemes outline local planning requirements and policies.

Under the *Sustainable Planning Act 2009*, where a local government planning scheme is in place, the State rather than the local government is required to assess State-subsidised housing developments against the relevant planning scheme.

For communities not operating under local planning schemes, the State Planning Policy 1/09 (SPP) applies – *Reconfiguration of a Lot Code for Land in Indigenous Local Government Areas to which a Local Planning Scheme does not apply*. The SPP details performance and acceptable outcomes addressing key planning principles.

Design of projects should consider the objectives of the SPP and comply with local planning scheme requirements to the maximum extent possible.

Service delivery requirements may on occasion result in non-compliance with the planning scheme and must be justified on town planning grounds and supported by good design practice.

Projects should address relevant Council policy requirements for operational activities such as waste collection.

The design principles and considerations outlined in this document, combined with those in the SPP and local planning schemes, will assist planners in meeting program objectives, with best practice design considerations fundamental to the solution.

Design principles

These design principles are provided to assist the design process.

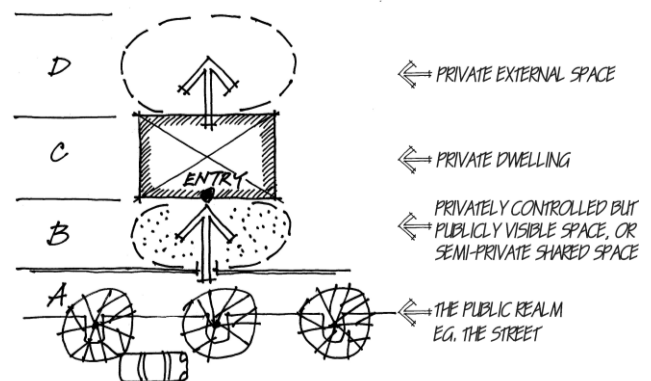
The order does not imply relative priorities and there are many points of overlap between the principles. If the pursuit of one principle compromises another, agreement with the State is required to determine the design priorities.

In all cases, the department is open to considering alternative solutions that achieve equivalent (or better) performance outcomes.

Basic approach

All housing must be consistent with the principles expressed in the diagram (see right).

This diagram represents the provision of spaces or zones with changing degrees of privacy and control, illustrating the transition from the public realm (usually a street) to the private territory of the dwelling and its spaces. It does not represent a site plan. For example, private external space need not necessarily be located in the backyard.

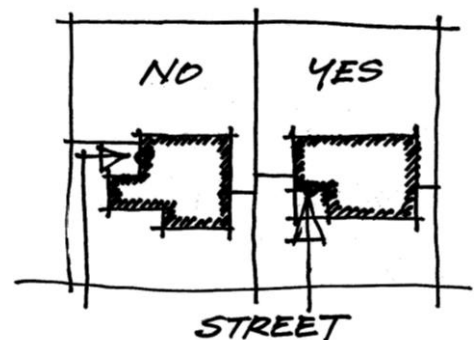


Facing the street or park

Houses on sites with a boundary to the street or public realm must face it both functionally (in terms of the location of the front door) and visually (such as the size and type of windows and treatment of the entry porch that face the street).

Houses adjacent to a park should overlook the park.

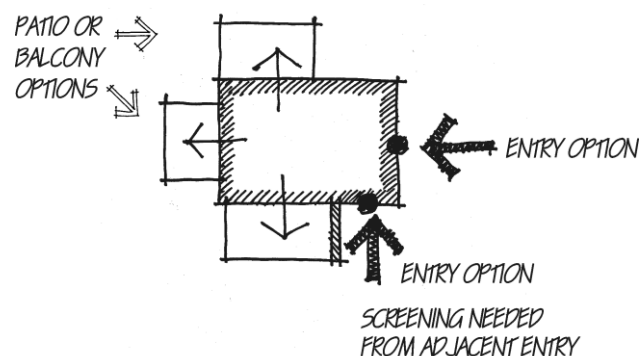
On a corner site, the housing must present well to both street frontages.



On 'cluster' housing sites with a shared internal driveway, houses that do not have a street frontage should face the driveway.

Visitors must have direct access to the front door without going through private outdoor space, the carport or the back yard first.

Only in extreme circumstances should housing present its side or back on the public realm, and then only as little as possible and with agreement from the State.



Fitting into the neighbourhood

Housing must 'fit in' to the community.

This is achieved through form, scale, variety, attention to detail, appearance, setbacks and relationship to the street.

This principle does not require imitation of adjoining houses, nor does it require deliberate assertion of a different style, particularly if it is just for the sake of difference.

It does require that the project avoid being set apart from neighbours in ways associated with lower quality outcomes.

Designs should meet the department's needs within the 'pattern' of the neighbourhood, where such a pattern is clear.

In new subdivisions or larger redevelopment sites, master planning of the area must be undertaken, identifying the lot yields and associated housing options in order to determine the intended 'pattern' of the new area.

Individuality, variety and scale within the streetscape

While new houses should 'fit in' with existing houses, they must also make a positive contribution to the character of remote communities and display variety and individuality.

Where multiple houses are constructed at about the same time and in close proximity (such as on adjoining or adjacent streets) designs must appear different.

While visual differences may be achieved in many ways, for the purpose of defining a minimum benchmark the department describes some possible points of difference. **At least two visible points of difference** (of which at least one is a *major* point of difference) are required between any two houses constructed at about the same time and in close proximity.

Major points of difference include:

- floor plans of the fronts of houses
- roof designs (such as gables, hips and Dutch gables)
- location of the car port relative to the house
- configuration of stairs, entry porch and front door placement
- external wall materials.

Other points of difference include:

- colour schemes
- front door designs
- window types and configurations
- window awnings, shade devices and privacy screen designs

- fence detailing and materials
- post/column design and/or materials.

Variation is also required between groups of houses. For example, a group of houses at one end of the street should not repeat the exact order of designs and colour schemes used for houses at the other end of the street.

The repeated use of a single design (unrelated to site conditions, neighbourhood context, orientation, group layout, etc.) is unacceptable.

Car parking and street presentation

The street design of housing must not be dominated by car parking.

Carports and garages must not dominate the street elevation and must be set back from the street with the house. On multi-dwelling sites entries to dwellings should not be hidden by parking structures.

Where cars and pedestrians share use of a space, careful design is essential to ensure access routes are clearly legible.

Privacy and the neighbours

The location and design of dwellings must not unreasonably impair the privacy of neighbouring properties.

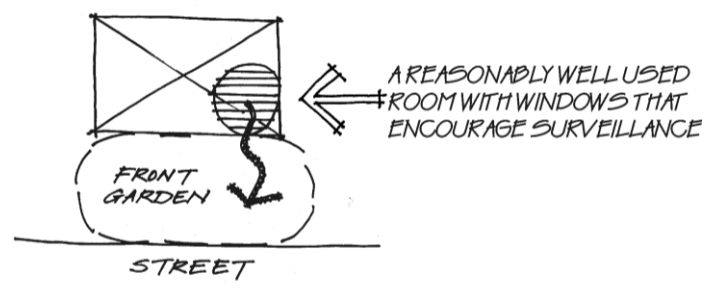
Outdoor living spaces of adjacent houses should be separated from each other.

Internal and external living areas should not overlook the private outdoor spaces of others.

Public spaces

On sites with multiple dwellings, access through the site by the general community should be discouraged, unless the path is designed and managed as a public space (such as a public street controlled by Council).

Facilities available for public use (such as parks, playgrounds or barbeque shelters) must not be provided on housing sites.



Crime prevention through environmental design

Housing must be designed to facilitate casual surveillance of the front garden, street, shared driveway or adjacent park as applicable.

Housing must not be hidden from the street or public realm behind high fences or car accommodation.

Where planting is provided, species and locations must be thoughtfully chosen so that planting does not obstruct the view of the street or the internal pathways of the dwelling.

Equitable design

While it is accepted that designs may differ from site to site based on site constraints, priorities and identified need (such as need for accessible housing), the application of these standards must be equitable.

The design of one or more dwellings (including the amenity of outdoor spaces etc.) must not be unfairly compromised by the design of other dwellings.

Personalisation

Housing, especially in its detailing, should allow for the personal expression of tenants in ways that do not create long-term maintenance issues.

Examples include rooms that allow flexible furniture arrangements and front yards that provide opportunities for gardens.

Climatic design

Design of new subdivisions should support the correct orientation of housing for climate.

The detailed design of dwellings must respond to the microclimate of the site and its locality, acknowledging the different climatic regions of Queensland and local knowledge conveyed by Councils.

In ways that are consistent with other design principles, the climatic response must be reflected in:

- the plan, shape and orientation of the dwelling
- location of particular rooms
- materials used for construction
- location and shape of openings
- location of internal walls with respect to cross-ventilation

- roof form
- landscaping of adjacent ground to provide shading
- protection of openings against excessive solar access and rain penetration
- insulation.

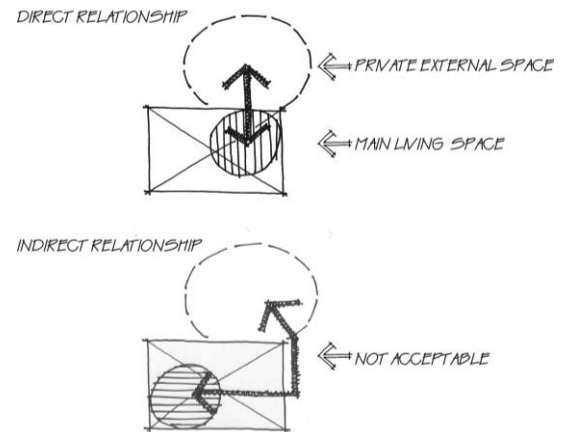
This principle does not require that all housing face north/south if this is at odds with other design principles. It does require that the design respond creatively and thoughtfully to the climatic context.

Indoor/outdoor living connection

A direct connection to outdoor living is important for living in the Queensland climate.

There must be a direct visual and physical relationship between the dwelling's living/dining area and the private outdoor living space.

It is not acceptable for occupants and visitors to only access outdoor living space through service areas such as laundries or kitchens.



Covered outdoor spaces

Covered outdoor space at the front of houses (such as an entry porch incorporating space to sit) offers the opportunity for casual surveillance of the street, informal interaction with people in the street and supervision of children in the front yard. Uninvited visitors to a house would typically approach the front door at the entry porch.

Covered outdoor living spaces are ideally located to provide privacy for outdoor living for the family and invited/welcome visitors, and a safe place for children to play associated with a yard. The space should be orientated and/or screened to provide a comfortable place for outdoor living throughout the year.

The location of covered outdoor spaces (entry porch or private outdoor living) should be considered on a site-by-site basis and take into account orientation (for sun, weather and breezes), relationship of the house to the street, views, site topography, access, proximity to neighbours, privacy and community expectations as conveyed by Councils.

Carports may be designed and located to provide additional covered outdoor living space, particularly for times of the year or social occasions that the dedicated covered outdoor living area is not suitable.

Planting and turf

Trees and plants can:

- improve the microclimate of the site and the locality
- improve the appearance of front gardens
- provide definition and amenity to private spaces
- shade or soften group car parking areas
- aid legibility within group schemes
- promote community acceptance of new development
- provide a habitat for wildlife.

Healthy, significant trees should be retained and protected wherever possible.

Ideally, front and back yards should be turfed. However, it is acknowledged that establishing turfed yards in some locations may not be viable, particular where turf is not readily available, imported topsoil is required and/or water supply limitations apply.

Alternative considerations may include fruit bearing trees, shade trees, or culturally significant species. Species selection should be low maintenance and appropriate for the climate.

Consider the mature height of planting and ensure that it:

- is appropriate for the location and capable of surviving with minimal ongoing maintenance and no ongoing watering (e.g. planting in undercroft areas is not acceptable)
- allows adequate light into dwellings
- does not create maintenance issues for the dwelling
- is unlikely to cause health and safety issues .

The maximum gradient to garden areas is 1:4. The maximum gradient to turfed areas is 1:5.

The requirement for the provision of turf and/or other landscaping will be as instructed by the State and determined on a case by case basis in consultation with Councils and consider the cost and likelihood of successfully establishing and maintaining vegetation.

Innovation and Normality

The State seeks good housing design outcomes, and is open to innovation and change that may arise through different design approaches or the introduction of new products.

The State however, does not look for:

- experimentation where there are no resources and processes for rectifying any problems that might arise
- the pursuit of difference *only* for the sake of being different (rather than better)
- the abandonment of conventional, comfortable and acceptable housing techniques or solutions for no gain
- inappropriate typecasting or attention seeking for social housing.

The development of innovations must consider cultural preferences, construction cost, maintenance requirements (including cleaning), running cost, and safety.

There are often judgements to be made about the right point of balance between innovation and normality. The State must be consulted when proposed alternative solutions conflict with these standards.

Building types

The choice of housing type should principally be in response to housing need and influenced by:

- cultural preferences
- regional housing styles
- local conditions
- availability of skilled trades
- availability of building materials and equipment.

Pre-fabricated, factory-built or 'flat-pack' houses must meet the standard of amenity, durability, maintainability and performance described by this document, and must not appear overtly transportable, temporary or inferior in any way to housing built conventionally on site.

Acceptable building styles

Slab on ground:

Particularly suitable in response to identified need for accessibility.

Low set:

Often suited to sloping sites and preferred for some types of prefabricated construction.

Lowset houses are required to be designed internally to minimum Gold Level, assuming the possible future installation of ramps for access.

High set:

Due to the increased cost of construction, and issues with accessibility, highset homes are generally not preferred; however, exceptions include:

- sites subject to flood, storm surges and/or tidal inundation (ideally, houses should not be built on sites subject to tidal inundation)
- sites where topography dictates high sets as the only suitable building style (for example, heavily sloping sites where it is not practical/possible to cut and fill).

The State must be consulted on proposals for highset (and two-storey) houses.

Considerations include:

- the state will typically not support 2 bedroom highset
- highset houses are limited to 3 to 4 bedrooms on the first floor
- identified current and future need for accessible houses and the capacity of the highset house design to cost-effectively provide accessible accommodation at the ground floor in the future
- site constraints
- efficient design and value for money.

The upper level of highset houses are not required to be designed to Gold Level or Platinum Level; however where the ground floor is a habitable level (e.g. not subject to flooding, tidal inundation or otherwise inaccessible) the design should allow for at least one future bedroom and a Platinum Level bathroom at the ground floor.

Target Floor Areas

The following table details the target floor areas for indoor and outdoor space. Note:

- Fully Enclosed Covered Area (FECA) is the indoor floor area measured to the inside face of all external walls. It excludes external wall widths but includes the floor area occupied by the thickness of internal walls.
- FECA does not include patios, carports or entry porches.
- Outdoor living area targets exclude carports and entry porches.
- With approval from the State, covered outdoor living areas may exceed the target areas where construction efficiencies are achieved (such as aligning the patio with the end of the house to remove a roof valley).
- Internal floor areas may be less or greater than the target areas provided all other design requirements are met and the floor-planning is practical and efficient in its use of space.
- The State may reject a design that it considers is not efficiently or practically planned.

Target floor areas for indoor and outdoor space (FECA m ²).			
House Type	(General and LHDG Gold Level)	(LHDG Platinum Level)	Covered Outdoor Living Area (patio)
Cluster House 1-bedroom	55	65	15
Duplex 2-bedroom	95	100	20
Bedroom / Bathroom additions ('Plug-ins') 2-bedroom	35	N/A	15
Attached House 2-bedroom	105	N/A	20
Detached or Cluster House 2-bedroom	90	95	20
Detached House 3-bedroom ^a	105	110	24 (highset: 12) ^b
Detached House 4-bedroom ^a	130	135	30 (highset: 15) ^b
Detached House 5-bedroom ^a	155	160	36 (highset: 18) ^b

^a. The above target floor areas apply to lowset and slab-on-ground houses, and highset houses with no provision at the ground floor for future rooms.

^b. The size of the covered outdoor living area located on the same level as the internal living area is reduced for highset houses that have an undercroft capable of contributing to covered outdoor living.

Site Design

Dwellings should be sited to deliver a cost-effective, balanced and culturally sensitive response to all aspects of best practice design described in the Design Principles section.

For the site and ground level of highset houses, apply Gold Level requirements only. Apply referenced Livable Housing Design Guidelines Gold or Platinum Level requirements only to the extent that the ground level is intended for modification/upgrade to Gold Level or Platinum Level.

Drainage and Stormwater

Stormwater must be discharged away from the house, adjacent buildings, paths and functional outdoor spaces. Water **must not** be directed to flow under lowset or highset houses.

Every effort must be made to discharge stormwater to a designated stormwater system, preferably the kerb and channel. If it is not possible to discharge to the kerb and channel, alternatives such as stormwater pits should be investigated.

Concrete splash pads are not preferred and may only be provided with prior approval from the State.

Prevent water ponding under all water sources e.g. yard taps, downpipes, hot water system overflows etc.

Guttering is preferred. Provide downpipes with securing clips at 900 maximum centres, if guttering is provided.

Concrete driveway and paths

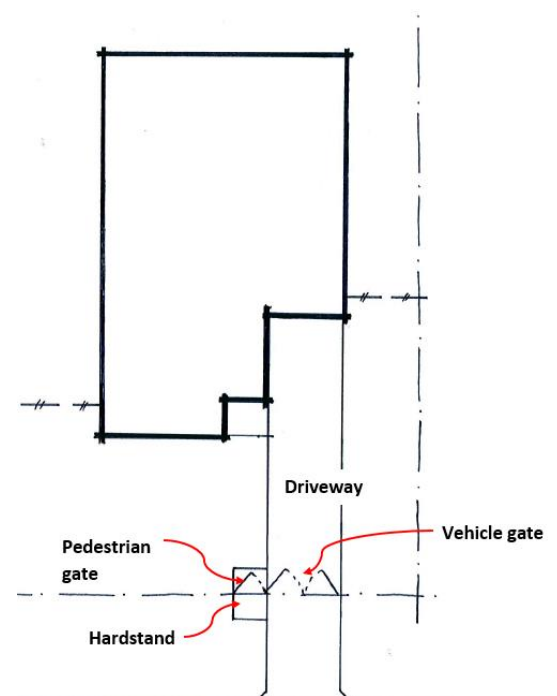
Gold Level Requirements:

Livable Housing Design Guidelines **Gold Level** requirements (Elements 1 and 2), plus:

- Driveway to be 3000mm wide with appropriate grade transitions and drainage. At least one visitor parking space on the driveway is required and can be shared with the pedestrian path to the house.
- A pedestrian path from the kerb or road to the front door of the house is preferred. The (examples illustrated, right and below)
- Driveways to extend to the kerb or roadway providing appropriate crossovers, including culvert crossings where necessary to prevent damming of overland flow, table drains and road gullies, in accordance with Council requirements and other relevant standards such as the Far North Queensland Regional Organisation of Councils standard drawings:

<http://www.fnqroc.qld.gov.au/regional-programs/regional-development-manual/version-4-2009/standard-drawings>).

- Car tracks are not acceptable.
- 1:15 maximum design gradient is required along the driveway linking the carport to the letterbox (where a letterbox is requested) and footpath or



Example of pedestrian path to house from street.

street. Steeper driveways are acceptable in response to site constraints subject to approval of the State.

- Hard pathways (concrete preferred) are to be provided linking carport, pedestrian entry, rubbish bin areas, meter box and clothesline.
- Handrails are typically not required along paths.

Platinum Level Requirements:

- above requirements, and *Livable Housing Design Guidelines* **Platinum Level** requirements (Elements 1 and 2).

Carport

Gold Level requirements:

Livable Housing Design Guidelines **Gold Level** requirements (Element 3),

except:

- Carport length is to be 6000mm, not 5400mm.
- For highset houses, a reduced vertical clearance of 2400mm is acceptable, provided that other accessible spaces are not being provided on the ground floor.

plus:

- Clear space of 6000mm x 3200mm clear space is to be measured between posts.
- Car accommodation that is attached to the house is preferred. Carports must have open sides. If not attached to the house, a path (preferably sheltered) of minimum width 1000mm is to be provided between the carport and the house.
- Where possible, car accommodation should be behind the front building line. In instances in which houses share a site (duplex, dual occupancy, attached houses or cluster development) provide each house on that site with a carport.
- The design of the carport should be in keeping with the design of the house.

Platinum Level requirements:

- above requirements, and *Livable Housing Design Guidelines* **Platinum Level** requirements (Element 3).

Letterbox

Gold Level requirements:

- Where mail delivery services are available or where council encourage provision of a letterbox, place the letterbox adjacent to the driveway aligned with the front boundary. It can be stand alone or incorporated into the fence.
- The access point of the letterbox (for mail retrieval) should be within the range of 900mm to 1200mm above the finished surface level of a level hardstand (maximum 1:40 cross-fall) on the retrieval side of the letterboxes.
- Letterboxes should have capacity to have a padlock attached (by the tenant).

Platinum Level requirements:

- Above requirements apply.
- Provide a level hardstand. Minimum 1540mm wide x 1540 long, and extend 400mm past the letterbox.

House numbering

House numbers are required for all properties.

Numbering must be clearly visible from the street in a contrasting, reflective colour, to the background.

Numbers must be a minimum size of 150mm, made from a durable material and securely screw or rivet fixed to the house.

Garden store

9m² minimum floor area, 1800mm minimum height, located away from the house (including highset houses) and on a concrete slab with recessed edge to prevent water penetration. A path is not required between the house and the garden store.

The garden store must have a high-strength frame and be of an appropriate strength for the design wind classification of the site.

Rubbish bin storage

Gold Level requirements:

- Locate on a hard standing area adjacent to each dwelling, undercover if possible (e.g. under eaves, extended carport, or in undercroft space for highset houses) away from doors and windows to bedrooms and living spaces.

- A post or chain is to be provided to secure the bin to prevent it being knocked over by animals. The number of bins catered for must be in accordance with local requirements.

Platinum Level requirements:

- Above requirements, and *Livable Housing Design Guidelines* Platinum Level requirements for accessible paths (Element 1) apply.
- Provide an accessible path to the bins, with circulation space at the level hardstand (maximum 1:40 cross fall) in front of the bins minimum 1540mm wide x 1540mm long.
- Provide an accessible path to the street where practical.

Clothes line

Gold Level requirements:

T-Bar height adjustable style which is located at the rear or side of the property, preferably not visible from the street, easily accessible from the laundry and in a position which does not intrude on open recreational space as illustrated below. Mounting height of lines to be 1800mm above ground level. Rotary clotheslines are not permitted.

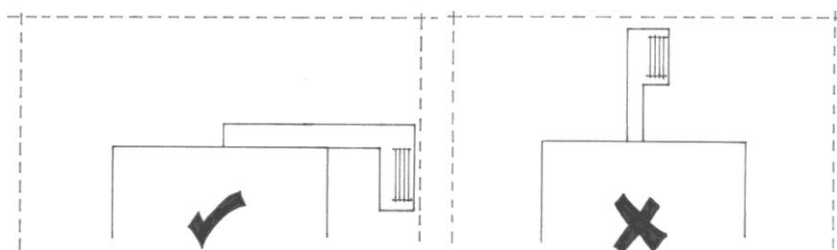
The clothesline must be constructed from hot-dipped galvanised steel. Aluminium (as noted in Product Standard) is not acceptable.

The clothesline base must be non-removable and secured in a concrete slab under the clothesline and extending 900mm along the length of the clothesline on one side. The length of clotheslines should be:

- 15 lineal metres for 2-bedroom duplexes
- 30 lineal metres for 3-bedroom houses
- 40 lineal metres for 4/5-bedroom houses

LHDG Platinum Level requirements:

As per General Level requirements, plus provide level hardstand (maximum 1:40 cross-fall) in front of the clothesline and extending under. Hardstand to extend 1540mm in front of the clothesline for the full length of the clothesline.



Position of clothesline does not intrude on main yard space

Yards

Unless otherwise approved by the State, yards must be fenced.

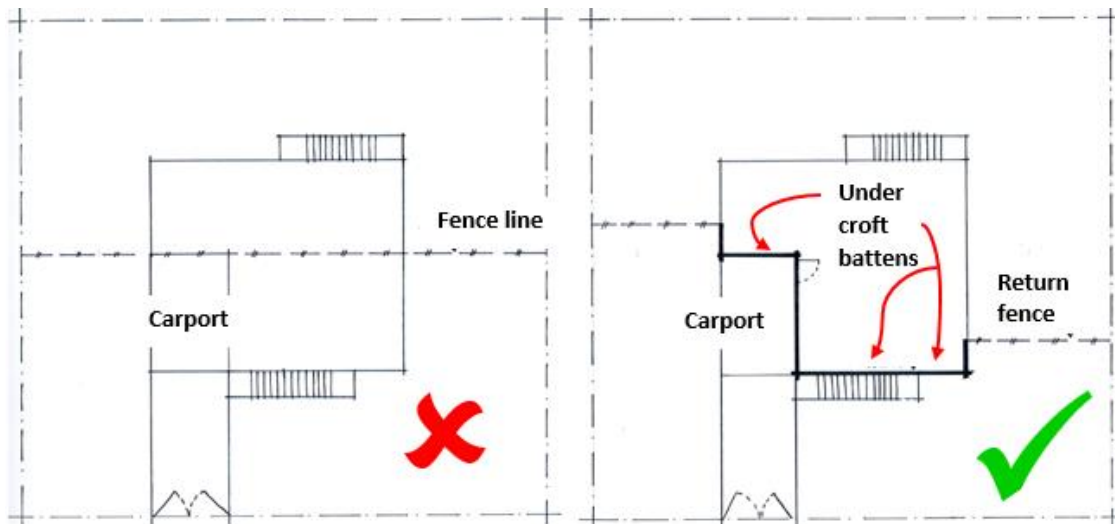
Private yard space (the yard that is suitable for children) should be accessible from the covered outdoor living area in low-set and slab-on-ground houses. The private yard need not necessarily be located to the rear of the house, particularly on battle-axe sites, corners, or at the ends of T-shaped cul-de-sacs. Provide access to private back yards from the front yard or driveway. This could typically be achieved through the use of gates or return fencing.

Front yards to have a maximum 1200mm high front fence with pedestrian gate (and vehicle gate where the fence extends across a driveway) allowing surveillance of the street.

Fencing

The following general requirements apply for fencing:

- Private yards must be fenced.
- Return fencing is to be provided between the side fencing and the house, other than for highset houses unless specifically required by the State.
- Gates must be provided in the return fencing on both sides of the house. One to be a pedestrian gate, one a vehicle gate (if possible).
- Where the State requires return fencing on highset houses, separation of the front yard from the back yard must be achieved, whilst maintaining the maximum amount of usable space under the house. The drawings below illustrate examples of an unacceptable and an acceptable solution for return fencing on highset houses.



- Front yards must be fenced, unless it is the Council's preference and common practice not to fence front yards in particular communities.
- 1200mm, 1500mm and 1800mm high chain wire for perimeter side and rear boundaries are acceptable, with raked sections if the front yard is fenced at a lower height. 1800mm high chain wire fencing requires a mid-rail.
- Incorporate lockable vehicle and pedestrian gates to the front of the property.

Fencing types should be suited to the climatic region and community and may be chain wire, timber or Colorbond (or similar). Wire fencing and gates to have galvanised posts, top rail and bottom rail. Gates in timber fencing to have galvanised steel frames.

Retaining walls

Retaining walls must be constructed of a suitably long-lasting material, requiring no ongoing treatment or maintenance to maintain its integrity and appearance. Timber is not permitted.

Retaining walls must be of a design, height and location that is safe for tenants, neighbours and the community. Retaining walls must not unduly restrict the light and/or views from the property or neighbours' properties.

The preferred maximum height for retaining walls is 1400mm.

Water tanks

The *Queensland Development Code* (QDC) Part MP 4.2 *Water Saving Targets*, which requires a supplementary water source (such as a water tank) for a class 1 building to be connected to a reticulated town water supply system, applies *only* when a Council has applied to and received approval from the minister to require the mandatory application of the Part.

Water tanks must be supplied in communities where this approval has been granted. Requests for provision of water tanks in communities where this approval has not been granted will be assessed on a case by case basis.

Tank capacities, number of tanks, their use and outlets to which they are connected should be generally consistent with local practices and in accordance with local government requirements.

Additional water tanks may be required for bedroom/bathroom additions.

Water tanks that may store untreated rainwater must not be connected to potable water fixtures.

Tank cocks must be lockable with all components secured against theft and damage.

Metal tanks are not acceptable in coastal or island areas.

Tanks must be fully sealed (as in the case of tanks that store town water only) or all tank openings screened to prevent mosquito infestation. Every effort must be made to discharge overflow from tanks away from the house, to a designated stormwater system, preferably the kerb and channel.

Pumps, if required, are to be submersible hardwired. Gravity fed pumps are preferred. If a continuous flow is desired (plumbed to the toilet) an automatic hardwired pump should be utilised.

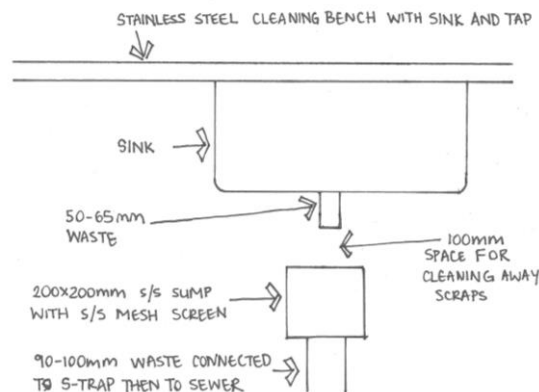
Rainwater tanks must not be able to be topped up from town water supply. Tanks fed from town water supply must not be topped up by rainwater.

The minimum height of a tank stand is to be 300mm above finished ground level. If two tanks are used and they flow into each other, then the base of the second shall be a minimum of 300mm above the base of the first.

Tank stands shall be either formed concrete; concrete slab; steel framed; or timber framed (treated to H5 standard or above) all with appropriate tie-down for tanks to stands.

Cleaning bench

A cleaning bench (for fish or game) may be installed (where approved by Councils) outside, away from outdoor and indoor living areas. It must be located under roof (such as carport or eaves) to shelter the sink from driving rain.



Internal Space

A furniture layout plan must be provided to demonstrate functional planning of spaces suitable for the maximum household population (refer to Appendix 1 for furniture sizes).

Unless noted otherwise, paths of travel past furniture must be a minimum of 900mm wide.

For the upper level of highset houses, apply the Gold requirements of this standard only. Referenced Livable Housing Design Guidelines Gold Level requirements do not apply.

Corridors, thresholds and doorways

Gold Level Requirements

Livable Housing Design Guidelines **Gold Level** (Elements 2, 4, 12,13) requirements:

except:

- Sliding glass doors: If a deeper door sill is required due to cyclone rating requirements, a slightly higher threshold is acceptable, provided that the sill allows for a proprietary ramp system to be easily attached at a later date. (Ramps only to be installed in response to identified client need).

plus:

- With the exception of doors to pantries and linen cupboards, door swings must not impede on the doorway and circulation clearances or door swings of other doors.

Platinum Level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Element 2, 4,12, 13) requirements:

except:

- For 4 and 5 bedroom dwellings, Platinum Level access requirements are not required to the second bathroom or separate toilet.
- For hinged doors, provision of a 920mm door leaf is deemed acceptable in lieu of LHDG Platinum Level requirement for 900mm clear opening.

plus:

- Internal sliding doors are to be surface mounted (not cavity style).
- Provide circulation space at all doors in accordance with AS1428.1-2009. In addition, note that:
 - Where a surface-mounted sliding door intrudes into the required circulation space of another surface-mounted sliding door, the width of the hallway must be increased to meet the requirements of AS1428.1-2009, Clause 13.3.3.3.
 - Provide a minimum of 1000mm path past furniture through the space (excluding dining chairs). Furniture must not be placed within door circulation spaces.
 - Refer to LHDG Element 13 for door furniture.
- Sliding glass doors must be 2100mm wide.

Entry porch and Foyer

(Not applicable to bedroom / bathroom additions – ‘plug-ins’)

The front door must be a swing door with a security screen door.

Gold Level Requirements

Livable Housing Design Guidelines **Gold Level** (Elements 1, 2, 12, 13, 15, 16) requirements:

plus:

- Provide a covered entry porch at the front door.
- The porch must be visible from the street and contribute positively to the appearance of the house. The minimum size of the landing area is to be in accordance with LHDG, and may be up to 7.5 sq.m.
- Where the covered outdoor living area is located at the front of the house and incorporates the entry porch:
 - The path to the front swing door must be direct and the shortest possible distance across the porch or covered outdoor living.
 - The door from the living or dining room to the covered outdoor living area must not be the front door.
- A foyer may form part of the living/dining area (accounting for furniture layout) or be a separate space.
- The security swing door and front door should preferably open against walls allowing 90° (nominal) door swings.
- Unscreened glass (operable or fixed) beside the door latch is not permitted.
- Separate duplex entries and avoid creating paths of travel past entries of other dwellings.

Platinum Level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Elements 1, 2, 12, 13, 15, 16) requirements:

plus:

- Ensure that the security screen is hinged on the same jamb as the front door.
- Only a latch-side approach or front approach is acceptable for entry doors (refer AS 1428.1-2009, Fig 31 (f), or (h)).

Living and Dining

Gold Level Requirements:

Livable Housing Design Guidelines **Gold Level** (Elements 12, 13, 14, 15, 16) requirements,

plus:

- Living and dining areas should have:
 - a direct visual and physical relationship with the kitchen and covered outdoor living space
 - visual remoteness and separation from private spaces (bedrooms and bathrooms)
 - easy access to a separate WC not associated with the bedrooms
 - at least one solid uninterrupted wall, to allow for the placement of entertainment units or other such furniture (without compromising natural ventilation).
- Living and dining areas may be separated to support separate activities (such as homework in the dining area and television viewing in the living area), particularly in 4 and 5 bedroom houses.
- In 1 and 2 bedroom houses, the living and dining spaces may be combined with the kitchen.
- A minimum clearance width of 1000mm for movement through the space is required without impeding on the functions of the space.
- Living and dining areas must facilitate the functional placement of furniture (refer Appendix 1 for furniture items and sizes).
- **Multi-purpose spaces** (one bedroom dwellings only):
 - An additional multi-purpose space (minimum dimensions 1900mm x 2100mm) must be provided.
 - The space must be flexible to accommodate possible uses such as storage of mobility equipment, using a desktop computer or sleepover for a carer or visitor.
 - It must be a separate, defined space, not inside the bedroom.
 - Must facilitate the functional placement of furniture (refer Appendix 1 for furniture items and sizes).

Separation from the living area, kitchen or dining may be achieved through passive measures such as by creating a recess in the larger room and/or the use of nib walls, half-height walls and ceiling bulk heads.

Platinum level Requirements:

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Elements 12, 13, 14, 15, 16) requirements,

plus:

- Circulation space past furniture, through the space and at doorways must be a minimum width of 1000mm without impeding on the functions of the space.
- Where separate dining *room* is designed, the path past the furniture and through the space must be a minimum width of 1000mm and measured to the dining chairs (not the dining table) with the chairs sitting 600mm out from the table.

Kitchen

The kitchen should have a direct physical relationship with the dining space and ideally with the covered outdoor living area, particularly when outdoor living is located at the back of the house.

The kitchen should not form part of the main thoroughfare through the dwelling. In four and five bedroom dwellings, the kitchen should be a separate, defined space, but not necessarily a separate room.

Natural and artificial lighting must be sufficient across bench tops for general food preparation.

Windows provided above bench to have sill 900mm above floor level.

Good natural ventilation is required. Range hoods are not preferred.

Provide exhaust fan, vented to the exterior of the house, with closing mechanism (when off), separately switched and ducted to the external wall in the kitchen, offset at least 500mm from the edge of the stove and 2000mm above floor level.

Cooking

Gold Level Requirements

Livable Housing Design Guidelines **Gold Level** (Elements 9, 12, 13, 16) requirements, *plus:*

- Gas or electric cooking appliances are acceptable, to be determined in consultation with councils.
- Provide an upright range with four cooking elements located a minimum of 600mm from internal corner/s of the front edge of the bench. To facilitate cleaning, a 100mm gap must be provided between the joinery and each side of the range, with the bench overhanging to provide a 10mm gap each side of the range. Anti-tilt brackets are required.
- Hotplates are not to be installed under windows or within 300mm of a window.
- A microwave shelf must be provided. If necessary, it may be provided as a recess in the pantry space, creating two smaller pantry cupboards, one above and one below the microwave shelf. Microwave space must not be located under bench.

Note: In some instances the state may require provision of a wall oven and cooktop in lieu of an upright range. In these cases, unless specified otherwise, the wall oven and cooktop must be provided in accordance with the Platinum standard.

Platinum level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Elements 9, 12, 13, 16) requirements,

except:

- A wall oven and separate hot plates are required.
- Hot plates are not to be installed in benches that are not against a wall, unless a suitable upstand is provided to the back of the bench.
- Hotplates are not to be installed at the end of a cupboard, adjacent to doors, windows, areas of heavy traffic, internal corners, or against side walls of a pantry. At least 300mm of bench space each side of a cooktop must be provided. (Refer AS4299-1995, Clauses 4.8.7: Cook tops, 4.5.8: Ovens, 4.5.9: Microwave Ovens).
- Provide for a microwave oven between 750mm and 1200mm above floor level (generally above the wall oven). (refer AS4299-1995, Clause 4.5.9) The top of the cabinet around the convection oven may serve as the microwave oven shelf.
- Hotplate controls may be located centre-front.

Bench space and clearances

Gold Level Requirements

Livable Housing Design Guidelines **Gold Level** (Elements 9, 12, 13, 16) requirements,

plus:

- Provide adequate free bench space for food preparation and set down beside appliances (including the oven and refrigerator). Bench space should be provided on each side of the cook top.
- Space between benches (or to dining table in combined kitchen/dining) and to face of refrigerator) is to be 1200mm for one and two bedroom dwellings, and 1350mm for 3, 4 and 5 bedroom dwellings.
- Sink and cook top should be located on the same, continuous bench (does not apply to highset dwellings and continuous bench-top may include corners).

Platinum level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Elements 9, 12, 13, 16) requirements,

except:

- At least one 800mm work surface should be clear bench space.

plus:

- Allow a minimum clearance of 300mm between the hotplates and other appliances (i.e. wall oven, refrigerator) or other obstruction such as a wall.

- The top of the cabinet around the convection oven must be 1150mm to 1200mm above floor level.
- Locate the wall oven a minimum of 600mm from the internal corner of the front edge of the bench.
- Provide a work surface (800mm minimum length) beside the hotplates, wall oven and refrigerator. Two appliances may share a work surface. A sink drainer can form part of the work surface beside an appliance: hotplates can form part of the work surface beside the refrigerator (refer to AS 4299-1995, Clause 4.5.5).
- The work surface for the refrigerator must be measured in a straight line along the front edge of the bench. (i.e. must not be in a 'dead' corner).
- Provide a continuous bench-top between the wall oven and the refrigerator. The sink and hot plates are to be considered part of the continuous bench top (continuous bench-top may include corners).

Fridge space

Gold Level Requirements

Livable Housing Design Guidelines **Gold Level** (Elements 9, 12, 13, 16) requirements, *plus*:

- 1 & 2 bed dwellings: 850mm wide x 700mm deep x 1900mm high
- 3+ bed dwellings: 1050mm wide x 700mm deep x 1900mm high

Platinum level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Elements 9, 12, 13, 16) requirements.

Cabinets

Gold Level Requirements

Livable Housing Design Guidelines **Gold Level** (Elements 9, 12, 13, 16) requirements, *plus*:

- Benches are to be 600mm deep and 900mm above floor level.
- Pantry must be provided and is to be ventilated and vermin proof. Minimum width: 1000mm (with 2 x swing doors), depth: 450-600mm.
- Provide a minimum of one bank of drawers (locate remote from the hotplates).
- Benchtops are to be laminated with a post formed outer edge and no sharp corners. Plain colours are not preferred.
- Cupboards must have doors. Doors and drawers to be laminate/melamine finish with PVC edging, and metal D-handles.
- Seal junctions to benches, cupboards, walls, architraves etc.

Overhead Cupboards:

- Overhead cupboards are to be installed wherever kitchen layout permits (but not above hotplates).
- Locate overhead cupboards a minimum of 500mm above the kitchen bench.
- Maximum 350mm deep.
- Top of wall cupboards shall be no higher than 2100mm from the floor.
- One cupboard must have a secured, childproof lock to store medications and/or chemicals.

Platinum level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Elements 9, 12, 13, 16) requirements,

except:

- Benches must be 850mm above the finished floor level.

plus:

- The cupboard doors, plinth and shelf under the sink must be removable to a minimum length of 820mm (refer to AS4299-1995, Figure 4.8(b)). The under-sink space must provide the required knee space (refer to AS4299-1995, Clause 4.5.6(d)).
- The cupboard doors, plinth and shelf under or partly under the hotplates must be removable to a minimum length of 820mm. (refer to AS 4299-1995, Figure 4.8(b)). This section of removable cupboard is to form the work surface described in AS 4299-1995, Clause 4.5.5.
- Cupboard and pantry doors must have 170 degree opening hinges (except for doors that are restricted by walls, other cabinets etc.).
- Align the centreline of the hotplate controls with the centreline of the removable section. Hotplate controls may be located centre-front of the cooktop.

Sink and taps**Gold Level Requirements**

Livable Housing Design Guidelines **Gold Level** (Elements 9, 12, 13, 16) requirements,

plus:

- single lever mixer tap. Chrome plated with swivel spout
- stainless steel sink. 1-2 bedroom: Single bowl with drainer. Minimum 900mm long. 3-5 bedroom: Double or 1 $\frac{3}{4}$ bowl with drainer.

Platinum level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Elements 9, 12, 13, 16) requirements,

plus:

- The sink bowl must be to a maximum depth of 150mm (Refer AS4299-1995, Clause 4.5.6).
- Direct the waste(s) to a trap on the rear wall.
- Insulate exposed hot water pipes and metal surfaces under the sink in accordance with relevant Australian Standards.

Splashback

Gold Level Requirements

Livable Housing Design Guidelines **Gold Level** (Elements 9, 12, 13, 16) requirements,

plus:

- Splashbacks are required, and should continue into window reveals if applicable.
- Provide a splashback behind a kitchen bench to a height of 500mm or to the underside of overhead cupboards or microwave enclosure.
- Splash backs shall be ceramic tiled or melamine surfaced high pressure laminated sheeting (a 'Lamipanel' type product).
- The splashback behind an upright stove shall be ceramic tiled or stainless steel and extend for the entire width of the stove space, from finished floor level to the same height as the top of the splashback above the kitchen bench.

Platinum level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Elements 9, 12, 13, 16) requirements.

Bathrooms and toilets

Refer to **Appendix 2** for bathroom configurations.

Application of LHDG for bathrooms and toilets

Platinum Level dwellings: At least one bathroom and toilet is required to meet all Platinum Level requirements (including LHDG requirements). Additional bathrooms and toilets must meet *additional* Gold Level requirements and exceptions only (*not* LHDG Gold Level requirements).

Gold Level dwellings: At least one bathroom and toilet is required to meet all Gold Level requirements (including LHDG requirements). Additional bathrooms and toilets must meet *additional* Gold Level requirements and exceptions only (not LHDG Gold Level requirements).

Upper level of highset dwellings: LHDG Gold Level requirements to not apply, however *additional* Gold Level requirements and exceptions outlined below do apply.

Refer to *Accessibility* (page 8) for more detail about the application of Gold and Platinum Level requirements.

Design and clearance considerations

Gold Level Requirements

Livable Housing Design Guidelines **Gold Level** (Elements 4, 5, 6, 7, 12, 13, 16) requirements,

plus:

- Bathrooms must be located on an external wall.
- Provide good natural lighting and ventilation, supplemented by mechanical ventilation in order to provide appropriate airflow. Mechanical ventilation must provide a minimum of 15 air changes per hour, and the fan and light must be switched separately.
- Bathrooms must not be accessed directly off bedrooms.
- Ensure visual privacy between the living areas (including kitchen) and the bathroom/s and toilet.
- At least one bathroom and toilet must be close to the bedrooms.
- Visitors should have easy access to a toilet and hand washing facility (a laundry tub near the WC is acceptable), separate from the main bathroom (except for 1 bedroom dwellings), and easily accessible from the living, dining and outdoor living space.

Platinum level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Elements 4, 5, 6, 7, 12, 13, 16) requirements.

Shower

Gold Level Requirements

Livable Housing Design Guidelines **Gold Level** (Elements 6, 7, 13, 16) requirements,

except:

- Provide a 1000mm x 1000mm shower recess, reinforced to the full width of the shower recess (not 900mm wide as described in LHDG) to enable *future* installation of shower equipment.

plus:

- A shower screen with a minimum 800mm pivot type glass door, or shower curtain must be provided.
- Position the shower away from bathroom door to minimise splashing into other rooms.
- Walls to a shower or shower/bath area shall be ceramic tiles or melamine surfaced high pressure sheeting (a 'Lamipanel' type product) to minimum 2100mm high or to the top of half height walls.
- Soap holder must be recessed.

Platinum level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Elements 6, 7, 13, 16) requirements.

Reinforce shower walls as per LHDG, *except:*

- Extend the reinforcing to full shower width (not 900mm).
- On wall without shower combination, extend reinforcement to within 200mm of finished floor line (for possible *future* shower seat).

plus:

- Recess must be open on 2 sides.
- Floor tiles are to be a different colour to the general floor tile (minimum 30% luminance contrast).
- Shower configuration is to be in accordance with AS 1428.1-2009, Figure 47(a); or Figure 47(b) if WC is located adjacent to open side of the shower. Note that actual disability equipment (e.g. shower seats, grab rails) must only be provided if specified by the State.
- Provide circulation space in accordance with LHDG Figure 5(b).

- Position shower away from doors that lead to other rooms (to minimise splashing).
- Walls of shower area are to be tiled to 1900mm minimum.
- Provide a shower curtain rail 1800mm above floor level, ensuring that it does not intrude on toilet circulation space. Provide weighted shower curtain.

Bathroom and shower floor drainage and membrane

Gold Level Requirements

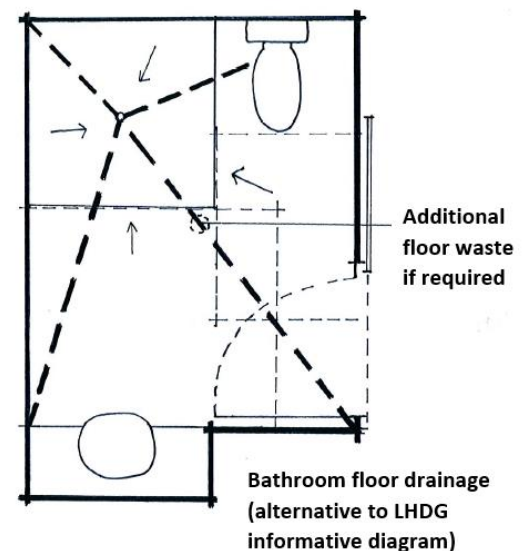
Livable Housing Design Guidelines **Gold Level** (Element 6, 7,16) requirements,

plus:

- A full seamless waterproof membrane shall be installed extended 300mm minimum up the wall.
- Bathroom floors are to drain in accordance with the method described in the LHDG Informative Diagram for bathrooms (floor gradients are to be between 1:60 and 1:80)

or

position shower waste in the centre of the shower area and fall entire bathroom floor to shower waste (as illustrated right). The fall at the shower shall be between 1 in 50 and 1 in 60. The fall in the bathroom shall be between 1 in 70 and 1 in 80. If this option is used, water must not be obstructed where a shower screen is provided. An additional 'back-up' floor waste may be provided outside the shower area.



Platinum level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Element 6, 7, 16) requirements.

Vanity

Gold Level Requirements

Livable Housing Design Guidelines **Gold Level** (Elements 5, 6, 7, 12, 13) requirements,

plus:

- Minimum 1200mm long x 350mm deep (1050 long in additional bathrooms) x 800mm high. Vanity to include drawers.
- Allow 1000mm clear space in front of vanity.

- Vanity shall be 300mm clear of the finished floor level, fixed securely to the wall or on legs and fixed to the wall.
- Provide splashback to vanity.
- Minimum 750mm wide mirror behind vanity, from the top of splashback to joinery height. Mirror may be installed off centre if required due to window location.
- Vanity top and basin to be integral, one piece polymer.

Platinum level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Elements 5, 6, 7, 12, 13) requirements,

except:

- Provide vanity with a bank of drawers and semi-recessed type basin with adequate circulation space (AS1428.1-2009, Figure 46).

plus:

- Position the basin to the end of the vanity unit that is away from the corner.
- Provide clearance under the vanity in accordance with AS4299-1995 (Figure 4.4: washbasin clearances).

Storage

Gold Level Requirements:

- Provide adequate storage in the bathroom through either wall shelves or under-vanity.
- Provide one lockable cupboard for storage of medicines.

Platinum level Requirements

No additional requirements

Toilet

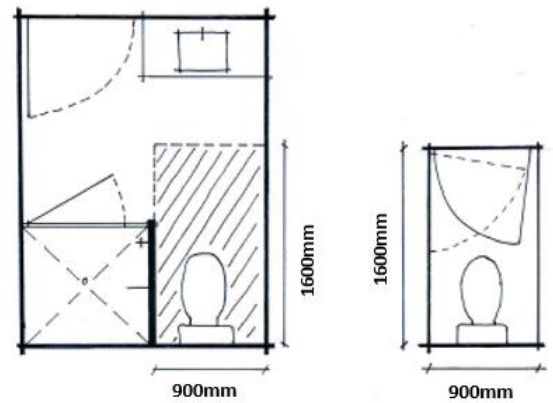
Gold Level Requirements

Livable Housing Design Guidelines **Gold Level** (Element 5,7) requirements,

plus:

- Provide a ceramic bowl, a plastic or ceramic cistern, and a seat with a lid.
- Provide standard right-angled chrome plated cistern tap and chrome plated supply pipe.

- Provide chrome plated or stainless steel toilet roll holder. For toilets in the upper level of highset houses, and additional toilets in other dwellings, the clear area incorporating the toilet, must be a minimum of 900mm wide and 1600mm long (as illustrated right).
- Separate toilet rooms:
 - Natural light and ventilation is required.
 - Provide direct access to hand washing facilities in, or immediately adjacent to the toilet room.
 - Provide 100mm diameter dry floor waste with 25mm minimum falls (graded from perimeter of walls to floor waste. The floor may drain directly to an external doorway).



Platinum level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Element 5,7) requirements,

except:

- Reinforce the side wall as per LHDG, but reinforce rear wall as per AS4299-1995, Figure 4.5.
- Circulation space is to be in accordance with AS 1428.1-2009 (Figure 43). It is accepted that a future shower seat may encroach on circulation space when folded down.

plus:

- Locate adjacent to a side wall that is a minimum of 1200mm long.
- Set out WC as per LHDG Figure 4. In addition, minimum dimension from centre of toilet to edge of shower must be 500mm.

Bath

Gold Level Requirements

Livable Housing Design Guidelines **Gold Level** (Element 7) requirements,

plus:

- Minimum size 1500mm long x 720mm wide.
- Pressed steel, enamelled finish (acrylic, as noted in Product Standard, is not acceptable)
- Use either tiles or melamine surfaced high pressure laminated sheet (a 'Lamipanel' type product) to walls behind bath, from rim of bath to 1200mm above finished floor level, and to front and sides (if exposed) from finished floor level to bath rim.
- Provide a recessed soap holder.

Platinum level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Element 7) requirements.

Tapware

Gold Level Requirements

Livable Housing Design Guidelines **Gold Level** (Element 13) requirements,

plus:

- Tapware is to be chrome plated with a fixed spout.
- Minimum heights: shower rose outlet: 1800mm, shower taps: 1000mm.

Platinum level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Element 13) requirements.

Towel rails and accessories

Gold Level Requirements

Livable Housing Design Guidelines **Gold Level** (Element 7) requirements,

plus:

- Provide accessories (e.g. towel rails, toilet roll holders etc. as applicable).
- Finish: Stainless steel or chrome plated.
- Provide minimum 600mm long towel rails providing minimum 1200mm aggregate length of towel rail.
- Reinforce walls behind towel rails. Must be suitable for use as a grab rail.

Platinum level Requirements

No additional requirements.

Wall coverings, skirtings, splashbacks

Gold Level Requirements

- Ceramic tiles or melamine surfaced high pressure laminated sheeting is acceptable.

Platinum level Requirements

No additional requirements.

Laundry

Laundry requirements are applicable whether the laundry is provided as a separate room, in the bathroom, or as a recess off a larger space (e.g. accessed from a foyer)

Access and ventilation

Gold Level Requirements

Livable Housing Design Guidelines **Gold Level** (Element 4, 10) requirements,

plus:

- If the laundry provides access to a WC from both the outdoor and indoor living spaces through separate doors, provide an entry set to the door between the laundry and the house.
- If the laundry is provided as a recess along a corridor or similar (1 and 2 bedroom houses only) and is visible from entry or living area, doors must be provided that enable full use of the laundry space when open.
- For houses, provide direct access from the laundry to the clothesline, where possible.
- Where possible, provide natural ventilation to the laundry space.

Platinum level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Element 4,10) requirements.

Laundry tub and tapware

Gold Level Requirements

Livable Housing Design Guidelines **Gold Level** (Element 4, 10, 13) requirements,

plus:

- **Tapware** to be chrome plated with swivel spout.
- **Laundry tub:** Stainless steel with powder coated stainless steel cabinet, installed in 'compact configuration' (door must open to front) minimum capacity:
 - 35 litres (1 bedroom dwellings)
 - 45 litres (2 bedroom dwellings)
 - 70 litres (3+ bedroom dwellings)

Platinum level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Elements 4, 10, 13) requirements,

plus:

- Provide a 150mm swivel spout and mixer on the side wall at the laundry tub.
- The washing machine combination shall be 1300mm above finished floor level.

Appliance space

Gold Level Requirements

Livable Housing Design Guidelines **Gold Level** (Elements 4,10) requirements,

plus:

- Provide a 900mm wide space for a **small deep freezer** (may be beside the washing machine).
- Provide 650mm deep space for **washing machine** beside the tub:
 - 700mm wide (1 and 2 bedroom dwellings)
 - 900mm wide (3, 4 and 5 bedroom dwellings).
- Provide a 12mm thick, 600mm wide, 900mm high, painted, marine grade plywood surface mounted wall reinforcing, 1300mm to 2200mm above finished floor level behind washing machine position for **wall mounting clothes dryer**.

Platinum level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Elements 4,10) requirements,

except:

- Provide spaces for **washing machine and clothes dryer** beside the tub (1250mm long x 650mm deep)

Circulation space

Gold Level Requirements

Livable Housing Design Guidelines **Gold Level** (Elements 4, 10) requirements.

Platinum level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** (Elements 4,10) requirements,

plus:

Circulation space at the appliances and tub may be achieved in two ways, depending on the location of the laundry:

- As noted in LHDG, provide minimum clear area of 1550mm in front of tub and appliances (AS 4299-1995, Clause 4.8). This applies if laundry is provided in a separate room, within bathroom, or as a recess (e.g. accessed from a foyer).

or

- Provide clearances at doorways as per Figures 31 and 32 in AS1428.1-2009. Figure 32(b) may be particularly instructive in calculating clearances. This applies if laundry is provided as a recess in a hallway.

Note: if front of appliances and/or tub is recessed more than 300mm behind line of hallway wall, circulation clearances must increase by the same dimension (refer AS 1428.1-2009, Clause 13.3.3.3).

Storage

Gold Level Requirements

- Provide secure storage for chemicals.
- Fit two wall mounted shelves (minimum 1700mm above floor level). Minimum 600mm long x 300mm deep. 15mm laminated marine grade plywood.

Platinum level Requirements

- No additional requirements.

Floor waste

Gold Level Requirements

- Provide 100mm diameter dry floor waste with 25mm minimum falls (graded from perimeter of walls to floor waste). The floor may drain directly to an external doorway.

Platinum level Requirements

- No additional requirements.

Skirting and splashback

Gold Level Requirements

- Skirting: Ceramic tiles or coved vinyl. Minimum 200mm high.
- Splashback: Minimum 450mm above the tub, continuing as 450mm band in the appliance space, and on return wall.

Platinum level Requirements

- No additional requirements.

Bedrooms

Separate the sleeping areas from the living areas where possible (full separation may not be achievable in smaller houses), and position bedrooms close to bathroom facilities. Isolate sleeping areas from noise (coming from both within and outside the house).

Bedrooms should typically be grouped together. Four and five bedroom houses may have bedrooms in two separate 'wings', each supported by a bathroom and toilet. Entries to hallways that provide access to bedrooms should be visible from living areas.

Bedroom 1

Furniture requirements:

Must accommodate:

- 1 x Queen sized bed (with bedhead against a wall)
- 2 x bedside tables

Gold Level Requirements

Livable Housing Design Guidelines **Gold Level** requirements,

except:

- Minimum floor areas (excluding wardrobe), which override LHDG requirements, are:
 - 11m² (1 and 2 bedroom dwellings)
 - 12m² (3+ bedroom dwellings, and bedroom/bathroom additions).

plus:

- Provide a second window for cross ventilation where possible. Windows above intended bed-head space to have minimum 1500mm sill height.
- Provide built in wardrobe, with sliding doors, top shelf, hanging rail and 3 x 600mm wide shelves (not in the corner). Minimum length: 1800mm.
- Minimum clearance of 900mm around remaining sides of the bed.
- Minimum room width is 3000mm.
- Clearance around bed in accordance with LHDG, with the additional requirement for a minimum clearance of 900mm on the remaining side of the bed.

Platinum level Requirements

Above requirements, and *Livable Housing Design Guidelines* **Platinum Level** requirements.

plus:

- Provide a surface mounted sliding door hung inside the room wherever possible.
- Built in robes should be positioned away from the head of the bed.
- If the linen store is provided in Bedroom 1 (1-2 bedroom dwellings only), it may be located on the wall adjacent to the bed head.

Bedroom 2

Note: Livable Housing Design Guideline requirements (Element 11) do not apply to bedroom 2.

- Bedroom 2 must accommodate the following furniture:
 - **3 x single beds** (bedheads against the wall). In this bedroom only, beds may be as little as 500mm apart.
(Note: provision for three beds is to ensure the room is big enough and flexible to accommodate a range of configurations. It is not expected that three people would permanently occupy one bedroom)
 - **A Drawer unit** against a wall. The end of a drawer unit must be a minimum of 600mm from the front of a robe space.
- Minimum floor area (excluding building in wardrobe) to be 12 sq.m.
- Provide a second window for cross ventilation where possible.
- Windows above likely bed-head space to have 1500mm minimum sill height. Provide built in wardrobe, with sliding doors, top shelf, hanging rail and 3 x 600mm wide shelves (not in the corner). Minimum length: 1800mm.

Bedrooms 3,4 and 5+

Note: Livable Housing Design Guideline requirements (Element 11) do not apply to bedrooms 3, 4 and 5+.

- Bedrooms 3,4 and 5+ must each accommodate the following furniture:
 - **2 x single beds** – positioned to provide access to a minimum of two edges of each bed. Minimum distance between beds: 1000mm.
 - **Drawer unit against a wall.** The end of the drawer unit must be a minimum of 600mm from the front of the robe space.
- Provide a second window for cross ventilation where possible .
- Windows above intended bed-head space to have 1500mm minimum sill height.
- Provide built in wardrobe, with sliding doors, top shelf, hanging rail and 3 x 600mm wide shelves (not in the corner). Minimum length: 1800mm.
- Minimum floor area (excluding building in wardrobe): 10sq.m.

Linen cupboard and broom storage

Linen cupboard

In 1 and 2-bedroom dwellings, the linen cupboard may be located in a bedroom.

Provide a 600mm deep linen store inside the dwelling, preferably not accessed from the kitchen or bathroom. Minimum widths:

- 1 bedroom dwellings: 600mm
- 2 bedroom dwellings: 900mm
- 3 bedroom dwellings: 1200mm wide
- 4+ bedroom dwellings: 1200mm wide

Broom storage:

Provide a 500mm wide broom cupboard (this may be a dedicated cupboard, or may be incorporated as additional dedicated space in a laundry recess).

Covered outdoor living space

Provide a covered outdoor living space (refer to *Target Floor Areas* table), ideally located to provide private outdoor living and a safe place for children to play associated with a yard. The space should be located and/or screened to provide a comfortable place for outdoor living for as much of the year as possible.

The roofs of covered outdoor living spaces must be insulated, and it is preferred that they are under the main roof space.

Screening should be carefully considered in the context of privacy, the locality, sun paths and prevailing breezes (both welcome and unwelcome); and ability to provide control of the space to moderate breezes and sun penetration.

Where covered outdoor living and the entry porch are located together, visitors' paths to the front door should be the shortest possible distance across the porch or covered outdoor living area and not pass through the centre of the outdoor living area. Access from the house to the covered outdoor living area should be by a separate door, other than the front door.

If the covered outdoor living area and carport are connected, ensure cars are prevented from driving through (a gate is acceptable).

Covered outdoor living areas that are more than one step, but less than 1000mm to the adjacent surface (e.g. ground, car port, path) require a balustrade with a minimum of a top and mid rail.

If a gate is required at the top of stairs to an external outdoor living space, ensure that a threshold landing is provided.

For both Gold Level and Platinum level dwellings, where a useable, level yard is practically accessible from a covered outdoor space, provide a pathway in accordance with LHDG Element 1.

Bedroom/bathroom additions

A bedroom/bathroom addition may be identified as a suitable, cost effective method of addressing overcrowding and the undersupply of larger family houses.

Where a bedroom/bathroom addition is provided as a separate building (typically located in the backyard of an existing house with a covered link to the house), separation of the addition from the primary dwelling limits the use of the building to older children and independent adults. Lowset additions may not be suitable for people with a disability.

Bedroom / bathroom additions provided as a separate building must contain the following:

- a front door (may be a sliding glass door)
- 2 x bedrooms
- 1 x bathroom (toilet may be incorporated or separate)
- 1 x covered outdoor area (may also serve as the entry porch)
- 1 x 1100mm wide (minimum) covered pathway to the primary dwelling. Provide 300mm (minimum) roof overhang each side of path).

Internally, the additions must meet **LHDG Gold Level** requirements (with additional requirements) as outlined throughout this document.

Bedroom/bathroom additions must comply with all other requirements (e.g. electrical and stormwater management requirements) outlined throughout this document to the extent that they are relevant. Depending on the location of the addition, this may require the provision of separate items such as hot water systems and television antennas/satellite dishes.

General construction (all house dwelling types)

All construction and associated works must comply with all relevant building codes, regulations and mandatory standards.

Alternative construction must meet or exceed the performance outcomes of this standard and be approved by the department.

Energy efficiency

In addition to mandatory requirements, the design of houses must respond to site conditions and local climate.

Orientation

In order of priority, living areas (indoor and outdoor) then bedrooms should be orientated and / or designed to avoid the western sun and maximise exposure to the prevailing breezes. If possible, the narrow side of the building or the side that contains bathrooms and toilets should face west.

Shading

Houses with hip or gable roofs must have minimum 600mm eaves overhang.

Overhangs must be increased or additional sun and weather protection provided to external walls, windows and covered outdoor living spaces in the case of:

- roof pitch is less than 20 degrees
- roof pitching height is greater than 2700mm
- fascia gutters are not provided
- windows in gable end walls or under the top edge of a skillion roof.

External doors must have minimum 1200mm wide roof or eaves projection that also extends at least 450mm past the outside edges of the doorway along the line of the wall.

All windows exposed to direct western sun require additional sun shading without unduly restricting air movement.

Air Movement and ceiling fans

House design must facilitate good cross-ventilation.

Typically, habitable rooms with two or more external walls shall be provided with openable windows in both walls.

Window openings are to be in accordance with BCA energy efficiency minimum requirements for rooms without ceiling fans, even though ceiling fans (or an alternative method of creating equivalent air movement) are to be provided.

Ceiling fans (minimum 1300mm diameter) or an alternative method of creating equivalent air movement, are to be provided to all habitable rooms. Fan controllers with robust switches are to be provided if available.

The minimum height to the underside of exposed ceiling fan blades must be 2400mm (refer AS 4226-2008. Section 12.5.3). The clearance between the ceiling fan and the ceiling must be not less than 200mm (300mm preferred).

Ideally, warm air within the house should be vented at ceiling level or near the highest point in a raked ceiling.

Provide passive cross ventilation of the roof space. Ventilation openings are to be vermin proof and non-moving.

Bathrooms must have good passive ventilation and openable windows.

Air conditioning

Air conditioners are not supplied by the department.

An easily identifiable knockout panel and power outlet must be provided in all habitable rooms for future installation of air conditioners by tenants. Nominal size of knockout panels: 800mm wide x 500mm high (living areas), 700mm wide x 450mm high (bedrooms).

Thermal insulation

Thermal insulation is required to the entire roof, and/or over ceiling linings of all indoor and outdoor living spaces, and to attached carports.

For more information on ceiling insulation, refer to Product Standards.

Use of timber

Timber must not make contact with the ground.

Framing timber (other than prefabricated roof trusses) and external trim timbers shall be treated to a rating of H3 or above.

Timber should not be used as external wall cladding.

Avoid designs and detailing in which structural timber is unnecessarily exposed to the elements. Floor joists or bearers that continue out from buildings or decks are not acceptable.

External walls/cladding

External wall cladding shall be of an external grade, and must be water resistant and termite proof. Metal roof sheeting profiles (or similar) must not be used as the only cladding material on a house.

Cladding products of a composition that ignites or melts easily with a naked flame must not be used.

Sub floor screening (highset and lowset houses)

Sub floor screening, with lockable access panel, is to be provided on lowset houses. Sub floor screening is to be provided to the street elevations of highset houses.

Detailed requirements include:

- For highset houses, screening is required to the street frontage, returning to the first column on each side.
- For highset houses on corner blocks, screening is to be provided to both frontages and returned to the first column on the two adjacent sides. Battening that extends to over one metre in height must not be climbable. Where car parking is provided under the house, provide an opening nominal 3m wide x 2.3m high, with no gates.

Roofing

Minimise valleys. Box gutters are **not** acceptable.

The main body of the roof shall have a minimum pitch of 15 degrees and a maximum of 26 degrees. Other roofs can have a minimum pitch of 5 degrees.

Roofing material shall be light-coloured Colorbond or similar metal profile roof sheeting. Roofs to be ventilated through passive, non-moving roof ventilators (may include roof ridge vents) and must be in accordance with Section 3.12.1.2 (b) (i) of the NCC (Energy Efficiency, Roofs)

Roof vents must be colour matched to the roof sheeting.

Locate roof vents as far apart as possible. Gable ventilation can be used instead of, or in addition to roof ventilation. Gable vents must be located as close as possible to the top of the roof and be weather proof.

Vermin proof all possible means of entry into roof/ceiling cavity.

Fascias and gutters, should be Colorbond or similar. Gutter leaf barrier systems may be installed.

All roofs, including roofs over outdoor living areas, and gable ends and the like must be insulated in contact with the roof sheeting or cladding.

Floor Construction

Internal

Floors shall be reinforced concrete, suspended timber and/or steel framed. Framed floors shall be sheeted with 19mm plywood treated to H3 or above, or 18mm compressed fibre cement sheeting; or similar.

Bathroom and laundry

Reinforced concrete or compressed fibre cement sheet subflooring.

Bathroom subfloor must be set down so that the finished floor incorporating falls is level with the house finished floor at the door.

Floor finishes

Internal

Requirements in addition to NCC 2016 slip resistance requirements for internal and external floor finishes (Volume 2, Section 3.9.1.4) are outlined in the DHPW Product Standards document. In summary, requirements for floor finishes include:

- bedrooms: Sheet vinyl or ceramic tiles
- wet areas: Slip resistant, tiles preferred
- living, dining, kitchen and corridor: Sheet vinyl or tiles (vinyl only for Platinum Level). If providing vinyl, a row of tiles is required at external door thresholds (including sliding doors)
- laundry or laundry recess: Slip resistant sheet vinyl or tiles

External

Floors shall be either concrete slab on ground or suspended timber/steel framed. Suspended floors for landings, verandas or covered outdoor areas will be minimum 19mm shot edge hardwood or 23mm composite strip flooring with a 3mm gap between boards.

For lowset dwellings, ensure a clearance between the ground surface and the underside of the lowest horizontal members of the subfloor of at least 400mm.

Floor finishes for covered outdoor areas must have a slip resistant finish. Pavers are not acceptable in any outdoor areas, including paths.

Steelwork - external

All exposed steelwork including stumps, stringers, brackets, plates etc. must be hot dipped galvanised after fabrication.

In marine environments, steel treatment must meet relevant standards for the protection of structural steel against atmospheric corrosion for a minimum maintenance period of not less than 10 years.

Fasteners

All bolts, washers, nuts, nails, screws, nail plates, tie down brackets and any other fastener shall be galvanised to standard.

External Stairs

All stringers shall be galvanised steel. All treads must be 250mm x 50mm (dressed all round) hardwood or precast reinforced concrete. Handrails and balustrade can be galvanised steel or powder coated aluminium. Provide handrails to both sides of stairs.

Internal Ceiling Linings

Internal ceiling linings must be:

- 6.0mm recessed edge, flush jointed, fibre cement
- or**
- 10mm (minimum) impact-resistant plasterboard
- or**
- similar resilient finish

Provide a minimum 600mm x 600mm framed access opening in the ceiling for each roof space.

Internal Wall Linings and skirting boards

Internal wall linings on timber or metal studs must be:

- 9.0mm recessed edge, flush jointed, fibre cement sheeting
- or**
- 10mm (minimum) plasterboard that is recognised as being impact resistant
- or**
- Similar resilient finish.

Skirting boards may be hardwood or pine.

Doors

All doors to have cushioned combination stops/catches.

Provide weather strips to external doors where appropriate.

External swing doors shall be solid core, waterproof plywood sheeted, with 3 x 100mm hinges and must swing inwards.

Internal doors shall be hollow core construction with 3 x 100mm stainless steel hinges. Unless otherwise specified in this document or recommended by an occupational therapist, sliding doors are not acceptable.

Steel door frames may not be suitable in coastal locations. Stainless or galvanised steel may be required. External grade timber door frames are also acceptable.

Aluminium framed sliding glass doors

Aluminium framed doors shall have a powder coated or anodised finish.

Sliding glass doors must not be used as a front entry door (with the exception of bedroom/bathroom additions).

Circulation space applies to the sliding leaf in Platinum Level dwellings.

External door thresholds

Thresholds at all external doors shall be as per LHDG, Element 2 (however, 10mm maximum vertical threshold is acceptable). Door seals must be provided.

Door hardware

External swing door: lever type entrance locksets with external key and internal lockable snib. Deadlocks are required.

Bedroom: lever type privacy lockset (*not* passage set as noted in product standard)

Bathrooms and WC: lever type privacy lockset.

Aluminium framed sliding glass doors: keyed lock and 'D' handle.

All keyed locksets and deadlocks in a house shall be keyed alike.

For more information about door hardware, refer to *Product Standards: Social Housing Dwellings (Door Furniture)*.

Windows

It is expected that glazed windows will typically have powder coated or anodised aluminium frames.

Double hung, hopper and casement windows may be used provided that they are security screened. Standard louvre windows without security screening are not appropriate. Fixed glass may be used where cross ventilation is provided by other openable windows.

Alternative and composite systems or a combination of window types may be provided that provide improved outcomes for ventilation, natural daylight, safety, security, privacy, heat gain, maintainability, robustness, dust exclusion and suitability for use with air conditioning may be provided.

Alternative systems that comprise materials other than glass and aluminium should be suitably robust and consistent with community expectations.

For Platinum Level dwellings, window sills are generally to be no higher than 900mm above floor level (typical exceptions include bathroom and kitchen windows, and the second window in the bedroom).

Glazing

Glazing used in windows shall be laminated or toughened glass.

Use obscure glass in bathrooms and toilets and clear glass elsewhere.

Polycarbonate 'glazing' should not be used due to the potential issues of increased scratching and discolouration. In addition, community Bushfire Management Plans may exclude the use of polycarbonate glazing by reference to AS 3959-2009: Construction of Buildings in Bushfire Prone Areas. Any identified need for polycarbonate windows on particular dwellings requires prior approval from the State.

Window coverings

Provide curtain brackets, curtain rods, and curtains, to all glazed windows and sliding glass doors, other than in wet areas, kitchens or where alternative methods of maintaining privacy are provided.

Curtains are to be fire retardant and washable without reducing fire retardant properties.

Security and insect screening

All external swing doors and openable sections of windows and sliding glass doors must provide both insect screening, and security screening. In coastal areas, only products suitable for corrosive salt environments are acceptable.

Acceptable screen types include:

- woven stainless steel security mesh
- aluminium diamond grille security screens, with fly mesh, that prevent a 50mm x 25mm x 15mm probe from passing through. Nylon or aluminium fly mesh is acceptable.

For further information about security screens, refer to *Product Standards: Social Housing Dwellings (P54: Security and insect screens for doors and windows)*.

In dwellings that require increased security, security screening may be applied to the fixed glass side of sliding windows and doors.

If security screens are applied to the fixed side of sliding glass windows and doors, then one bedroom in each group of bedrooms must include an openable security screen.

Where openable window security screens are required, preference is for top/horizontally hung screens.

Openable security screens must comply with Section 3.9.2.5 of the NCC (requirements for the protection of openable windows).

For further detail on security screen requirements, refer to *Product Standards: Social housing dwellings (Security and insect screens for doors and windows)*.

Paint and protectant finishes

All paints must be Australian Paint Approval Scheme (APAS) approved.

Anti-mould additive to be added to internal and external paint.

Prepare all surfaces using a trade approved method.

Galvanised metal surfaces to remain unpainted.

Painting to include a minimum of two finish coats.

Internal walls

Internal walls and ceilings should be painted using a three coat acrylic system, typically:

- walls: easy to clean semi-gloss or low sheen
- ceilings: low sheen
- Doors, architraves and skirtings: gloss enamel

External walls and soffits

External walls should be painted using a three coat acrylic or oil based system.

Colours

Community preference should be considered in the selection of colours.

Generally, internal colours, other than feature colours, should be light in tone.

External colour schemes can affect the thermal performance of a house. Light colours can reflect thermal radiation while dark colours will increase heat gain. To the extent that the energy efficiency rating of a house (as required by the National Construction Code (NCC) and Queensland Development Code (QDC) Mandatory Part 4.1) is negatively impacted, dark colours (particularly on roofs) should not be used (refer to solar absorbance guide in NCC Volume 2 Part 3.12.1.2).

Other considerations when selecting external colours include:

- Avoid glare caused by sunlight reflected off very light colours, particularly when overlooked by neighbouring properties and when looking out to bright sunlight from inside.
- In areas with red soil, earthy medium tones on external walls can be useful to disguise dust and mud staining.
- It may be possible to use dark colours on external feature walls or architectural details where they are well shaded.
- Light colour tones experience less fading over time.

Natural Timber Decking

Decks should be coated using two coat timber decking finishing system.

Electrical

Refer to **Appendix 3** for room requirements.

Electricity supply must conform to the electricity distributor's requirements and all relevant standards.

Overhead lines must be clear of trees.

All lights to be energy efficient and readily accessible for replacement.

Fluorescent lights to be provided with diffuser covers.

Kitchen GPOs must be on a separate circuit.

Residual current devices (RCDs) or safety switches, are required for all circuits within individual dwellings. For dwellings other than detached houses, RCDs must be able to be reset from the sub board within individual dwellings.

If deemed a requirement, a single phase generator inlet socket and manual changeover switch to connect a single phase portable generator to residence may be provided. This generator will be for powering the general power circuits (excluding air-conditioning) and light circuit only (wire and mark circuits accordingly)

Install 'surge diverter' in the main switch board, on the television power circuit.

Gas

Provision for LPG gas to dwellings for cooking is to be determined in consultation with councils and must include provision for both large (45kg) and small (9kg) LPG gas

bottles, to be securely attached to the outside of the house, on hardwearing, weatherproof brackets.

Television and internet reception

Television

Provide appropriate digital television antenna or satellite dish for free-to-air television reception, connected to antenna outlets (refer Appendix 3).

New houses entitled to receive Viewer Access Satellite Television (VAST) should be provided with one VAST certified set-top box (not installed).

Where antennas are provided in cyclonic regions provide additional metal stays.

Internet

Provision for NBN equipment is required for new construction projects, in accordance with the NBN Co. guideline documents:

- *Residential Preparation and Installation Guide: SDUs and MDUs*

or

- *Preparing for your NBN Sky Muster Service* (for areas not planned for NBN fibre optic cable infrastructure)

Refer www.nbnco.com.au and *Product Standards: Social Housing Dwellings (NBN Equipment)* for more information.

Meter box

Meter box is to be of robust, metal construction. Provide 30mA Residual Current Device (RCD) to all electrical circuits. Provide a socket outlet, circuit breakers and provision for two additional circuits inside the meter box.

Locate the meter box in an accessible (but not visually obvious) location, not adjacent to public spaces or visitor paths of travel.

Where dwellings share a meter box (such as for duplex or dual occupancy dwellings) locate the meter box in a common area with sub-boards in each dwelling.

Separate metering is not required to bedroom/bathroom additions.

Facilities for meter cards should only be provided in consultation with Councils.

Sewerage

General

Household sewerage systems shall be appropriate to the site conditions and community sewerage infrastructure, typically either:

- directly connected to a town sewerage system via a main line jump-up
or
- connected to a home sewer system.

Home sewer system

Home sewer systems shall be a proprietary brand sized according to household population.

Locate trenches away from areas of potential damage from vehicles, stormwater and earth inundation. If vehicle traffic will be a problem, consider fencing off area.

Water Supply

General

All pipes and fittings (including taps) should be suited to local conditions, such as using appropriate PVC or polybutylene pipes where there is acidic water or corrosive soils; or copper pipes where PVC or polybutylene is likely to be damaged. Stainless steel fixings and combinations are to be used where PH levels cause corrosion.

Water Isolating Valve

For town supply where no meter is supplied, provide a water isolating valve at the front of the property which is suited to local water quality, protected from mowers and cars, and positioned 300mm above the ground.

Garden Taps

Provide 2 standard garden taps with vacuum breakers, one at the front of the house and the second at the rear of the house.

Water Heating

Hot water systems must be energy efficient, and the type of system informed by local experience and water conditions.

Hot water system capacities.		
Dwelling size	Solar	Heat Pump
1 Bedroom	Minimum 125 litre	Minimum 125 litre
Bedroom/bathroom additions	Minimum 125 litre	Minimum 125 litre

2 - 4 Bedroom	300 litre	270 litre
5 Bedroom	400 litre	340 litre

Note: Bedroom/bathroom additions located away from the main dwelling are to be provided with a separate hot water system if required (although not separately metered).

Solar Hot Water Systems

Roof mounted, thermosiphon, solar hot water systems are preferred.

Solar hot water units shall be located on the roof in accordance with the manufacturer's specification, ideally facing north. It may be necessary to mount the solar hot water unit on a galvanised steel frame in order to achieve the correct orientation of the unit. Install anti-cyclone brackets where applicable.

The solar hot water system selected must be appropriate for the quality and harshness of the community's water supply.

Provide an electric 'one push' booster connected to a thermostat that automatically switches off when the hot water has reached the appropriate temperature. Labelled (engraved) booster switch to be located inside the house and have a neon indicator and timer controller. Mounting height: 1500mm.

Heater elements shall suit supply authority regulations for remote community areas.

Ensure that roof framing is able to support the additional weight of a solar hot water unit.

Collector panel protection grilles may be provided where there is an identified need.

Heat pumps

Electric heat pump hot water units shall be located externally, to the side or rear of the house away from bedrooms and living areas, as central as possible to the fixtures that they supply.

Units shall sit on a concrete base.

Gas Hot Water Systems

Gas hot water systems are not preferred.

APPENDIX 1: Furniture requirements and sizes

Minimum furniture sizes to be shown in developed design drawings (Note: Furniture not usually provided as part of the construction contract – refer to the brief for details)		
Room	Furniture piece	Dimensions
Bedroom	Single bed	1870mm long x 920mm wide
	Double bed	1870mm long x 1370mm wide
	Queen bed	2030mm long x 1530mm wide
	Bedside table	600mm wide x 400mm deep
Living room	Lounge seating (Single armchair)	900mm long x 900mm wide
	Lounge seating (2 seat sofa)	1500mm wide x 900mm deep
	Lounge seating (3 seat sofa)	2100mm wide x 900mm deep
	Coffee table	900mm long x 600mm deep
	Desk (1 bedroom dwellings - multi-purpose space)	1800mm wide x 600mm deep
	Entertainment unit (1-2 bed dwellings)	900mm wide x 400mm deep
	Entertainment unit (3-5 bed dwellings)	1200mm wide x 400mm deep
	Bookcase / storage (1-2 bed dwellings)	1200mm wide x 400mm deep
	Book case / storage (3-5 bed dwellings)	1800mm wide x 400mm deep
Dining room	Dining table (4 setting)	1200mm long x 900mm wide
	Dining table (6 setting)	1500mm long x 900mm wide (1800mm long if short side against wall)
	Dining table (8 setting)	1800mm long x 900mm wide (placed in the open)
	Dining table (10 setting)	2100mm long x 900mm wide (placed in open)
	Sideboard / buffet	1200mm wide x 400mm deep

Living room furniture requirements by dwelling size (For space planning purposes only. Furniture not to be supplied)					
Furniture item	Dwelling bedroom number				
	1 bedroom	2 bedroom	3 bedroom	4 bedroom	5+ bedroom
Coffee table	✓	✓	✓	✓	✓
Entertainment unit	✓	✓	✓	✓	✓
Storage cabinet / bookcase	✓	✓	✓	✓	✓
Four setting dining suite	✓				
Lounge seating for three people <i>(or two people acceptable for LHDG Platinum Level dwellings)</i>	✓				
Six setting dining suite		✓	✓		
Lounge seating for four people <i>(or three people acceptable for LHDG Platinum Level dwellings)</i>		✓			
Side board			✓	✓	✓
Lounge seating for six people			✓	✓	
Eight setting dining suite			✓	✓	
Ten setting dining suite					✓
1 x 1800mm desk and 1 x desk chair (multi-purpose space)	✓				
Lounge setting for eight people					✓
Bedroom 1: Queen sized bed and 2 x bedside tables	✓	✓	✓	✓	✓
Bedroom 2: Three single beds, drawer unit against the wall		✓	✓	✓	✓
Bedrooms 3, 4 and 5+: 2 x single beds, drawer unit against the wall.			✓	✓✓	✓✓✓

APPENDIX 2: Bathroom configurations

Applicable bathroom fittings by bathroom type.				
Bathroom type	Toilet	Shower	Bath tub	Vanity
Bathroom with toilet	✓	✓	✓	✓
Standard bathroom	n/a	✓	✓	✓
Compact bathroom	✓	✓	n/a	✓
Separate toilet	✓	n/a	n/a	✓ (Compact basin may be provided where not associated with the laundry)

Applicable bathroom types by dwelling type.				
Dwelling type	Bathroom type			
	Bathroom with toilet	Standard bathroom	Compact bathroom	Separate toilet
1 bedroom (cluster house)	n/a	n/a	✓	n/a
2 bedroom (duplex)	✓	n/a	n/a	✓
Bedroom/bathroom addition	✓	n/a	✓	✓
2 bedroom (attached house)	✓ (upstairs)	n/a	n/a	✓ (downstairs)
2 bedroom (cluster House)	✓	n/a	n/a	✓
3 bedroom (detached house)	✓	n/a	n/a	✓
4 bedroom (detached house)	n/a	✓	✓	✓
5 bedroom (detached house)	n/a	✓	✓	✓

APPENDIX 3: Electrical requirements

These documented electrical requirements are in addition to Livable Housing Design Guidelines Gold Level or Platinum level requirements (Elements 9, 10 and 12).

Note: Each light fitting must:

- Be compatible with compact fluorescent bulbs and have replaceable B22 bayonet or E27 Edison LED 'corn' bulb/s installed.
- Have a robust, polycarbonate diffuser cover that is easily removable for replacing bulbs.
- Be positioned to provide even lighting to the room (with the exception of task lighting) and be located at least one metre away from ceiling fans.
- Be ceiling mounted to provide even lighting to the room.
- Be located at least one metre away from ceiling fan blades.

Electrical requirements.					
Room	Electrical Item				
	Socket Outlet (SO)	Light & Switch (minimum requirements)	Ceiling Fan & Switch	TV Point	Phone Point
Internal Space					
Foyer	n/a	1 x oyster fitting (with 1 bulb) (Switch located indoors near front door)	n/a	n/a	n/a
Living	2 x double (1 additional required if phone installed in this room rather than dining room) 1 x A/C provision.	2 x oyster fittings (each with 2 bulbs) (switched together)	1 x ceiling fan and controller	1 x point (located near a SO)	1 x point (near a SO and away from TV point)
Dining	1 x double (1 additional required if phone installed in this room rather than dining room)	1 x oyster fitting (with 2 bulbs) (Switch to be located in appropriate position)	1 x ceiling fan and controller	n/a	1 x point (near a SO)

Electrical requirements.					
Room	Electrical Item				
	Socket Outlet (SO)	Light & Switch (minimum requirements)	Ceiling Fan & Switch	TV Point	Phone Point
Bedroom corridor	1 x double	1 x oyster fitting (with 1 bulb) with 2-way switch. (One switch located on either end of the hall space)	n/a	n/a	n/a
Kitchen	1 x isolating switch for cooktops/stoves. (max 100mm above benchtop, not behind hotplates, located at least 600mm from corners, preferably to the right-hand side of hotplates). 2 x double at kitchen bench level (minimum 600mm from corner. One of these to be with one within 300mm of front edge of bench). 1 x single (fridge space), 1800mm above the floor, remotely switched (switch, with neon or LED indicator lamp, to be located preferably on the return wall of fridge recess or on adjacent wall 1 x single (microwave space).	1 x oyster fitting (with 2 bulbs) (Switch to be located in appropriate position)	n/a	n/a	n/a
Laundry	3 x waterproof (washing machine and possible drier and freezer). Must be located 1500mm above floor level on wall behind appliance space	1 x oyster fitting (with 2 bulbs) (Switch located in appropriate position) 1 x light switch for external light	n/a	n/a	n/a
Bedroom 1	2 x double (max 500mm above floor level, and min	1 x oyster fitting (with 2 bulbs)	1 x ceiling	1 x point (located	1 x point (located

Electrical requirements.					
Room	Electrical Item				
	Socket Outlet (SO)	Light & Switch (minimum requirements)	Ceiling Fan & Switch	TV Point	Phone Point
	600mm from corner walls, adjacent to edges of likely bedhead location) 1 x double (wall opposite bed location, approximately 1200mm above floor level) 1 x A/C provision.	(switch located in appropriate position)	fan and controller	near SO opposite bedhead location. Approx. 1200mm above floor level).	near SO next to bed head)
Bedrooms 2-5+ (including bedroom / bathroom additions)	2 x double located in appropriate position for furniture placement 1 x A/C provision.	1 x oyster fitting (with 2 bulbs) (switch located in appropriate position)	1 x ceiling fan and controller	1 x point (located near a SO)	n/a
Bathrooms	1 x waterproof double. (600mm from corner and 100mm above bench on side wall of vanity in accordance with relevant codes/rules).	1 x oyster fitting (with 2 bulbs) (switch located in appropriate position)	n/a	n/a	n/a
Separate WC	n/a	1 x oyster fitting (with 1 bulb)	n/a	n/a	n/a
External Space					
External entry space (porch)	n/a	1 x external grade oyster fitting (with 2 bulbs) (with vandal proof diffuser. May be ceiling or wall mounted. Switch located indoors near front door)	n/a	n/a	n/a
Patio / veranda	1 x waterproof double	1 x external grade oyster fitting (with 2 bulbs) for up to 12 m ² , OR 2 x external grade oyster (each with	n/a	n/a	n/a

Electrical requirements.					
Room	Electrical Item				
	Socket Outlet (SO)	Light & Switch (minimum requirements)	Ceiling Fan & Switch	TV Point	Phone Point
		2 bulbs) greater than 12 m ² (switched together) Provide vandal proof diffusers. 3000mm maximum centre spacing.			
Carport	1 x waterproof double (attached to house)	1 x external grade oyster fitting (with 2 bulbs) (with vandal proof diffuser attached to the house or to carport ceiling attached to the house. Switch located inside door that leads to carport) Two way switch. House and Carport.	n/a	n/a	n/a

APPENDIX 4: Version control

Section	Sub section	Amendments to June 2016 version of RIH standards.
Site Design	Drainage and stormwater	Explicitly stated that guttering is preferred. Removed specification of downpipe size (had changed in June 2016 version to 100mm from 90mm)
	Concrete driveways and paths	Changed wording from 'sealed' pathways to 'hard' pathways (concrete preferred)
	Letterbox	Changed requirement for mail access point, to 900mm – 1200mm range (standard previously stated 700mm to 1200mm), to align with Australia Post guidelines.
	Clothesline	Added requirement for clothesline to be hot-dipped galvanised steel. Added additional word that clothesline <i>base</i> must be non-removable. Noted that aluminium (as noted in the product standard) is not acceptable.
Internal Space	Bathrooms and toilets – Baths	Noted that acrylic baths are included in the product standard, but are not acceptable.
General Construction (all dwelling types)	Energy Efficiency – thermal insulation	New section.
	Meter box	Removed statement about meter box being located 'behind side fence if possible'
	Use of timber	Deleted wording 'natural or composite' from description of framing timber, and requirement for roof trusses to be H3 treated.
	Roofing	Removed option for Zinalume roofing material.
	Door hardware	Acknowledged that requirement for privacy set differs from products standard

Section	Sub section	Notable changes since May 2014 version of RIH standards
Changes applicable throughout the document		Reference to specific LHDG elements in applicable sections, for clarity

Section	Sub section	Notable changes since May 2014 version of RIH standards
Additional Reference documentation		Reference to Product Standards document
Introduction		Swapped some content with beginning of Design Principles section. Moved accessibility information and reference to LHDG to new section.
Accessibility		New section, incorporating information previously in the introduction. Also, added more detail to this section about application of Gold and Platinum Level.
Town planning		Minor changes to reflect status of Councils' planning schemes. Changed position of this section in the document.
Design Principles	Swapped some content with Introduction.	
	Facing the street or park	Additional paragraph added to the end (to align with non-remote design standards)
	Climatic Design	Changed position in document. Added an additional new paragraph to beginning of section re orientation and designing for particular lots.
	Indoor/outdoor living connection	Added additional first sentence
	Planting and turf	Changed title (from just 'Planting'). Added maximum gradients to garden and turfed areas. Also included information about mature height of planting (aligning with non-remote design standards)
	Innovation and normality	Slight change to wording. Stated importance of addressing local cultural requirements.
Building types	Noted that building types should be influenced by local cultural needs.	
	Acceptable building styles	Reinforced requirements that are stated later in the standard i.e. that lowset houses are to be designed to Gold Level , and that upper level of high set houses are not (but make provision for Platinum Level bathroom at ground level)
Site design	At start of section noted that site and ground level only required application of Gold level requirements. LHDG Gold and Platinum only apply to the extent that the ground level is intended for modification.	
	Drainage and stormwater	Stronger wording regarding stormwater discharge, including water not being directed under houses. Changed downpipes from 90mm to 100mm.
	Concrete driveway and paths	Specified sealed pathways (not gravel). New requirement that there should be a pathway to the meter box. Also, more detail provided about crossovers, including requirement for culvert crossings, table drains, road gullies etc. Included link to FNQ Regional organisation of Councils standard drawings

Section	Sub section	Notable changes since May 2014 version of RIH standards
		Addition of sketch for clarity
	Carport	<p>Specified minimum dimensions (missing from previous version)</p> <p>Noted that for highset houses, reduced vertical clearance of 2400mm acceptable.</p> <p>Noted minimum length and width dimensions are to be measured between posts</p> <p>Noted that the design of the car port must be in keeping with the design of the house.</p>
	Letterbox	Included access and height requirements. Also added requirement for capacity to be locked with tenant-supplied lock.
	House numbering	Included requirement for numbers to be reflective, and to be screw or rivet fixed to the house.
	Garden store	Added requirement for high strength frame appropriate for wind classification of site. Also added requirement for recessed edge to prevent water penetration. Clarified that sheds are required for high set houses.
	Rubbish bin storage	Expanded on preference for rubbish bin store to be undercover by providing examples (e.g. under eaves)
	Clothes line	<p>For 1-2 bedroom properties, changed minimum line requirements from 20 to 15 metres, to align with non-remote standard and product standard.</p> <p>Included requirement for the clothesline to be at the rear or side of the property, and also the required mounting height of 1800mm above ground level. Also included more detail about the requirements for the slab under the clothesline.</p>
	Fencing	<p>Clarification that return fencing is required for highset houses if specifically required by the State. Addition of diagram for clarity</p> <p>Noted that 1800mm high chain wire fencing requires a mid-rail and that gates require galvanised steel frames.</p>
	Retaining walls	New section to align with non-remote standards
	Water tanks	<p>Added statement that requests for tanks in communities where approval has not been granted will be assessed on a case by case basis. Added statement that additional tanks may be required for bedroom/bathroom additions.</p> <p>Also added clarification that water tanks which include rainwater storage must not be connected to potable water fixtures, and that rainwater tanks are not to be topped up with town water (and vice versa).</p> <p>Noted that tank overflow should discharge to designated stormwater system.</p>
Internal space	Changed layout of these sections, stating 'General' level as the exception for highset houses,	

Section	Sub section	Notable changes since May 2014 version of RIH standards
		rather than having additional requirements for Gold Level.
	Corridors, thresholds and doorways	<p>New section (aligning with non-remote standard).</p> <p>Note that a 920mm door is deemed acceptable in lieu of LHDG Platinum Level requirement for 900mm clear opening (yet to be updated in non-remote standard)</p>
	Entry porch and foyer	<p>Clarified that front door must be a swing door with a security door.</p> <p>Deleted requirement for entry porch to be around 7.5sq.m. Added that minimum area should align with LHDG, and be up to 7.5sq.m.</p> <p>Added requirement that where outdoor living is at the front and incorporates the entry porch, path to the front swing door must be direct, and door from living to outdoor living must not be the front door.</p>
	Living and dining	<p>Noted that requirement for uninterrupted wall must not compromise natural ventilation.</p> <p>Added information regarding multi-purpose space (only applicable to one bedroom dwellings) to align with non-remote standard</p>
	Kitchen	<p>Noted that kitchen should not form part of the main thoroughfare through the house and that exhaust fans should be vented to the exterior of the house.</p> <p>Cooking:</p> <ul style="list-style-type: none"> – Noted that wall ovens in Gold Level for remote housing are by exception. Upright ranges to be standard in Gold Level, with 100mm side gaps for cleaning. – Microwave shelf may be provided as a recess in the pantry space. Noted that microwave space must not be located under bench. – Platinum level: Specified distances and clearances around cooktop. For platinum dwellings, hotplate controls maybe located centre-front <p>Bench space and clearances: Sink and cooktop to be on same, continuous bench. Locate wall oven a minimum 600mm from internal corners of front edge of bench.</p> <p>Fridge space: Increase from minimum 900mm wide to minimum 1050mm wide for 3+ bedroom dwellings.</p> <p>Cabinets: Benchtops: post formed with no sharp edges. More detail about requirement for laminate finish with PVC edging and metal D-handles. Added requirement that plain benchtop colours are not preferred.</p> <p>Platinum: Added reference to sections of AS 4299-1995, and requirement for 170 degree opening hinges.</p> <p>Taps: Added requirement for single lever mixer</p> <p>Splashback: specified that a splashback is required and should continue into reveal if required. Splashback to extend the entire width of the stove space.</p>
	Bathroom and toilets	<u>Application of LHDG for bathrooms and toilets</u>

Section	Sub section	Notable changes since May 2014 version of RIH standards
		<ul style="list-style-type: none"> – New heading, expanding on existing information, for clarity. <p><u>Design and clearance considerations:</u></p> <ul style="list-style-type: none"> – More detail about ventilation and added requirement for mechanical ventilation – Added requirement that bathrooms should not be accessed of bedrooms. For platinum Level, added door clearance requirements. <p><u>Shower:</u></p> <ul style="list-style-type: none"> – Clarified that shower screen or shower curtain may be provided for Gold Level – Clarified that disability equipment, including grab rails, are not required. – Noted for Platinum dwellings that walls are to be tiled to 1900mm high minimum. <p><u>Bathroom and shower floor drainage and membrane:</u></p> <ul style="list-style-type: none"> – Emphasised that falls must not be obstructed by the shower screen (if shower screen is provided) – Included new sketch of alternative floor drainage to LHDG informative diagram, for clarity. <p><u>Vanity:</u></p> <ul style="list-style-type: none"> – Noted that vanity mirror may be installed off centre if required due to window location. – Noted mirror to be <i>minimum</i> 750mm wide (previously stated 750mm wide). – Clarified that vanity top and basin to be integral, one piece polymer. <p><u>Storage</u></p> <ul style="list-style-type: none"> – Noted one lockable (rather than secure) cupboard required. <p><u>Toilet:</u></p> <ul style="list-style-type: none"> – Removed requirement for close coupled toilet, and clarified that plastic or ceramic cistern is acceptable. – Noted minimum dimension requirement (1600mm, previously 1500mm) for bathrooms at the upper level of highset houses (and additional toilets in other dwellings), including sketch for clarity. – Separate toilet rooms: clarified that natural light and ventilation required. Clarified that dry floor waste acceptable. – Platinum level requirements: Clarified circulation requirements for toilets, referencing As1428.1-2009 (figure 43) and noted that it is acceptable for future shower seat to encroach. <p><u>Wall coverings, skirtings and splashback:</u></p> <ul style="list-style-type: none"> – Removed requirement for minimum tiling height of 1200mm in areas outside the shower. – For skirtings, removed requirement for 45 degree cover strip tile to all wall and floor junctions.
	Laundry	<p>Houses: require direct access from the laundry to the clothesline, where possible.</p> <p>Noted to provide natural ventilation to the laundry space where possible.</p> <p>Changed requirement from plastic cabinet to powder coated stainless steel cabinet, due to availability issues.</p>

Section	Sub section	Notable changes since May 2014 version of RIH standards
		<p>Specified 900mm width required for small deep freezer (previously did not specify a width)</p> <p>Specified marine grade (rather than waterproof) ply for clothes drier wall reinforcement, and for wall shelves.</p> <p>Clarified that splashback required on return wall in appliance space.</p> <p>Changed tub capacity from 45 litres to 35 litres for one bedroom dwellings only (aligned with product standards)</p>
	Bedrooms	<p>Bedroom 1: Clarification regarding clearances around the bed and minimum room widths. Also, for Platinum Level, noted that built in robes to be positioned away from the head of the bed and that surface mounted sliding door preferred. Also, if the linen store is provided in bedroom 1 (1-2 bed dwellings only) it may be located on the wall adjacent to the bedhead.</p> <p>Changed minimum floor area (excluding wardrobe) to 12 sq.m (from 10 sq.m)</p> <p>Built in robes: Changed length of all robes to 1800mm (previous requirements were: Bedroom 1: 2100mm, Bedroom 2: 1800mm, Bedroom 3: 1500mm), aligning with non-remote design standard. Some more detail regarding shelving requirements.</p>
	Study nook	Removed requirement for study nook.
	Linen cupboard and broom storage	<p>Linen cupboard: Slight change to wording. Also, reduced size of linen cupboard in 4-5 bedroom dwellings, aligning with non-remote standard.</p> <p>Broom storage: Slight change to wording.</p>
Covered outdoor living		<p>Noted that roofs of covered outdoor living spaces must be insulated, and that it is preferred that they are under the main roof space.</p> <p>Noted that if a gate is required at the top of stairs to an external outdoor living space, ensure that a landing is provided at the top of the stairs.</p> <p>Noted that if covered outdoor living and the entry porch are located together, the path to the front door should be the shortest possible distance, and not pass through the centre of the outdoor living area.</p>
Bedroom/bathroom additions		<p>Clarified that the front door may be a sliding glass door.</p> <p>Clarified that depending on the location of the addition, compliance with all design standard requirements, may necessitate the provision of separate items such as hot water systems etc.</p> <p>Removed requirement for a study nook to the bedroom/bathroom addition.</p>

Section	Sub section	Notable changes since May 2014 version of RIH standards
General construction (all dwelling types)	Air movement and ceiling fans	<p>Specified ceiling fan diameter (1300mm)</p> <p>Reference to AS 4226-2008 (justifying existing requirement for 2400mm height to underside of fan blades.</p> <p>Noted fan controllers to have robust switches if available.</p>
	Air conditioning	<p>Knockout panels: noted that they must be easily identifiable, and noted nominal sizes.</p>
	Roofing	<p>Clarified that light colours must be used.</p> <p>More detail regarding roof ventilators (may include roof ridge vents and must be in accordance with Section 3.12.1.2 (b) (i) of the NCC (Energy Efficiency, Roofs)</p>
	Floor finishes	<p>Created a separate section. Content similar, with slight wording changes. Reference to Product Standards for more detail. Clarified slip resistance required to outdoor paths etc. and that pavers are not acceptable.</p> <p>For lowset dwellings, ensure clearance between the ground surface and the underside of the lowest horizontal members of the subfloor of at least 400mm.</p> <p>More detail regarding thickness of shot edge hardwood. Previously stated 20mm. Have updated to state 19mm shot edge hardwood OR 23mm composite strip flooring.</p>
	Internal wall linings and skirting boards	<p>Noted that skirting boards may be hardwood or pine.</p>
	Doors	<p>Emphasised that external doors must be solid core</p> <p>Noted requirement for stainless steel hinges.</p> <p>Alternatives to steel door frames, particularly for coastal locations.</p>
	Aluminium framed sliding glass doors	<p>Noted that anodised finish acceptable (to align with windows)</p> <p>Clarified that sliding glass doors may be used as the entry door for bedroom/bathroom additions.</p>
	Windows	<p>Platinum Level dwellings: added details that window sills are generally to be no higher than 900mm above floor level.</p> <p>Glazing: Emphasised that polycarbonate is not preferred.</p>
	Security and insect screening	<p>Changed requirements to allow expanded aluminium grille.</p> <p>Reduced amount of detail, making reference to the Product Standards document.</p> <p>Changed requirements for escape screens:</p> <ul style="list-style-type: none"> – Previous requirement: required two paths of escape from the internal doorway of a bedroom to separate external exits (an escape could be

Section	Sub section	Notable changes since May 2014 version of RIH standards
		<p>an external door or openable screen and operable screen could be in another room).</p> <ul style="list-style-type: none"> – New requirements: If security screens are applied to the fixed side of the sliding glass windows and doors, then one bedroom in each group of bedrooms must include an openable screen. <p>Noted that where openable security screens are required, preference is for top-hung screens. Also, openable screens must comply with Section 3.9.2.5 of the NCC</p>
	Paint and protectant finishes	<p>Added requirement for doors architraves and skirtings to be gloss enamel (previously no requirement stated)</p> <p>Natural timber decking: Rather than specifying decking oil, have stated requirement for deck finishing system</p> <p>Colours: Made statement that community preference should be considered in the selection of internal colours.</p>
	Electrical	<p>Specified that kitchen GPOs must be on a separate circuit.</p> <p>Specified that RCDs are required on all circuits within individual dwellings, and that for dwellings other than detached houses, RCDs must be able to be reset from the sub board within individual dwellings.</p> <p>Included requirement to install 'surge diverter' in the main switch board, on the television power circuit.</p>
	Gas	<p>More detail provided about securing gas bottles. Have added requirement to be securely attached to the outside of the house on hardwearing, weatherproof brackets.</p>
	Television and internet reception	<p>Included information about requirement for provision of NBN equipment</p>
	Water heating	<p>Added detail about possible requirements for separate hot water systems in bedroom/bathroom additions, noting a minimum size of 125 litres.</p> <p>Changed hot water system size requirements for one bedroom dwellings to 125 litre (previously stated 'minimum size available')</p> <p>Solar hot water systems: More detail about booster requirement and mounting height. Also, added preference for roof mounted, thermosiphon systems, and clarified that the system selected must be appropriate for the quality and harshness of the water in supply in the community</p> <p>Removed allowance for heat pumps to be located on a paved base (must be concrete)</p>
Appendix 1	Furniture requirements and sizes	<p>The table containing minimum furniture sizes: Existing. Just added minimum desk size (for desks in multi-purpose spaces).</p> <p>Table of living room furniture requirements by dwelling size is a new table, included to align with non-remote design standard.</p>
Appendix 2	Bathroom configurations	<p>Added applicable bathroom types for bedroom/bathroom additions.</p>

Section	Sub section	Notable changes since May 2014 version of RIH standards
Appendix 3	Electrical requirements	<p>Addition of oyster fittings that take either compact fluoroos or LED bulbs.</p> <p>Specific reference to LHDG requirements (Elements 9, 10,12)</p> <p>Kitchen requirements: More detail regarding isolating switch. Also provided more detail regarding GPO for fridge. Now require to be 1800mm above floor, remotely switched.</p> <p>Bedroom 1: heights and locations for SOs specified. Also specified height and location of TV point.</p> <p>Entry: specified that sensor lights required.</p>

Annexture 3 - Design Specification Remote Housing Version 2 25 May 2020

DESIGN SPECIFICATIONS REMOTE HOUSING

DESIGN CONSIDERATIONS

The design and amenity of upgraded kitchens in dwellings must align as closely as possible with features provided in new construction to promote equity within the portfolio.

Whilst considering the constraints of the floor plan, attempts must be made, where possible to:

- Provide openings over a counter to the living and/or dining spaces.
- Provide a layout which ensures that the kitchen is not a thoroughfare between spaces.
- Ensure convenient access from the kitchen to indoor and outdoor living areas.
- Plumbing and gas works must remain in original positions if possible. Where gas upright stoves are being replaced with separate cooktop and oven, the gas cook top must be located as close to the original point of the upright as possible. The electric wall oven can be positioned in the most practical position in the kitchen.

PRELIMINARY WORKS

- All Workplace & Safety procedures are to be in place prior to trades commencing works.
- All electrical works are to comply with: *Electrical Safety Regulation 2002, Electrical Safety Code of Practice 2010; and Working near Exposed Live Parts.*
- Inspect the presence of ACM including floorcoverings, if ACM is suspected notify the QBuild supervisor immediately.
- Establish the work area including an area for rubbish and material locations.
- Provide and install temporary measures to protect walls, floors and the like for strip out.

STRIP OUT AND PREPARATION OF NEW WORKS

- Full disconnection of electrical fixtures and fittings to allow for works,
- Full disconnection of electrical fixtures and fittings to allow for works,
- Full removal of all base cabinets, bench tops including sink and tapware, splash backs and overhead cabinets.
- Full removal of the stove, range hood (if installed).
- Except when directed otherwise, full removal of floor coverings.
- If wall linings are removed, inspect framing for plumb and for defects and rot/ water damage, repair as necessary.
- Make good all wall surfaces, all patches/ repairs are to be flush finished and sanded ready for new works, all material used in repairs is to be best match to existing in thickness and material.
- With the exception of electrical and plumbing penetrations, all holes whether, existing, or as a result for the strip out are to be patched prior to new joinery.
- If new flooring is to be installed, sub floor is to be prepared for new coverings.
- All existing adhesives, underlay, etc is to be removed.
- The floor is to be inspected for deviations. Any deviation greater than 10 mm in any room or 12 mm in any 3-meter length must be rectified prior to installation.

DESIGN SPECIFICATIONS REMOTE HOUSING

NEW WORKS AND INSTALLATION

- New kitchen is to be constructed as detailed below.
- All new works to be sealed with suitably coloured sealants.
- All new cabinetry is to be installed level and plumbing with no deviations.
- All cabinets are to be adjusted with all doors to be level with uniformed gaps around all doors +/- 0.5 mm.
- Kick panels are to be scribed to floor to ensure tight fit and sealed once floor coverings are installed.
- All doors are to sit flush with no deviation or step between cabinet doors.
- All new and previously painted surfaces to be painted as per Residential Painting Specifications.
- Where practicable, new kitchen layouts will consist of:

CABINETS:

- All cupboards (except pantry and under sink) to have one fixed shelf, positioned midway, which is to be the full width and depth of the cupboard.
- A removable mid shelf may be provided under the sink, but waste pipes must not penetrate the shelf preventing its removal. All shelves to be edge stripped to colour match the interior of the cupboards.
- Provide a child deterrent cupboard (minimum 300 mm wide) to be included in the bench cupboards.
- Overhead cupboards must be provided where possible (but not above hotplates). There must be at least 600 mm clearance between the highest point of a gas burner, and any nearby overhead cupboards.
- Pantry to have a minimum of four shelves, a minimum of 300 mm apart.
- Pantry and wall oven must be positioned at the ends of bench sections so that they do not interrupt the bench space.
- Provide a minimum of one bank of drawers. One top drawer is to incorporate a fixed cutlery tray (glue fixed).
- Vermin proof all penetrations into the carcass of the kitchen.
- Finishes:
 - Cabinets: Laminated finish, with 2 mm PVC edge strips to all visible edges, coloured to match doors and factory applied using purpose made presses.
 - Internal shelves: White laminated Highly Moisture Resistant (HMR) **plywood** with matching edge strips.
- All board products: Laminated Highly Moisture Resistant (HMR) **plywood**.
- Kickboards:
 - Highly Moisture Resistant (HMR) **plywood** Laminated finish.
- Hinges:
 - Concealed and adjustable for height, side and depth location of doors.
 - Nominal 170-180 degree opening and hold open function (unless opening against a wall, other cabinets etc.).
 - Acceptable product – “Blum - Modul 170 deg” or equal approved,
 - Durable metal finish.
- Runners:
 - Drawers are to be Blum Metabox or approved equivalent.
 - Must withstand 20 kg loading capacity when in open position.
 - Durable metal finish.
- Fittings:
 - D” type handles to drawers and doors. Knob handles must not be used.
 - All drawers and doors to be fitted with bump pads.

DESIGN SPECIFICATIONS REMOTE HOUSING

- Splash backs:
 - Laminate Plywood Splash backs – 600 mm high with the exception of the oven space,
 - Must extend at least 300 mm above kitchen bench top (or to underside of overhead cupboards).
 - Splashbacks behind oven are to be tiled and to continue to floor.
 - Must be suitable for use behind cooktop/range (heat/fire/shatter retardant).
 - Must be easy to clean.

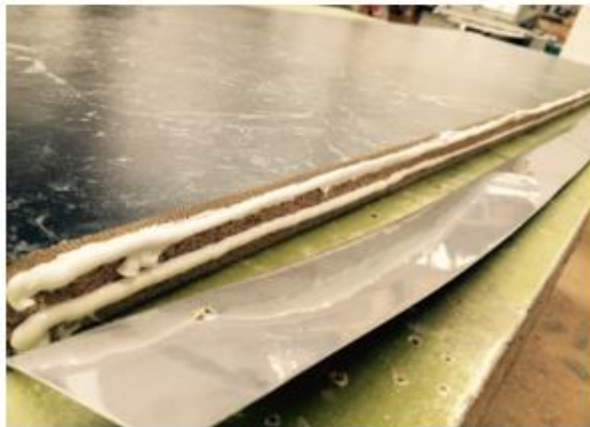
BENCHTOPS:

- 33 mm Post formed HMR Laminated Benchtops with stainless steel flashing strip installed to back edge of benchtop as per attached specifications.

Bench Top Installation



On the rear un-laminated edge of the new bench top a 1mm thick x 65mm wide, 316 stainless steel plate, is to be installed a min of 600mm wider than the sink on both sides and 30mm wider than the bench top, to allow sealing behind new splashback. New splashback is to be laminated on all edges to stop water penetrating splashback.



The stainless-steel plate is to be attached with "Sikaflex" poly urethane low VOC adhesive/sealant. NB: generally new Laminex splashbacks to be 300mm high minimum. If existing splashbacks exceed 300mm, allow to match existing height.



Sikaflex sealant/adhesive applied before stainless steel flat plate is screw fixed to the rear edge of the bench top.

DESIGN SPECIFICATIONS REMOTE HOUSING



Stainless steel plate fixed in position to bench top



Benchtop is placed in position. Stainless steel plate is to be the length of the bench top or a minimum 2.4m long and be a minimum of 1.2m from each side of centre of new sink



A bead of "Sikaflex" is applied to join of the stainless-steel plate and the bench top, then the splashback is put in position



New splashback is to be laminated on all edges to stop water penetrating splashback. Excess sealant is removed on completion.

DESIGN SPECIFICATIONS REMOTE HOUSING

PROVIDE SPACE FOR:

- Refrigerator (may be a space or built into cabinetry, providing cupboards above).
- Rubbish bin (under sink acceptable).
- Microwave. Recess in pantry space is acceptable (creating two small pantries –one above and one below microwave shelf).

COOKING:

- Upright ovens must have 100 mm gap between joinery and sides of oven, to facilitate cleaning with bench overhanging to provide a 10 mm gap each side of the oven.
- Upright ovens must not be installed:
 - Under windows.
 - On benches that are not against a wall, unless a suitable up stand is provided at the back of the bench.
 - At the end of a cupboard, adjacent to doors, windows, areas of heavy traffic, internal corners, or against side walls of a pantry. Note that at least 300 mm bench either side of a cook top/range must be provided.

ELECTRICAL WORKS

- Unless specified by QBuild prior to works, specifications for all selected electrical items are to be submitted to the QBuild supervisor prior to ordering.
- All warranties and instruction manuals are to be left on site for the tenant.
- All electrical works are to comply with *AS 3000 Electrical Rules* and *Electrical Safety Rules 2013*.
- All electrical works are to be tested at completion and relevant documentation sent to the QBuild Supervisor.
- New electrical fit out is to be outlined in the kitchen survey plan and is to include the following:

ELECTRICAL / SOCKET OUTLETS:

- 1 x isolating switch for cooktops/stoves. (above bench top, not behind hotplates, located at least 600 mm from corners, preferably to right-hand side of hotplates). Position must comply with *AS 3000 Electrical Rules*.
- Minimum of two double GPOs, conveniently located, must be located at least 600 mm from internal corners.
- A separate GPO adjacent to, or below the microwave space. A 50 mm diameter microwave cord hole (complete with grommet) to be provided as necessary.
- Single GPO, 1800 mm above floor, remotely switched (switch, with neon or LED indicator lamp, to be located preferably on return wall of fridge recess or on adjacent wall, maximum 1100 mm off floor. Refer to AS 4299-1995, Clause 4.5.11) If switch is located above a bench, locate within 300 mm of the front edge of the bench).

UPRIGHT OVEN:

- Nominal width 600 mm installed gaps as specified in COOKING.
- Wall ovens for LHDG dwellings must have vertically hinged door (i.e. side opening). The opening side of the oven must be on the bench side, with the middle oven shelf at the height of the benchtop.
- Oven door must have robust hinges and strong latching mechanisms.
- Oven light required.
- Timer required.
- Minimum 2 adjustable oven shelves.
- Direct front access to oven shell for gasket replacement.
- Wiring protection where necessary, to protect wiring and oven controls above oven door.
- Electric ovens: Must be fan assisted.
- Gas ovens: Flame failure feature required.

DESIGN SPECIFICATIONS REMOTE HOUSING

PLUMBING WORKS

- Unless specified by QBuild prior to works, specifications for all selected plumbing items are to be submitted to the QBuild supervisor prior to ordering.
- Full reconnection of all new waste and water to new tapware, new tapware to be WELS 4 Star flick mixer.
- Pressure test is to be conducted at completion of works.
- New plumbing fit out is to be outlined in the kitchen survey plan.
- Kitchen sinks are to comply with the following criteria:
 - Must be manufactured from 304 grade stainless steel, with a minimum thickness 1.2 mm.
 - Depth must be approximately 150 mm for LHDG dwellings.
 - Single hole for mixer tap.
- For dwelling units of **less than three bedrooms**:
 - Single bowl with a single drainer on the left or right side.
 - Minimum dimensions: 900 mm long.
- For dwelling units of **three or more bedrooms**:
 - Double or 1 $\frac{3}{4}$ bowl with a single drainer on the left or right side (double drainer is also acceptable).
 - Minimum dimensions: 1180 mm long x 480 mm wide.

DESIGN SPECIFICATIONS REMOTE HOUSING

Critical cabinet dimensions for kitchen upgrades		
Item	Dimensions	
	Livable housing design guidelines (LHDG) Gold Level dwellings & General Level Dwellings	Livable Housing Design Guidelines (LHDG) Platinum Level dwellings
Bench Height above finished floor level	900mm	850mm
Bench Depth	600mm	
Minimum bench clearance space between hotplates and other appliances, obstructions and windows	300mm	
Overhead cupboards (if installed)	600mm H x 300mm D, 500 mm off bench top	600mm H x 300mm D, 550 mm off bench top
Microwave storage space	900mm - 1400mm off floor	850mm - 1200mm off floor
Unobstructed refrigerator space	850mm W x 700mm D x 1900mm H (studios, 1,2 bed dwellings) 900mm W x 700mm D x 1900mm H.(3,4,5 bedroom dwellings)	

DESIGN SPECIFICATIONS REMOTE HOUSING

Critical cabinet dimensions for kitchen upgrades		
Item	Dimensions	
	Livable housing design guidelines (LHDG) Gold Level dwellings & General Level Dwellings	Livable Housing Design Guidelines (LHDG) Platinum Level dwellings
	(minimum 1800 mm from back of wall to any cupboard/ wall/server in front. 1600mm may be acceptable in some older style units if there is no other possible configuration)	
Pantry (Studio, 1 bed, 2 bed dwellings – 1 door only)	600mm W x 600mm D x 2000mm H	
Pantry (3-5 bedrooms - 2 door)	Up to 1200mm W x 600mm D x 2000mm H	
Pantry Shelves	Top shelf 1650mm off floor. Other 3 shelves evenly placed.	
Under bench cupboard doors – maximum single door width	500 mm	
Minimum clear width between benches (or to dining table in a combined kitchen/dining area as per figure 3)	1200 mm (Studio, 1 bed, ,2 bed) 1350mm (3,4,5 bedroom)	1550 mm
Minimum bench space between the cook top and oven or refrigerator	800mm	
Width required for wall oven or upright stove	600mm	
Top of cabinet around a wall oven (May serve as microwave shelf)	1150mm to 1200mm	
Minimum distance between wall oven and internal corner of the front edge of a bench	600mm	
Minimum width of removable cabinets under or partly under sink	n/a	820mm W

DESIGN SPECIFICATIONS REMOTE HOUSING

Critical cabinet dimensions for kitchen upgrades		
Item	Dimensions	
	Livable housing design guidelines (LHDG) Gold Level dwellings & General Level Dwellings	Livable Housing Design Guidelines (LHDG) Platinum Level dwellings
Minimum width of removable cabinets under hotplates	n/a	820mm W

Annexture 4 - Product Standards -. Social Housing Dwellings June 2016

Product Standards

Social Housing Dwellings

Minimum standards for building products, fixtures, fittings and other items typically required in dwellings.

June 2016 (midpoint review)

Table of contents

Introduction.....	5
Aluminium framed windows and sliding doors.....	8
Automated door operators.....	9
Balustrades and handrails	10
Bathroom sanitary fixtures	11
Vanity basins (drop in and semi-recessed)	11
Basin - wall mounted	11
Double flap toilet seats	11
Toilet cisterns	12
Toilet pans	12
Baths and shower baths	12
Shower trays	12
Carports and garages.....	13
Clothes lines	14
Communal lighting.....	15
Curtains, curtain rods and curtain brackets	16
Door hardware.....	17
External hinged door hardware	17
Internal door hardware	17
Other door hardware	18
Electric & gas cooking appliances.....	19
Ovens	19
Cooktops	19
Exhaust fans and exhaust fan control switches	21
Fencing.....	22
Floor coverings.....	24
Floor tiles	24
Home modifications – Chemical etching	25
Sheet vinyl	25

Carpet	27
Clear-coated finishes for timber floors	28
Floor wastes.....	29
Folding doors and room dividers.....	30
Garden sheds	31
Hot water systems.....	32
House numbers and signage.....	33
Intercom systems	34
Kitchen sinks	35
Kitchen upgrade standard.....	36
Laundry tubs.....	41
Lifts.....	42
Manholes, pits, covers and grates	43
Mechanical cooling	44
Ceiling fans	44
Evaporative or refrigerated cooling	44
National Broadband Network (NBN) Equipment	45
Paint	46
Pressed steel door frames	47
Ramp systems.....	48
Roof Vents (Vented soffits and gable vents).....	49
Roofing.....	50
Rubbish bins.....	51
Scooter Storage	53
Security and insect screens for doors and windows.....	54
Sliding wardrobe doors	57
Smoke alarms	58
Warning devices for tenants with impaired hearing	58

Tap ware.....

59

Shower heads

59

Television antennas

61

Termite barriers and controls.....

62

Thermal insulation.....

63

Time delay switches

64

Vanity units and wall cabinets

65

Water tempering.....

66

Appendix 1: Version control.....

67

Introduction

This document outlines the State's standards for many building products, fixtures, fittings and other items required in social housing dwellings.

These standards apply in relation to both State-owned properties and housing provider-owned social housing properties, managed either by the State or by housing providers.

Individual standards may be applicable for maintenance, upgrade and modification work, and/or new construction. The relevant application of each standard is referenced throughout the document.

Based on the State's experience in constructing and maintaining housing, some product features are considered mandatory, whilst others are important or desirable, in order to achieve functional, safe, and cost effective dwellings for the delivery of housing. The relative importance of respective features is detailed throughout the document.

For maintenance and upgrade works, there may be circumstances whereby the required standard for particular products might not be appropriate (for example, maintenance or upgrades on a dwelling that is scheduled for future demolition or sale). In these instances, the expected life of products selected should be consistent with the expected remaining useful life of the building as social housing. However, any required standards that contribute to the safety of occupants (such as door locks, slip resistance of flooring) must be met, regardless of circumstance.

The standards must be referred to in conjunction with the following Housing Services standards and procedural information:

- For new construction:
 - ***Design Standards for New construction: Social Housing: Houses and Apartments***; or
 - ***Design and Construction Standards for Remote Housing***
- For maintenance and upgrades:
 - ***Property Portfolio Procedures Manual (P-Manual)***

All products, materials and building work must comply with the criteria outlined in this document and:

- The National Construction Code (Incorporates Building Code of Australia (BCA) and Australian Plumbing Code);
- Relevant Australian Standards;
- Project documentation;
- Queensland Development Code (where applicable);
- Local Council Requirements (where applicable);
- All relevant Department of Housing and Public Works policies and standards; and
- Occupational therapist or other expert recommendations (where applicable).

Should there be an inconsistency between this Product Standard and any of the above listed documents or the Design Standards, the above listed documents or the Design Standards (as the case may be) shall apply to the extent of the inconsistency.

Products should be selected with consideration of the manufacturers' and/or suppliers' capacity to provide appropriate warranties, parts, ongoing service and support, to the extent that it is relevant or necessary for a particular product or application.

Selection of products should aim to minimise ongoing operating costs for tenants.

Livable Housing Design Guidelines

Features for enhanced mobility are an important component of housing. The State identifies three levels of mobility features, categorised as:

1. General Level (non-remote housing: no accessibility features)
2. Livable Housing Design Guidelines (LHDG) **Gold Level** (described as "semi-adaptable" prior to 2014)
3. Livable Housing Design Guidelines (LHDG) **Platinum Level** (described as "adaptable" prior to 2014)

The Livable Housing Design Guidelines are developed by Livable Housing Australia and provided on their website (<http://livablehousingaustralia.org.au>) The State may prescribe additional requirements to those in the Livable Housing Design Guidelines.

Universal Design

The selection and application of products must be informed by the principles of universal design. The seven principles were developed by a multi-disciplinary team at the North Carolina State University, and are described as:

1. *Equitable use.* The design is useful and marketable to people with diverse abilities.
2. *Flexibility in use.* The design accommodates a wide range of individual preferences and abilities.
3. *Simple and intuitive use.* Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills or current concentration level.
4. *Perceptible information.* The design communicates necessary information effectively to the user, regardless of ambient conditions or the users' sensory abilities.
5. *Tolerance for error.* The design minimises hazards and the adverse consequences of accidental or unintended actions.
6. *Low physical effort.* The design can be used efficiently and comfortably and with a minimum of fatigue.
7. *Size and space for approach and use.* Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

Expert advice

Where it is identified either by the State, or by the State to a Provider, or by a Provider that the application of product standards contained in this document does not safely meet the specific

needs and abilities of the occupants of a dwelling, expert advice, such as from an occupational therapist, is required to inform the selection, design and use of products.

Expert advice is likely to be required when modifying or constructing a dwelling to meet the needs of a person with a disability, such as, but not limited to:

- Bathroom and kitchen design, including the height of benches and selection of fixtures;
- Door hardware and requirement for door closers;
- Floor coverings;
- Threshold ramps (modifications only); and
- Hot water tempering.

Aluminium framed windows and sliding doors

(Applicable to new construction, maintenance and upgrades/modifications)

Aluminium framed windows and sliding doors are required in all new construction and upgrade replacement work. Other materials are only acceptable in exceptional circumstances (e.g. to match existing windows or doors) and are subject to State approval.

Aluminium framed windows and doors must promote energy efficiency and sound reduction, whilst providing privacy, security and protection from the elements.

Performance Criteria

- Frames must be finished in a clear anodised or powder coated finish from the manufacturer's standard colour range;
- The frames must have provision for security screens to all operable windows and doors (security screens required on openable windows and doors, unless precluded by the NCC);
- Sliding windows and doors used must include appropriate buffers/bumpers to the sections of frame that the window/door opens onto and shuts against.
- Handles and latches must be easy to use for older people and people with disabilities;
- Door hardware is to be at 900mm to 1100mm above floor level and must not interfere with the operation of security door hardware installed in the same height range;
- Remote operators in the form of winders or sliders are required for hard to reach windows or outward opening windows with internal security or insect screens;
- Appropriate low sill profiles are required for doors in Platinum Level housing.
- Locking:
 - Locking snibs are to be a large lever type. All snibs and locks are to be positioned so as to allow adequate clearance from the door jamb.
 - Entrance doors: Doors must be snib lockable from the inside and key lockable from the outside.
 - Doors to balconies and outdoor areas must be snib lockable from the inside only.
 - All locks must be keyed alike.
- Specific Window Types:
 - Sliding windows must be fitted with rubber window stops;
 - Casements, awnings and hoppers to be outward opening windows with friction stays. Outward opening windows must not open over pathways, outdoor living, yard spaces or the like, within 2000mm from the ground, path or floor level below the outside face of the window.
 - Double hung windows are not preferred; however if they are required to replace existing, they are to be easy sliding with friction or counter balance systems (not suited to LHDG Platinum Level housing given the operation requirements);
 - Louvres to be a proprietary system with a handle type that is robust and easy to operate. Plastic handles are not acceptable.

Automated door operators

(Applicable to new construction and home modifications, in response to identified, specific client requirements)

Note: This standard **does not** apply to automatic openers for garage doors.

Automated door operators are only to be provided in response to identified client need (see “Expert Advice”), in order to provide safe and effective means of opening doors and/or allowing easy access through doorways for people with limited mobility.

There are two types of automated door operators that are suitable for use:

- **Automatic door opening device:** An electric door opening device that enables the door to be opened and closed automatically. These devices may be operated by a switch (internal), radio (remote) control, sensor pad or similar mechanism.
- **Door release mechanism:** An electric door release, releases the door from the door catch to enable a client or visitor to manually open the door. These devices may be operated by a switch (internal), radio (remote) control, sensor pad, security code pad or similar mechanism.

Intercom systems (audio and visual) can be used with certain types of automatic door operators to allow a client with severely limited movement to be alerted to a visitor at the front door.

Automated doors and door operating systems must comply with applicable requirements described in *AS5007 – 2007. Powered doors for pedestrian access and egress*.

Power supply

- Must be hardwired
- In the event of power failure, the entrance door must automatically close and lock with access gained via keyed lever entry lockset, and egress gained via either free internal lever handle (hinged doors) or standard lock fitting (sliding doors).
- A secondary uninterrupted power supply unit (UPS) shall be installed. Minimum back up operation time for door release and/or driver mechanism shall be 12 hours.

Functionality

- Automatic or programmable closing speed, allowing time for a person with limited mobility to pass through.
- The door will have an automated sensor to reverse the opening in an emergency.
- Internal opening device shall be either or a combination of any two: key/snib mechanism (sliding doors), automated switch mounted on wall within standard reach of client.
- Automated systems must be able to be overridden by manual operation.
- All client and visitor activated controls shall be mounted in accordance with the clients’ identified requirements.

Balustrades and handrails

(Applicable to new construction, maintenance replacements and upgrades/modifications)

The Building Code of Australia specifies mandatory requirements for balustrades. The State has additional requirements for balustrades and handrails as follows:

Design Considerations:

- Barrier protection from falls of less than one metre must be provided where there is a risk of a fall, particularly where sharp level changes occur at the edge of pathways or outdoor spaces that may be occupied by people.
- Where a balustrade is required under the NCC (i.e. trafficable area is one metre or more above the surface beneath):
 - It must align with applicable NCC requirements, and
 - Any horizontal elements within the balustrade or other barrier between 150mm and 760mm above the floor must not facilitate climbing.
- Balcony top-rails must be designed so that they do not encourage loose objects (such as pot plants) to be placed on top.
- Balustrades (including lightweight balustrades) must provide screening for occupants' privacy and to conceal belongings on patios, particularly where upper floor apartments face a street or public space.
- Bottom rail: A maximum of 50mm nominal clearance above finished floor level. (A maximum of 50mm has been chosen as this will reduce the chance of objects from fitting under the rail and potentially falling off the balcony.)

Other Requirements

- Balustrades and hand rails must be free of sharp edges and rough welds.
- Aluminium handrails and balustrades: May be a proprietary system or custom design of welded or screwed and riveted construction.
- Steel balustrades and handrails must be fully welded and hot dip galvanised. Use site bolting to connect large sections. On-site welding of galvanised sections is not permitted. Avoid paint finishes over galvanising.
- Consideration must be given to heat retaining properties of materials where rails will be positioned in unshaded areas. Rails must not become too hot to use.
- Materials and finishes: To be low-maintenance and appropriate to the location and situation.
 - Posts: must be bolted to slab or attached to bolted post foot.
 - Solid infill: Designed to meet relevant Standards, e.g. Glazing Standards.
 - Submissions: Certified calculations for building approval, in compliance with the Building Code of Australia. Design details to indicate materials, sizes and construction.

Bathroom sanitary fixtures

(Applicable to new construction, maintenance replacements and upgrades/modifications)

Bathroom sanitary fixtures must have a minimum of 12 months manufacturer's warranty.

Vanity basins (drop in and semi-recessed)

Vanity basins must be:

- Remote housing:
 - Gold level: Vanity top and basin to be integral, one piece polymer
 - Platinum Level: Semi recessed
- Non remote housing:
 - Gold Level and Platinum Level: Semi recessed
- One hole for a basin mixer, unless specified otherwise
- Nominal overall width: 500mm.
- Nominal overall horizontal depth: 390 mm.
- Minimum capacity: 7 litres

Basin - wall mounted

Wall mounted basins must be:

- General purpose vitreous china wall or corner basin with one or three tap holes
- Size: Nominal overall width: 500 mm or 6 litre capacity. Smaller basins may be used in confined spaces (minimum 3 litre capacity)

Double flap toilet seats

Requirements for home modifications

Double flap toilet seats for LHDG Platinum Level dwellings or home modifications (in response to identified need) must include:

- Closed front heavy duty moulded plastic seat with top flap (removable when specified for tenants with a disability)
- Buffers to be installed
- Hinges: chromed metal or stainless steel.
- Other features in response to specific identified client requirements (refer Introduction 'Expert advice').

Toilet cisterns

Toilet cisterns must comply with the following criteria:

- Low mounted wall cisterns of 4.5/3 litre capacity, dual flush
- In a modified dwelling (in response to specific identified requirements, refer Introduction 'Expert advice') or LHDG Platinum Level dwelling, toilet cisterns must meet AS 1428.1-2009: Design for Access and Mobility - General Requirements for Access - New Building Work

Toilet pans

Toilet pans must comply with the following criteria:

- White vitreous china, floor mounted general purpose pan.
- Secure floor mounting achieved, preferably through four stainless steel screws.
- Designed for 4.5/3 litre capacity, dual flush.
- In a modified dwelling (in response to specific identified requirements, (refer Introduction 'Expert advice') or LHDG Platinum Level dwelling, toilet pans must meet AS 1428.1-2009: Design for Access and Mobility - General Requirements for Access - New Building Work.

Baths and shower baths

- May be acrylic or pressed steel vitreous enamel
- Must be in accordance with the AS2023-1995: Baths for Ablutionary Purposes, in particular, Section 1 and:
 - Section 3 (pressed steel vitreous enamelled baths) or
 - Section 6 (plastic and composite materials baths)
- White in colour
- Size: to suit application. Generally 1500 mm to 1700mm nominal length x 750mm nominal width x 300mm to 400mm depth, (or for home modifications, as required for specific tenant needs, refer Introduction 'Expert advice').
- Slip-resistant base must be provided for baths that have a shower over.
- Acrylic baths must be 4mm sanitary grade acrylic, suitably reinforced.
- Baths must have integrated rim reinforcement.

Shower trays

- Must be in accordance with AS 3588-1996: Shower Bases and Shower Modules
- White in colour

Carports and garages

(applicable to new construction and upgrades/modifications)

Carports must provide an economical but attractive product of domestic appearance and low-maintenance. Carports and garages:

- For detached dwellings, single carports only are to be provided, regardless of the dwelling size
- May be either custom built or proprietary items
- Structural posts must be hot dipped galvanised steel
- Prefinished, metal roofing is preferred and must comply with:
 - AS1562.1-1992 Design and installation of sheet roof and wall cladding
 - AS/NZS 2728-2013: Prefinished/prepainted sheet metal products for interior/exterior building applications.
- Garage doors (preferably not one-piece tilt up doors or panel doors) are required to garages, and must be provided for car ports when:
 - Open carports (with no garage door) are not typical in the street or neighbourhood; and/or
 - Access to the backyard or under the house is through the carport
- Screening must be considered for the sides of carports (on houses) that are open to the front yard.
- Carports must be installed on a self-draining concrete slab.

Design Considerations

- Refer to the *Design Standards for Dwellings: Houses and Apartments* for preferred locations of carports for houses and apartments.
- The requirements of the Queensland Development Code must be considered in the positioning and screening of carports and garages.
- The carport or garage must complement the existing house or apartment building.

Clothes lines

(applicable to new construction, maintenance replacements and upgrades/modifications)

Clotheslines are required in all properties. Requirements for clothes lines are outlined below.

General requirements

Clotheslines must be

- Non-removable
- Fabricated from galvanised steel and/or aluminium.

Minimum line requirements

- **Studio apartment:** 7.5 lineal metres
- **1 & 2 Bed:** 15 lineal metres
- **3 Bed:** 30-40 lineal metres
- **4 and 5 bedroom:** 40 lineal metres

Communal lighting

(applicable to new construction, maintenance and upgrades/modifications)

Communal lighting is required on multi-unit sites to car parking areas, pedestrian pathways, building entrances, communal spaces (including outdoor communal landscaped areas) shared stairways and access balconies.

Requirements for communal lighting include:

- Photoelectric sensors are required in order to turn lights on at sunset. High level (bright) lighting (e.g. near car ports) should include a timer to turn lights off at midnight. Low level lighting that is contained so as not to 'spill' into dwellings (including neighbours' dwellings), or is located close the ground (such as bollard lighting along pathways) should be capable of being left on until dawn.
- Lights to individual landings outside entry doors to apartments must be individually switched with time delay function. These lights are not considered communal lighting. If communal lighting is required near apartments for safety, then this should be provided.
- Must be separately metered at the main switchboard and have a connection to the electrical distributor metering equipment.
- For testing purposes, all communal lighting and power is to be controlled by a single switch that can override the time switch and PE switch.
- Non glare light fittings or an appropriate glare shield must be used when residents in the unit complex or neighbouring properties are inconvenienced by glare.
- Fittings must be cost effective, durable and support readily available, cost effective, energy efficient globes.
- Each lighting and power circuit must be protected by a separate, combined residual current device (RCD).
- Photoelectric sensors should not be mounted on top of meter boxes, and should be mounted in a position that discourages tampering with the sensors.

Requirements for communal lighting placement include:

- Must be sufficient to illuminate paths of travel and landscaping areas immediately adjacent to paths.
- Must facilitate safe cleaning, maintenance and globe replacement.
- Must be fitted over landings and never over stairs, whether wall or ceiling mounted.
- Ceiling lights must be not more than 2700mm above the level of the landing.
- Wall lights must not be more than 2100mm above the level of the landing.

Curtains, curtain rods and curtain brackets

(applicable to new construction, and home modifications in response to identified specific client requirements)

Requirements for **curtain rods** include

- Provide metal curtain rods (minimum 25mm diameter) with plain finials and 75mm curtain rod brackets. Bracket spacing not to exceed 1.35m.

Requirements for **curtains** include:

- Must be fire retardant (inherent to fabric, not a chemical treatment); and
- Must be washable (does not reduce fire retardant properties and does not have shrinkage of greater than 3%).
- Curtains style must be suitable for use on metal rods (e.g. pinch pleat curtains on rings, eyelet curtains).
- Fabric width must be at least 1.5 times the width of the window or door

Curtains to windows:

- Curtain must finish below sill height, by approximately 100mm.
- Curtains must be mounted on metal rings.
- Curtains on windows over 600mm must be split in half with drop on each side of window (600mm or under to be a single drop)
- Curtains are to be installed to all windows in bedrooms, living/dining rooms, multi-purpose spaces, entries where applicable (not wet areas – i.e. kitchen, bathroom, laundry, toilet)

Curtains to sliding glass doors:

- Curtains to be provided to all glass sliding doors. Curtain drop to be 50mm above finished floor level.
- Where a middle bracket is required, curtain to be split in half with a drop on each side of the door.
- Where only end brackets are required, curtain to be continuous.
- Metal flick sticks to be included on each curtain drop for LHDG Platinum Level dwellings only.

75mm **curtain rod brackets** (but not curtains or rods) should be installed to vacant properties intended for reletting, including all window openings and sliding glass doors (bracket spacing not to exceed 1.35m)

Door hardware

(applicable to new construction, maintenance replacements and upgrades/modifications)

External hinged door hardware

Requirements for external hinged door hardware include:

- Must be satin chrome or stainless steel finish, or to match existing for upgrade work.
- Must include a deadbolt with external key entry that can be locked manually from the inside with a large snib.(i.e. without the key)
- Must include an external quality lever passage set. Lever handles must have a minimum length of 95mm. Handles that return to the door face (D-shaped) are required in LHDG Platinum Level housing or in response to identified specific client requirements.
- Must be able to be held in the closed position without locking the door, so that doors do not accidentally lock when occupant is outside.
- Must be keyed alike with all external doors (including glazed and security) for the same premises
- Alternative door hardware is acceptable in response to identified specific client requirements (refer Introduction 'Expert advice').

Internal door hardware

Hinged Doors

Door hardware for hinged doors must:

- Be satin chrome or stainless steel finish, or to match existing for upgrade work;
- Have lever handles with a minimum length of 95mm, or to match existing handles. Handles that return to the door face (D-shaped) are required in LHDG Platinum Level housing or in response to identified specific client requirements (refer introduction 'Expert advice').
- Have a metal latch tongue
- Passage sets are required on all internal hinged doors, except bathrooms and separate toilet rooms.
- Privacy sets are required on hinged doors to bathrooms and toilets, or to replace existing privacy sets. Privacy sets must
 - Have a snib or push button privacy lock. A large internal snib may be required in response to identified specific client requirements.
 - Have an emergency release on the outside which is coin or snib operated. (pin hole release not acceptable)

Sliding doors

Privacy sets for internal sliding doors (generally bathroom doors or some bedroom doors in LHDG Platinum Level housing) require the following:

- non-indicator, brass mortised privacy latch;

- Coin-operated emergency release on the outside with a turn snib on the inside. A large internal snib may be required in response to identified specific client requirements.
- Design: easy grip, free from sharp points and edges. Levers to return to the door face where available;

Note: Lightweight domestic latch with small recessed components are not acceptable.

Other door hardware

Door closers (fire rated)

If door closers are required, they must meet the following requirements:

- Satin-chrome or stainless steel finish; and
- Minimum operating pressure required.

Door seals

A weatherproof door-seal must be fitted to the base of all external hinged doors. Requirements for door seals include:

- Any fixed sill sections must have a slip resistant finish;
- The seal must be likely to last the life of the door.
- Any complementary sill section is to be low profile (maximum 10mm in height)

Door stops and retainers

Door stops are required on all doors. Retainers are required on all doors except fire doors. Stops and retainers must be either:

- 'Bumper' type used in conjunction with a hook and eye retainer, or equal; or
- A 'bumper' type with an integral retainer.

Door stops must be of sufficient length to stop the door handle causing damage to the wall behind. Light nylon or plastic clip type retainers are not acceptable.

Electric & gas cooking appliances

(Applicable to new construction, maintenance replacements and upgrades/modifications)

Cooking appliances should be of a durable finish (either white enamel or stainless steel).

Ovens (wall ovens, under bench ovens, ovens in upright and elevated ranges)

- Nominal 600mm wide
- Wall ovens for LHDG Platinum Level must have vertically hinged door (i.e. side opening). The opening side of the oven must be on the bench side, with the middle oven shelf at the height of the benchtop.
- Oven door must have robust hinges and strong latching mechanisms
- Oven light required
- Timer required.
- Minimum 2 adjustable oven shelves
- Direct front access to oven shell for gasket replacement
- Wiring protection where necessary, to protect wiring and oven controls above oven door.
- **Electric ovens:** must be fan assisted
- **Gas ovens:**
 - Flame failure feature required.
 - Remote Indigenous dwellings: Gas ovens are acceptable for new construction and replacements, to be determined in consultation with Councils.
 - Non-remote areas: Gas ovens are not preferred for new construction, but may be an option in areas with reticulated gas, provided that gas supply to the oven location is easily achievable.

Cooktops (separate cooktops, and cooktops in upright and elevated ranges)

- Four burners/cooking zones (two burners/cooking zones acceptable for studio/'bedsit' dwellings)
- Nominal 600mm wide (except for 2 burner cooktops)
- Location of controls must be easy to access, without limiting access to cooking elements.
- Layout and markings must ensure ease of identifying the corresponding element.
- Residual heat indicators if available.

Acceptable cooktop types		
Type		Required features
Electric	Standard hotplates	<ul style="list-style-type: none"> - Solid hotplates preferred (coils are an option) - Corrosion resistant - Tops must hold spillages of up to one litre
	Ceramic glass radiant cooktop	<ul style="list-style-type: none"> - Enamel or stainless steel trim to edge of glass preferred - Knob controls preferable (touch controls with child safety features only in response to identified need)

Acceptable cooktop types	
	Ceramic glass induction cooktop (only in response to specific client need, as specific cookware required)
Gas	<ul style="list-style-type: none"> - Touch controls with child safety features - Flame failure feature - Flat, enamel trivets, and one piece burners. Electric or piezo ignition. - Holds spillages of up to one litre

Upright ranges – additional requirements

- Effective vermin proofing to underside and rear of range. Preferably, limited holes and protection around holes, to discourage vermin.
- Effective insulation to ensure that the sides of the oven are not hot to touch.
- Anti-tilt brackets that enable the range to be disengaged without unbolting or unscrewing, installed as per manufacturer's specifications.
- Lift-off oven door with clear glass panel.
- Rear splash back panel
- Nominal dimensions 900mm H (to hob) x 540mm W x 595mm D
- Rear panel controls (front controls in response to identified need)
- Gas ranges may have plug in or hard wired ignition
- Hinged or easily removable top cover to ensure easy repair of cook top elements

Standard and Acceptable Cooking Appliance Types by Dwelling Type				
Dwelling Type	Wall Ovens	Under Bench Ovens	Cook Tops	Upright Range
LHDG Platinum Level LHDG Gold Level	required	n/a	required	n/a (acceptable only for Gold Level dwellings in remote housing)
Seniors' dwellings	Preferred	Acceptable (replacements)	Preferred	Acceptable (replacements)
General Level	Acceptable	Acceptable	Acceptable	Acceptable

Exhaust fans and exhaust fan control switches

(Applicable to new construction, maintenance replacement and upgrades/modifications)

In kitchens, natural ventilation is preferred over mechanical ventilation and range hoods are not preferred if there is a viable alternative.

In bathrooms, natural ventilation is also preferred. In new construction, this is supplemented by mechanical ventilation in order to provide appropriate airflow.

Exhaust Fans

- For bathrooms, exhaust fans must provide a minimum of 15 air changes per hour.
- Must have a minimum International Protection rating of IP54
- Wall or ceiling mounted type
- Must be provided with wall ducting kit which includes a weatherproof fly-screened exterior wall grille

Exhaust Fan Control Switches

- Light and exhaust fan must be separately switched
- Should be designed so that the exhaust fan will continue to operate for an extended period after the switch has been turned to the off position. An adjustable electronic time delay should ensure the operation of the exhaust fan for a minimum period of up to 10 minutes

Fencing

(Applicable to new construction, maintenance replacements and upgrades/modifications)

Fencing assists in creating privacy for neighbours and tenants.

The principles of the following documents should be applied to fencing replacements and upgrades for apartments, houses, duplexes and dual occupancy dwellings (as applicable) to the maximum extent possible:

- *Design Standards for New Construction: Social Housing, Houses and Apartments*
- *Design and Construction Standards for Remote Housing.*

The following guidelines also apply for fencing:

- Generally, fencing must be provided on all side and rear boundaries, with side return fencing to the dwelling.
- Economical options must be selected for new and replacement fencing, considering whole of life costs
- New and replacement dividing fences must be a “sufficient dividing fence” as defined by the *Neighbourhood Disputes (Dividing Fences and Trees) Act 2011*
- Other replacement, dividing fences should generally be high, private fencing, such as 1800mm high timber paling fencing.
- Considerations when choosing fencing types include:
 - Treated pine should not be used in dry, arid areas (zone 3 as referenced in BCA Vol 2 Fig. 1.1.4. Climate Zones for Thermal Design). Colorbond or hardwood timber may be acceptable alternatives. Australian Building Codes Board. See BCA Climate Zones for thermal design: <http://www.abcb.gov.au/work-program/energy-efficiency/climate-zone-maps.aspx>
 - Maintainability. In remote locations, or sites at high risk of damage or vandalism, Colorbond fencing is not preferred.
- All other legal, regulatory and covenant requirements for fencing must be met.
- Front fences:
 - Generally not provided to detached houses, except to corner or cul-de-sac sites.
 - If front fencing is required, solid or semi-transparent materials must be limited to a maximum of 50 percent of the frontage width.
- Corner sites: Fencing may be provided on all boundaries, with consideration of road visibility at intersection.
- Fencing to detached and attached housing, duplexes and dual occupancies must provide a secure playing space for children, with access to at least one doorway of the dwelling.
- Facilities such as letterboxes and rubbish bin enclosures must be compatible with the overall fence design and must be incorporated into the fencing design where possible.

- The installation of fencing must not result in any breach of termite barriers on/to the building.
- Appropriate pedestrian gates, matching the fence, must be provided on the return portion of fence (Gates must not be provided in side or rear fencing). If possible, provide gates allowing access down both sides of the property – either two pedestrian gates or, if space allows, one pedestrian gate and one vehicle access gate.
- Side fences must extend the length of the boundary, finishing at a height of between 900mm and 1200mm at the front.
- Fencing must not be attached to exterior walls or components of the building. A 75mm clearance must be achieved to prevent any breach of termite barriers on the building.
- Fencing must finish between 50mm and 100mm above the finished ground level and 75mm above the finished level of concrete mowing strips and retaining walls
- Side, return and back fences in new construction are generally to be 1800mm high timber paling fixed to hardwood rails, with the palings fixed on the side facing the property. Front and return fences must have the paling fixed on the side facing the street.
- Other fencing types may be used taking into account community standards, longevity of the fence and visual privacy for outdoor recreation where appropriate.

Floor coverings

(Applicable to new construction, maintenance replacements and upgrades/modifications)

The floor finishes most commonly used in new construction and refurbishments include floor tiles, sheet vinyl and carpet. Standards for these are outlined below. Other floor finishes present in existing properties may also be acceptable, including polished floorboards and linoleum.

It is important that floor finishes are 'domestic' in appearance, and are of a colour and texture that is easy to maintain.

Floor tiles

Performance Criteria

Slip resistance requirements of floor tiles will vary depending on the application. **Table 2** documents standard and acceptable tile requirements by room. Performance criteria for both slip resistance levels are outlined below.

Tiles (R9 /P2)

Tiles for this application shall:

- Have a slip resistance rating of 'R9' (Oil-wet Inclining Platform Ramp Test Method – AS/NZS 4586: 2013) or P2 (Wet Pendulum Test Method – AS/NZS 4586: 2013)
- Be hardwearing and resistant to surface abrasion: Commercial or heavy domestic quality.
- Be non-porous, with an easily maintained, 'mop over' finish;
- Be domestic in appearance and of a neutral colour and design which will minimise the show of marks and stains. White, very light, or very dark tiles are not acceptable.
- Texture, profile and tile size must be used to achieve effective slip resistance and ease of cleaning.

Tiles (B/P3)

Tiles for this application shall meet the performance requirements listed above (except for slip resistance), along with the following criteria:

- Have a slip resistance rating of:
 - ⊖ 'P3' (wet pendulum test method – AS/NZS 4586: 2013) or
 - B (Wet-Barefoot Inclining Platform Test Method – AS/NZS 4586: 2013)
- For bathrooms, floor tiles must be a maximum size of 200 x 200mm, to achieve sufficient falls. Typically, the minimum acceptable size is 50 x 50 mm.
- Hobless shower floor recess shall have a visual separation from the remainder of the bathroom floor area. Typically, a contrasting colour (30% minimum luminance contrast) and smaller tile size may be used (smaller tile in the shower recess may help to achieve tighter falls).

Installation and application

The following is to apply in the installation and finish of internal floor tiles:

- Be fixed to substrate with a manufacturer approved adhesive;
- Be thoroughly and neatly grouted with a manufacturer approved, flexible grout in a natural grey colour;
- Be thoroughly and neatly sealed, if required, with a manufacturer approved sealant;

Ceramic tiles should be installed in accordance with *AS 3958.1—2007. Ceramic Tiles. Part 1: Guide to the Installation of Ceramic Tiles*

Home modifications – Chemical etching

In response to specific client requirements, it may be identified that an existing tiled floor requires additional slip resistance (refer Introduction 'Expert advice'). The options for slip resistant flooring in home modifications are:

- Replacement of the floor tiles with new tiles of increased slip resistance;
- Replacement of the floor tiles with vinyl sheeting of increased slip resistance.
- Application of a suitable, permanent, slip resistant treatment (e.g. chemical etching) by a suitably qualified tradesperson; provided that:
 - An appropriate warranty is provided for the treated tile.
 - The applied treatment provides the appropriate level of slip resistance. The finished floor must be either:
 - Independently tested by an accredited contractor to achieve a ('P3' slip resistance level. Wet Pendulum Test Method – AS/NZS 4663: 2013)
 - If post treatment testing is unable to be completed by an accredited contractor (e.g. due to remote location), written assurance from the contractor must be provided that the etched product has achieved the required rating (or equivalent).
 - The applied slip resistance does not affect the integrity, porosity, or expected life of the tile.
 - The finish does not require onerous cleaning or the use of expensive or difficult to obtain cleaning products. (Cleaning products and requirements must be equivalent to a tile that has achieved an equivalent slip resistance rating without chemical etching treatment)

When considering etching, the term of the tenancy and the benefits of the longer term improvement of the housing stock needs to be considered.

If other property upgrades are imminent, this may create an opportunity to replace the flooring rather than provide chemical etching treatment.

Sheet vinyl

General product requirements include:

- Must be of commercial or heavy domestic quality
- Low maintenance finish that is easily mopped over and is resistant to damage and tearing.
- Preferably, neutral in colour, with a colour and pattern that will minimise the appearance of marks and stains.

- A slightly textured surface with suitably "domestic" pattern, and a non-absorbent surface;
- Product should facilitate easy, smooth operation use of mobility aids, such as walkers or wheelchairs.
- Heavily textured surfaces, raised profiles or densely located small studs are not acceptable.
- Preference is for heavy domestic / commercial quality sheet vinyl with the following features:
 - Polyurethane reinforced.
 - Homogenous (minimum 2mm gauge) or heterogeneous (minimum 2 mm gauge with minimum 0.7mm wear layer)
- Domestic quality vinyl, including loose laid vinyl, may be considered for existing dwellings, if a shorter term solution is appropriate.

Slip resistance requirements of vinyl will vary depending on the application. The below table documents standard and acceptable vinyl requirements by room.

Additional requirements for each slip resistance level are outlined below.

Vinyl (R9/P2)

In addition to general requirements, sheet vinyl for this application shall:

- Have a slip resistance rating of R9' (oil-wet inclining platform ramp test method – AS/NZS 4586: 2013) or P2 (Wet Pendulum Test Method – AS/NZS 4586: 2013)
- Slip resistance must be guaranteed for the life of the product

Vinyl (B/P3)

In addition to the general requirements, sheet vinyl for this application shall be suitable for use in wet areas, and meet the following criteria:

- Have one or more of the following slip resistance ratings:
 - 'P3' (wet pendulum test method – AS/NZS 4586: 2013)
 - B (Wet-Barefoot Inclining Platform Test Method – AS/NZS 4586: 2013)
- Slip resistance must be guaranteed for the life of the product

Installation and application

Vinyl is to be installed in accordance with *AS1884 – 2012. Floor coverings – Resilient sheet and tiles – Installation practices*. The following is also to apply in the installation and finish of sheet vinyl flooring:

- Vinyl must be installed with a manufacturer-approved adhesive.
- Where a finished edge remains uncovered, the junction line shall be scribed to finish flush with abutting surfaces;
- Where changes in floor finishes occur at doorways, locate the junction centrally below the closed door.
- Where part floor covering replacement is required, junctions may occur where an existing floor finish meets the new covering. In this case, the new floor covering may differ in type and colour and can be squared off at a point such as a door way/opening or similar;

- Where junction cover strips are unavoidable, they are to be low-profile and securely fixed with no protrusions or sharp corners;
- Generally, finish external doorway openings with a protecting metal finishing angle and neatly seal between vinyl and edge strip; and edge strip and door sill.
- Where loose-laid sheet vinyl is specified, edges shall be sealed in accordance with manufacturers laying and finishing recommendations;
- Vinyl shall continue underneath fixtures such as laundry tubs, cupboards, benches, cookers and into alcoves such as fridge recess and pantry;

Carpet

The below table documents the standard and acceptable locations for carpet. The performance criteria for carpet are as follows:

Carpet Type:

- Short loop pile polypropylene; or
- Nylon flock filament pile on an impervious vinyl base.

Carpet shall:

- Comply with BCA requirements relating to fire resistance of floor linings and floor coverings.
- Shall be compliant with the following Australian Carpet Classification Scheme (ACCS) classification categories:
 - Residential Guide: Minimum of 5 stars (Extra Heavy Duty - lower to mid-range);
 - Contract Guide: Minimum of 3 stars (heavy duty);
 - Environmental Classification Scheme: Minimum of ECS level 1;
- Be of colours which provide reasonable light reflectance but do not highlight soiling;
- Have subtle colour variation through the carpet. Large, obvious patterns or block colours are not acceptable (block colours are more likely to show marks).
- Enable easy maintenance for domestic users to maintain a healthy environment; and
- Shall facilitate easy, smooth operation use of mobility aids, such as walkers or wheelchairs.

Installation and application

Carpet is to be installed in accordance with AS/NZS 2455.1:2007. Textile Floor Coverings – Installation.

Standard installation method to be direct stick method (no underlay) particularly if required in order to comply with BCA fire resistance requirements, or in LHDG Platinum Level dwellings. (See AS/NZS 2455.1:2007, Section 3.6)

Installation with a foam or rubber underlay may be acceptable if required to match existing, or if there are no fire resistance requirements. (See AS/NZS 2455:2007, Section 3.8)

Adhesive is to be low in volatile organic chemical content.

Standard and Acceptable Floor Finishes by Room			
	Tiles	Vinyl	Carpet
Bedrooms	Acceptable (R9/P2)	Standard (R9/P2) Regional Qld*	Standard Southern Queensland*
Kitchen, Living, Dining, Hall.	Acceptable (R9/P2) (General & Gold Level) (N/A for platinum level)	Standard (R9/P2)	n/a
Wet areas	Standard (B/P3)	Acceptable (B/P3)	n/a

*Note: For the purpose of this standard Southern Queensland is defined as climate zone 5 and the part of climate zone 2 from Fraser Coast and south. Refer BCA Vol 2. Fig. 1.1.4. for a map of Climate Zones. Regional Queensland is the balance of the state. <http://www.abcb.gov.au/work-program/energy-efficiency/climate-zone-maps.aspx>

Clear-coated finishes for timber floors

(applicable to maintenance and upgrades only)

Timber floor finishes shall be free from excessive inconsistencies for example, raised floorboards or nails. Where existing bare timber floors have been coated previously, sanding and recoating may be required to achieve this result. Where it is not cost-effective to maintain the coating, or where no coating has been applied previously, one of the standard floor coverings should be installed.

For additional information, refer to Housing Services' **Floor Coverings/Finishes Policy**

Floor wastes

(Applicable to new construction, maintenance replacements and upgrades/modifications)

General Requirements

- Products must comply with all plumbing and drainage regulations.
- Penetrations must be small, to prevent children's fingers being caught
- Acceptable types:
 - Screw in grate, 100mm diameter. Ceramic tiled floor: waste complete with puddle flange.
 - Channel grate, where configuration and falls allow (e.g. in order to achieve the suggested floor waste design for a hobless shower recess, illustrated in the informative diagram of Livable Housing Australia's Livable Housing Design Guidelines).
- Vinyl sheeted: provided with facility for turning and locking sheeting down into floor waste.
- Location: shower recesses and bathroom floor wastes (where required).

Material:

- Grate: Chrome on brass, or 316 (marine grade) stainless steel
- Top assembly: Brass or chrome plate on brass, or 316 (marine grade) stainless steel
- Bottom assembly: PVC or other approved moulded material.

Folding doors and room dividers

(Applicable to new construction, maintenance replacements and upgrades/modifications)

Folding doors and room dividers provide temporary visual privacy to internal spaces, such as laundry facilities or infrequently used sleeping spaces, generally in one bedroom or studio accommodation.

General Requirements:

- Type: Domestic folding screen suspended on an overhead sliding track and fixed to the wall on one side. Provide operating handles or knobs on each side.
- Various types are available such as:
 - Vinyl or melamine faced MDF panels approximately 125mm wide, joined by flexible PVC strip continuous hinges;
 - Extruded plastic pre-coloured panels no more than 1500mm wide, joined by flexible continuous hinges; or
 - Vinyl fabric curtain on a folding frame.
- In the open position, the screen will be folded compactly occupying no more than 150mm in width. The folded door is to be held or clipped in the opening position.
- Colour: From manufacturer's standard range to match existing colour scheme
- Warranty: 12 months minimum.

Garden sheds

(Applicable to new construction and upgrades/modifications)

General requirements:

- Finish: Long life weather resistant finish to metal frames and wall cladding.
- Cladding material: Colorbond (or equivalent). Pre-painted to AS/NZS 2728:2013 *Prefinished/pre-painted sheet metal products for interior/exterior building applications: Performance requirements.*
- Colours: From manufacturer's standard range.
- Door: Hinged or sliding as specified. Provide barrel bolt or hasp and staple type hardware for locking with padlock.
-
- Sizes:
 - Houses, duplexes and dual occupancy (Non-remote) 3.5m² minimum (or similar) x 1.8m high or as otherwise specified. A selection of dimensions is required to accommodate available sites.
 - Apartments (non-remote): Each ground level apartment: Small garden locker, no greater than 2100mm wide.
 - Remote Housing: minimum area of 9m², including for highset houses.
- Installation: Install on a self-draining concrete slab, with recessed edge to exclude rain and water penetration.
- Provide level or ramped entry for easy movement of wheeled garden machinery (e.g. mowers). A path is not required between the house and the garden shed.
- Garden shed must have an appropriate high strength frame, and be of an appropriate strength for the design and wind classification of the site.

Hot water systems

(applicable to new construction, maintenance replacement and upgrades/modifications)

Note: This standard **does not** apply to dwellings in remote communities.

When selecting an appropriate new or replacement hot water system for an application, the relative operational energy and cost efficiency of suitable systems must be taken into consideration and balanced against the upfront cost supply and installation.

Generally, the replacement of hot water systems is 'like for like' with the exception of:

- Reticulated natural gas areas. In these (typically urban) areas, an unserviceable electric storage or liquid petroleum gas (LPG) hot water system may be replaced with a gas storage or continuous flow gas hot water system.
- Unserviceable heat pumps systems. These may be replaced with electric storage systems.
- A change to the correctly sized system to suit the bedroom count of the dwelling.

General requirements:

- When replacing an externally located hot water system, install the new system in the same location (space permitting)
- When replacing a hot water system that is located inside a laundry (located on the main level of a detached/cluster house, dual occupancy or duplex building) install the new system outside wherever possible. Considerations when positioning include:
 - minimise hot water draw-off losses
 - locate central to the kitchen bathroom and laundry (preferably closest to kitchen)
- Tempering valves are required for new construction and when hot water systems are replaced or relocated, and must supply tempered water to all hot water outlets.

For older dwellings, where the electrical cable size will not sustain the load of the factory fitted element, exchange it for a lesser kW size in preference to renewing/replacing the water heater circuit.

Recommended Hot Water System Sizes New construction and replacements/upgrades

	Electric (for connection to an economy tariff)		Gas (minimum 5 star energy rating)	
	Minimum Storage	Heat Pump	Minimum Storage	Continuous flow
Bedrooms				
1-2	125 litre	270 litre	135 litre	16-18 litres/minute
3	250 litre	270 litre	265 litre	16-18 litres/minute
4	315 litre	340 litre	330 litre	16-18 litres/minute
5	400 litre or larger	340 litre	360 litre	16-18 litres/minute

Note: for details about water tempering devices, refer to Water Tempering product standard.

House numbers and signage

(Applicable to new construction, maintenance replacements and upgrades/modifications)

House numbers and signage must:

- Be clearly visible and provide long lasting identification for houses and units.
- Provide clear directional signage and easily followed numbering in apartment and cluster developments for visitors and emergency vehicles.
- Be black or white to contrast with the background.
- Fixing: To be screw fixed or adhesive and screw fixed.
- Material and finish: Cast or laser cut aluminium or other non-corrosive metal with powder coated finish.
- Reflective numbers are preferred.
- Reflective vinyl, adhesive numbers and signage may be used in "out of reach" locations.
- Publicly visible signage **must not** refer to residents as 'tenants'.

Intercom systems

(Applicable to new construction and home modifications)

This standard refers to intercom systems that are required in response to identified physical client need (see “Expert Advice”). Audio and visual intercoms must be used with certain types of automatic door operators to allow a client with severely limited movement to be alerted to a visitor at the front door

Note: This standard does not refer to intercom systems and associated remote swipe access that may be required:

- In response to an identified need for increased security, due either to the circumstances of a particular tenant, or to the intended service delivery model at the dwelling or complex; or
- For new projects, if specified (e.g. at front gates, lift lobby areas etc.)

Functional requirements:

- Wall mounted, intercom device to alert occupant/s of visitors' arrival
- External device must have audio capacity to enable two way conversation between visitor and occupant/s,
- If specifically required to meet client's physical needs, device may also have video capacity

Internal functional requirements:

- Switch mechanism enabling client to speak to visitor and /or,
- Switch mechanism enabling client to see visitor on video monitor,
- 'Door locked' indicator light.

All switch mechanisms shall be suited to the client's identified abilities and needs.

Kitchen sinks

(Applicable to new construction, maintenance replacements and upgrades/modifications)

General Requirements

Kitchen sinks are to comply with the following criteria:

- Must be manufactured from 304 grade stainless steel, with a minimum thickness of 1.2mm;
- Depth must be approximately 150mm for LHDG Platinum Level dwellings.
- Single hole for mixer tap

For dwelling units of **less than three bedrooms**:

- Single bowl with a single drainer on the left or right side;
- Minimum dimensions: 900mm long

For dwelling units of **three or more bedrooms**:

- Double or 1 $\frac{3}{4}$ bowl with a single drainer on the left or right side (double drainer is also acceptable)
- Minimum dimensions: 1180mm long x 480mm wide.

Under sink protection must be provided in LHDG Platinum Level housing to prevent contact with the hot bowls by the legs of wheelchair users. This may be in the form of an attached insulation membrane supplied by the sink manufacturer or by physical protection built into the kitchen joinery. Sink must have sound deadening material fixed to underside of drain section.

Kitchen upgrade standard

(Applicable to upgrades/modifications)

Note: Microwaves, refrigerators and range hoods are not included in kitchen upgrades. (range hoods may be included in response to identified specific client requirements (refer Introduction: Expert Advice)

Design Considerations

The design and amenity of upgraded kitchens in dwellings must align as closely as possible with features provided in new construction to promote equity within the portfolio. See *Design Standards for New Construction: Social Housing – Houses and Apartments* for more information about kitchen requirements for new construction.

Whilst considering the constraints of the floor plan, attempts must be made, where possible to:

- Provide openings over a counter to the living and/or dining spaces
- Provide a layout which ensures that the kitchen is not a thoroughfare between spaces
- Ensure convenient access from the kitchen to indoor and outdoor living areas.
- Plumbing and gas works must remain in original positions if possible. Where gas upright stoves are being replaced with separate cooktop and oven, the gas cook top must be located as close to the original point of the upright as possible. The electric wall oven can be positioned in the most practical position in the kitchen.

General Requirements

- Cabinets
 - All cupboards (except pantry and under sink) to have one fixed shelf, positioned midway, which is to be the full width and depth of the cupboard.
 - A removable mid shelf may be provided under the sink, but waste pipes must not penetrate the shelf preventing its removal. All shelves to be edge stripped to colour match the interior of the cupboards.
 - Overhead cupboards must be provided where possible (but not above hotplates). There must be at least 600mm clearance between the highest point of a gas burner, and any nearby overhead cupboards.
 - Pantry to have a minimum of four shelves, a minimum of 300mm apart.
 - Pantry and wall oven must be positioned at the ends of bench sections so that they do not interrupt the bench space.
 - Provide a minimum of one bank of drawers. One top drawer is to incorporate a fixed cutlery tray (glue fixed).
 - Vermin proof all penetrations into the carcass of the kitchen.
 - Finishes:
 - Cabinets: Laminated finish, with 2mm PVC edge strips to all visible edges, coloured to match doors and factory applied using purpose made presses.
 - Internal shelves: White melamine with matching edge strips

- All board products: Highly Moisture Resistant (HMR) board
- Kickboards: Laminated finish
- Benchtops: Laminate finish with post formed outer edge and no sharp corners
- Hinges:
 - Concealed and adjustable for height, side and depth location of doors
 - Nominal 170-180 degree opening and hold open function (unless opening against a wall, other cabinets etc.)
 - Durable metal finish
- Runners:
 - Must withstand 20kg loading capacity when in open position
 - Durable metal finish
- Fittings:
 - 'Lazy Susan storage units may be installed in corner base cabinets only (3/4 size, 360° turn).
 - D" type handles to drawers and doors. Knob handles must not be used.
 - All drawers and doors to be fitted with bump pads.
 - A 450mm long, towel rail in a durable finish (not plastic) to be installed enabling convenient access from the sink.
- Splashbacks:
 - Must extend at least 300mm above kitchen bench top (or to underside of overhead cupboards)
 - Must be suitable for use behind cooktop/range (heat/fire/shatter retardant)
 - Must be easy to clean
 - If tiles are used, minimum size is 150mm x 150mm
- Cooking:
 - If upright range installed, must have 100mm gap between joinery and sides of range, to facilitate cleaning with bench overhanging to provide a 10mm gap each side of the range.
 - Hotplates or upright ranges must not be installed:
 - Under windows
 - on benches that are not against a wall, unless a suitable up stand is provided at the back of the bench;
 - at the end of a cupboard, adjacent to doors, windows, areas of heavy traffic, internal corners, or against side walls of a pantry. Note that at least 300mm bench either side of a cook top/range must be provided.
- Electrical / Socket outlets:
 - 1 x isolating switch for cooktops/stoves.(max 100mm above bench top, not behind hotplates, located at least 600mm from corners, preferably to right-hand side of hotplates)
 - 1 x isolating switch for wall oven or under bench oven (if applicable)

- Minimum of two double SOs, conveniently located Must be located at least 600mm from internal corners
 - A separate SO adjacent to, or below the microwave space. A 50mm diameter microwave cord hole (complete with grommet) to be provided as necessary.
 - Single SO, 1800mm above floor, remotely switched (switch, with neon or LED indicator lamp, to be located preferably on return wall of fridge recess or on adjacent wall, maximum 1100mm off floor. refer to AS 4299-1995, Clause 4.5.11) If switch is located above a bench, locate within 300 mm of the front edge of the bench).
- Provide space for:
 - Refrigerator (may be a space or built into cabinetry, providing cupboards above)
 - Rubbish bin (under sink acceptable)
 - Microwave. Top of wall oven cabinet acceptable. If necessary, recess in pantry space also acceptable (creating two small pantries –one above and one below microwave shelf)

Ideally, hot water systems must not be located in kitchen cupboards. If this is the only available solution, a separate ventilated space (cupboard has air vents to allow hot air to escape) for the HWU is to be provided inside the kitchen cupboards, allowing for easy access for maintenance and/or replacement.

Critical cabinet dimensions for kitchen upgrades		
Item	Dimensions	
	Livable housing design guidelines (LHDG) Gold Level dwellings & General Level Dwellings	Livable Housing Design Guidelines (LHDG) Platinum Level dwellings
Bench Height above finished floor level	900mm	850mm
Bench Depth	600mm	
Minimum bench clearance space between hotplates and other appliances, obstructions and windows	300mm	
Overhead cupboards (if installed)	600mm H x 300mm D, 500 mm off bench top	600mm H x 300mm D, 550 mm off bench top
Microwave storage space	900mm - 1400mm off floor	850mm - 1200mm off floor
Unobstructed refrigerator space	850mm W x 700mm D x 1900mm H (studios, 1,2 bed dwellings) 900mm W x 700mm D x 1900mm H.(3,4,5 bedroom dwellings)	

Critical cabinet dimensions for kitchen upgrades

Item	Dimensions	
	Livable housing design guidelines (LHDG) Gold Level dwellings & General Level Dwellings	Livable Housing Design Guidelines (LHDG) Platinum Level dwellings
	(minimum 1800 mm from back of wall to any cupboard/ wall/server in front. 1600mm may be acceptable in some older style units if there is no other possible configuration)	
Pantry (Studio, 1 bed, 2 bed dwellings – 1 door only)	600mm W x 600mm D x 2000mm H	
Pantry (3-5 bedrooms - 2 door)	Up to 1200mm W x 600mm D x 2000mm H	
Pantry Shelves	Top shelf 1650mm off floor. Other 3 shelves evenly placed.	
Under bench cupboard doors – maximum single door width	500 mm	
Minimum clear width between benches (or to dining table in a combined kitchen/dining area as per figure 3)	1200 mm (Studio, 1 bed, 2 bed) 1350mm (3,4,5 bedroom)	1550 mm
Minimum bench space between the cook top and oven or refrigerator	800mm	
Width required for wall oven or upright stove	600mm	
Top of cabinet around a wall oven (May serve as microwave shelf)	1150mm to 1200mm	
Minimum distance between wall oven and internal corner of the front edge of a bench	600mm	
Minimum width of removable cabinets under or partly under sink	n/a	820mm W

Critical cabinet dimensions for kitchen upgrades		
Item	Dimensions	
	Livable housing design guidelines (LHDG) Gold Level dwellings & General Level Dwellings	Livable Housing Design Guidelines (LHDG) Platinum Level dwellings
Minimum width of removable cabinets under hotplates	n/a	820mm W

Home Modifications

Kitchen upgrades requiring accessible features must be designed following a clinical assessment of the tenant's physical requirements (refer Introduction 'Expert advice').

The *Design Standards for New Construction: Social Housing: Houses and Apartments* may be referenced when modifying kitchens for tenants with impaired mobility. This document outlines requirements for kitchens in new construction, including LHDG Gold Level and LHDG Platinum Level (with additional features required by the department).

Related Product Standards

- Kitchen Sinks
- Electric and Gas Cooking Appliances
- Tap ware

Reference documents:

- Colour Schemes for Kitchen Upgrades and New Construction (guideline document only)
- Design Standards for New Construction: Social Housing: Houses and Apartments.

Laundry tubs

(Applicable to new construction, maintenance replacements and upgrades/modifications)

Requirements for laundry tubs include:

- Must be stainless steel construction.
- Cabinets must be corrosion resistant steel finished in white enamel. Provide front door and rubber tipped adjustable feet. Alternatively, white polymer cabinet is acceptable provided door/s open at least 125°.
- Tub to be installed in compact configuration (narrow side against rear wall).
- The tub must provide a suds bypass option on either side.
- Where multiple tubs are provided (e.g. boarding houses or hostels), 45L tubs shall be provided
- For all other housing types refer to table below.

Acceptable laundry tub sizes, by dwelling size.	
Dwelling Type	Tub Size
Studio apartments	35L
One bedroom	35L
Two and three bedrooms	45L
Four or more bedrooms	70L

Under bowl protection may be required in LHDG Platinum Level housing to prevent contact with the tubs by the legs of wheelchair users. This may be in the form of an attached insulation membrane supplied by the sink manufacturer or by physical protection built into the laundry joinery.

Lifts

(Applicable for new construction and upgrades/modifications)

This standard applies to vertical elevator lifts only, intended for the communal use of tenants on the upper floors of apartment complexes. It does not outline requirements for other lift types (e.g. stair lifts and low rise platform lifts) which may be required for particular tenants, in response to identified need.

Requirements for lifts in new construction are outlined in the *Design Standards for New Construction, Social Housing: Houses and Apartments*.

Additional design requirements for lifts include:

- Crime prevention through environmental design (CPTED) principles
- Return to ground feature is required
- Stretcher capacity is not required
- The location of the site must be within a regular lift service area, to ensure reasonable access to maintenance and emergency call out services.
- The installation and aesthetic treatment of a lift must avoid stigmatising the complex/dwelling.
- More than one lift to be considered, depending on the lift capacity and the size and design of the complex.

Installation of lifts in existing dwellings

The general criteria for lift installations in existing dwellings (retrofits) include:

- The lift must be necessary to improve the quality of life, sustainability of tenancy, and safety and accessibility of tenants in that complex.
- The remaining useful life of the building must be compatible with the expected useful life of the lift (around 20 years).
- The lift installation must provide a cost effective solution, commensurate with the number of tenancies in the complex requiring the lift. Total costs must be considered, including demolition, modifications, capital, operating and maintenance costs over the life of the lift. These costs must be considered against other options such as relocation, or non-mechanical access alternatives.
- In retrofitting lifts, resulting (foot) traffic patterns require consideration to ensure that new paths of travel do not cause nuisance to tenants.
- Installation of lifts must allow continued access for tenants and emergency services to all individual, occupied dwellings during the construction and installation process.

Applicable Australian Standard:

AS 1735.12 – 1999: *Lifts, Elevators, Moving Walks. Part 12: Facilities for persons with disabilities.*

(Note: Section 2: Lift car size, nominates minimum lift car internal dimensions of 1100mm x 1400mm. This may be acceptable for retrofit applications; however wherever possible, lift car size should be consistent with size requirements for new construction (1400mm wide x 1600mm deep))

Manholes, pits, covers and grates

(Applicable for new construction, maintenance replacement and upgrades/modifications)

Pits and manholes must:

- be designed to enable crossing by pedestrians, bicycles, wheelchairs, cars, furniture vans, trade vehicles and garbage trucks, to AS 3996-2006 Access covers and grates
- Assist with controlled site drainage
- Be concrete or PVC. Where PVC pits and surface drainage is used, cast in concrete in trafficable areas or install a 20MPa concrete collar surround.

Manhole covers must:

- Be installed with a matching steel frame. Covers are to have a slip-resistant, patterned finish.

Requirements for surface grates in pedestrian areas:

- Grate spacing and direction are to be designed to prevent the catching the wheels of wheelchairs, bicycles and prams in accordance with AS 1428.1-2001 Design for Access and Mobility Part 1: General Requirement for Access - New Building Work, Clause 12.
- Grates in paved areas to have a slip-resistant, charcoal finish.
- Grates in garden and lawn areas to be hot dip galvanised.

Mechanical cooling

(Applicable to new construction, maintenance replacements and upgrades/modifications)

Note: Standard **Not** applicable to remote housing. Refer to *Design and Construction Standard for Remote Housing* for details about ceiling fan requirements and provision for air conditioners.

Dwellings must seek to deliver energy-efficiency and climatic appropriateness. Mechanical cooling is required in parts of Queensland, as described in the below table.

Mechanical cooling zones	
Climate zone (refer BCA Vol 2. Fig. 1.1.4. Climate Zones for Thermal Design)	Mechanical cooling Type
Zone 3	Evaporative or refrigerated; and Ceiling fans (and increased ceiling heights)
Zone 1 Zone 2*(Bundaberg LGA and north)	Ceiling fans (and increased ceiling heights)

*Note: Ceiling fans and increased ceiling heights may also be provided in Zone 2 south of Bundaberg LGA where necessary to meet the energy requirements of the BCA.

Australian Building Codes Board: BCA Climate Zones for thermal design:

<http://www.abcb.gov.au/work-program/energy-efficiency/climate-zone-maps.aspx>

Ceiling fans

Ceiling fans are to be provided to all bedrooms and living/dining areas. The minimum ceiling height in habitable rooms with ceiling fans to be 2700mm, or 2600mm for dwellings constructed in concrete masonry. When provided, minimum requirements for ceiling fans include:

- a minimum diameter of 1200mm
- Heavy duty sealed bearings
- Aluminium or stainless steel blades
- A reversible motor
- Capacity to have a light installed
- A minimum of a three-speed controller
- A finish of either durable white enamel, or brushed chrome.
- J hook mounting method of installation

As outlined in *AS 4226-2008 Guidelines for Safe Housing Design (Section 12.5.3)*, wherever possible, Unguarded ceiling fans should be installed with the blades at least 2400 mm from the floor.

Evaporative or refrigerated cooling

Where evaporative or refrigerated cooling is required, it is to be provided to all habitable rooms.

Cooling plants/condensers:

- To be mounted on or near the ground (condensers may also be mounted on an upper floor balcony) or in another appropriate, non-obtrusive and safe location.
- Must not encroach on the minimum floor area required for covered outdoor spaces.

National Broadband Network (NBN) Equipment

(Applicable as appropriate for new construction and existing dwellings)

NBN Co. (www.nbnco.com.au) was established in 2009, to design, build and operate Australia's new broadband network. It is a wholly-owned Commonwealth company (i.e. a Government Business Enterprise) and is represented by Shareholder Ministers.

Provision for NBN equipment is required for new construction projects, in accordance with the NBN Co. guideline documents:

- **Residential Preparation and Installation Guide: SDUs and MDUs;** or
- **Preparing for your NBN Sky Muster Service** (for regional and remote areas, not planned for NBN fibre optic cable infrastructure. NBN Co. can advise these locations)

Housing Services requirements for NBN equipment

Equipment and installation requirements (non remote):

Section 4 of the *Residential Preparation Guide: SDUs and MDUs*, outlines space and locational requirements for the installation of NBN equipment inside dwellings. Mounting locations (Section 4.4) may include:

- An *Open Enclosure* (refer to section 4.4.3 for design requirements), OR
- A *Home Distributor* (Refer 4.4.4 for design requirements, and Appendix C for ventilation requirements)

Note that *Open Wall Locations* (as described in Section 4.4.2) are not acceptable.

In addition to NBN Co requirements, the *Open Enclosure* or *Home Distributor* must include a small shelf, suitable for a router, and a double GPO (rather than the single GPO required by NBN Co).

Other requirements:

- For all dwelling types other than one bedroom apartments, NBN equipment must be located in a common space, accessible by all residents (i.e. not in bedrooms or bedroom wardrobes).
- Location must be easily accessible, yet unobtrusive, and must not restrict furniture placement. Suitable locations could include hallway or dining area walls.
- *Home Distributors* (non-remote) should be thoughtfully designed and integrated into the interior space. Provided that other NBN Co. requirements can be met, preference is for *Home Distributors* to be recessed, with a door that is similar in colour the surrounding wall.
- Space occupied by NBN equipment must not encroach on other spaces. Minimum dimension requirements for other spaces (e.g. broom cupboards, linen cupboards, wardrobes) must be met without including the space occupied by the NBN equipment.
- For Platinum Level and Gold level dwellings, the shelf and GPO must be located within 900mm to 1100mm of the finished floor level.

Paint

(Applicable for new construction and upgrades/modifications)

Paint products include:

- Applied paint finishes
- Clear polyurethane timber floor finishes
- Flame retardant paints
- Graffiti remover
- Specialised finishes – textured finish.

Requirements for paint finishes include:

- Paint must be approved and listed under the Australian Paint Approval Scheme, meeting all its specifications.
- Warranty: 12 months minimum.
- Life expectancy of painted surfaces to be 10 years minimum.

Specialised finishes – textured coatings:

A complete proprietary system involving patching where necessary, priming, specified texture coating and sealing with the appropriate coloured acrylic membrane paint.

Clear polyurethane timber floor finish:

Only polyurethanes with low volatile organic compound emissions that are tested and approved in accordance with AS 3730.27-2006 *Guide to the properties of paints for building - clear coatings for interior timber floors* are to be used.

Flame retardant paints:

The product must meet AS 1530.4-2005 *Methods for fire tests on building materials, components and structures – Fire resistance tests of elements of building construction*.

Applicable Australian Standard:

- **HB 73.1 – 2005.** *Handbook of Australian Paint Standards: Part 1: General.* (In particular, Table 5.1 of AS 2311: 2000, which specifies paint types, number of coats required etc. for different applications).

Pressed steel door frames

(As applicable, for new construction and upgrades/modifications)

General requirements for pressed steel door frames include:

- Must be resistant to impact damage from moving wheelchairs, etc.
- A high level of corrosion resistance to external frames in marine and corrosive environments, and to internal frames in wet or steamy bathrooms.
- Material: Coated steel sheet, hot-dipped zinc-coated or aluminium/zinc-coated.
- Type: Pressed zinc coated steel sections including necessary accessories such as buffers, strike plates, spreaders, mortar guards, fixing ties or brackets, and cavity flashing with suitable provision for fixing hardware, pre-finished with protective coatings, built in or fixed to prepared openings.
- Door clear opening widths (clear of the door leaf, with door open) as per Livable Housing Design Guidelines:
 - General Level: 820mm
 - Gold Level: 850mm
 - Platinum Level: 900mm

External door frames:

- Minimum steel thickness: 1.4mm.
- Design: Where external security screens are required to external doors, frames are to be provided with double rebates to suit 40mm door (opening in) and 20mm nominal security door (opening out). Doors to finish flush with the face of the frame when in the closed position.

Internal door frames:

- Minimum steel thickness: 1.1mm and dimensioned to suit wall construction.
- Rebated for internal hinged door where required.
- Sliding door frames may also be specified.

Ramp systems

(Applicable to new construction and home modifications)

Ramp systems must only be installed in response to identified client need (see “Expert Advice”), to improve access for a resident with mobility issues, including those who cannot use stairs, utilise wheeled equipment, or who mobilise in a wheelchair.

Refer to AS 1428.1-2009 Design for access and mobility – General requirements for access – New building work as a guide when designing a ramp for a new property, or as a home modification.

External Ramps:

- Modular ramps can be used as a short term interim measure (up to three months) whilst a client awaits construction of a permanent ramp; however due to the cost of hiring ramps, this should only be considered where there are excessive costs or waiting times for building services.
- Permanent concrete or timber ramps are considered appropriate long term solutions and offer an opportunity to landscape around the ramp.
- Location: Ramps can be stigmatising to a property, so careful consideration must be taken with the location. The ramp must also be constructed so as to not create a trip hazard or obstruct access for other people accessing the property.
- Materials: Consideration must be given to the longevity, potential glare problems, heat retention of the ramp and handrail materials, and noise (both in material heat contraction and expansion and walking).
- The materials and colour of ramp and handrails must complement the external materials and colours of the house.

Threshold ramps:

- Threshold ramps should only be used where there is a maximum rise of 35mm, should have a maximum length of 280mm and maximum gradient of 1:8 (as per AS1428.1 (2009) 10.5).
- Where a change in level exceeds 35mm, a step ramp should be provided instead (refer to AS 1428.1 (2009) 10.6).

General considerations:

- Ramp edges, which can be thin, must not crumble or deteriorate quickly.
- The risk of tripping on the edge of the threshold ramp must be minimised
- Slip resistant materials must be used.
- Recommended for use only where it is difficult or impractical to raise the external pavement to within 10mm below the inside floor level.
- External threshold ramps must be made of aluminium. Rubber or rubber composite is to be used only if deemed appropriate for the client’s specific needs. Timber is not recommended.
- The finished surface of threshold ramps must be slip-resistant.
- Width of travel: Minimum width as necessary to 450mm maximum. It is preferred to restrict the width of travel to a minimum so the threshold ramp does not intrude unnecessarily into a cross path of travel.

Roof Vents (Vented soffits and gable vents)

(Applicable for new construction, maintenance replacements and upgrades/modifications)

Roof vents must:

- maintain weather proofing
- maintain vermin control
- ensure bird proofing, in particular to avoid lice infestations.

Requirements for **soffit linings** include:

- Proprietary or manufactured linings, with controlled and simple patterned vent penetrations which are to be distributed evenly around the roof perimeter.
- Finish: 6mm perforated FC lining ready for painting, or prefinished, low maintenance lining.

Gable vents may be custom manufactured or off-the-shelf items and must be:

- Of total accumulative clear area per roof to match soffit lining ventilation unless supplementary roof mounted vents are used in conjunction;
- Weather proof against rain penetration;
- UV resistant;
- Low maintenance; and
- Bird proof and vermin proof

Low maintenance materials can include powder coated aluminium or UV resistant moulded plastic.

Roofing

(Applicable for new construction and upgrades/modifications)

Design Guidelines:

- Simple roof shapes are preferred. Avoid short ridges, 'bastard' hips, and complicated roof plumbing.
- Box gutters and concealed guttering are not acceptable
- Avoid large skillion roofs.
- Maximum roof pitch 26 degrees
- The roof design and installation must prevent birds/possums/vermin from entering the roof/ceiling space.

Requirements for roofing include:

- Contractors are required to submit any installation certification required under the *Building Act 1975*, where roof cladding type is changed (e.g. tiles to metal sheet)
- Provide passive roof vents
- Corrugated pre-coated metal roofing (e.g. Colorbond or equivalent) complying with *AS/NZS 2728:2013 Prefinished/pre-painted sheet metal products for interior/exterior building applications: Performance requirements*.
- Colour range from manufacturer's standard light reflective colour range;
- Steel roofing for dwellings within 200 metres of breaking surf must be deemed by the manufacturer as suitable for use within the intended coastal location.
- 150 mm quad gutters, front lower than back to allow front overflow (Slotted overflows are unacceptable), or 150 mm square gutter with provision for overflow (e.g. Colorbond or equivalent).
- Full gutter leaf guard to be fitted only if required due to high volume of tree debris is evident. Nylon leaf guards are not to be used.
- Roof plumbing and accessories:
 - Generally should be pre-coated metal roofing Colorbond (or equivalent) pre coated finish.
 - Materials must be compatible to avoid deterioration or corrosion between reactive materials.
 - Avoid rainwater running from inert finishes (including Zinalume or equivalent) on to galvanised surfaces.
 - Gutters, downpipes and accessories to complete the waterproofing system.

Rubbish bins

(Applicable for apartments - new construction and upgrades)

Rates of provision

- Councils' rates of refuse and recycling bins may differ between Councils
- The State's rates for the provision of on-site storage of waste and recycling are largely consistent with most councils' requirements for apartments, which is adjusted to meet the known average household sizes of apartment types.
- Councils may also have other requirements in relation to bins, such as a limit on the number of bins which may be collected at the curb side, the use of bulk bins and the availability of collection within the complex. Where the department's rate of provision exceeds the Council's requirements for kerbside collection of wheelie bins, bulk bins (or alternative collection arrangements) must be considered.

Preference – bin type

- Provide wheelie bins if required by Council
- Provide bulk bins if wheelie bins are not supported by Council. Every reasonable attempt must be made to incorporate bins with lids in the 900mm to 1100mm zone.
- If there is a choice, preference is for bulk bins, subject to:
 - Availability of a suitable collection service
 - Availability of bins that have easily operable lids in the 900mm to 1100mm height zone.

Considerations for bulk bin provision

Multiple weekly collections are preferred to multiple or oversized bins. For example, having a bulk bin collected twice a week halves the size of bin required, and also limits the time for odours to develop which can assist in alleviating neighbourhood concerns.

The below table outlines the on-site provision for refuse and recycling in apartment buildings, and must be used to calculate the number and size of wheelie bins and bulk bins required in apartment complexes.

Rates of provision for refuse and recycling: (Wheelie Bins and Bulk Bins)		
Apartments		
Apartment Size	Refuse	Recycling
Studio	70 litres per unit per week	35 litres per unit per week
One Bedroom	80 litres per unit per week	40 litres per unit per week
Two Bedroom	120 litres per unit per week	60 litres per unit per week

Note: most wheelie bins are 240 litre capacity. In cases in which the number of wheelie bins required by calculation is a fractional number, round-up to the next whole number.

Green bins

Some local councils offer an optional green waste bin which is available for an additional charge, included in the property rates. This bin is provided for green waste only (lawn clippings, branches etc.) and is usually collected fortnightly.

Green waste bins are not to be provided (except in exceptional circumstances) due to the additional rates charge. The waste and recycling bin provisions described, in addition to periodic local council kerb side pick-ups, are considered to provide adequate waste disposal for tenants.

Green bins may be considered in exceptional circumstances. Alternatively, excess vegetation on a site may be managed by arranging for additional landscape maintenance.

Design considerations

The following points must be considered when planning for bin storage areas at apartment complexes:

- Provide clearly defined and appropriately constructed areas for the storage and collection of rubbish for all dwellings in accordance with local government requirements.
- If required by council, provide a 'wash down bay'. This includes a hose and hardstand area, suitably drained to an approved sewerage connection; and/or a roofed structure over the bin storage area. This area must be in keeping with the design of the building and other structures on site (e.g. carports);
- Position for easy accessibility from the dwellings and the street, whilst avoiding immediate proximity to dwelling entrances or windows.
- Location must not be visible from the street. This may be achieved through screening. Bin areas must also be screened from pedestrian entries to the site and from entries to dwellings.
- Locate on a hard-standing area and connected to an accessible pathway to LHDG Platinum Level dwellings and the front alignment where bins are collected.
- Where vehicles are required to collect waste bins on the property, ensure that the roadway and footpath is sufficient to carry a heavy vehicle and that turning circles and manoeuvring requirements are met.
- For wheelie bins, or bulk bins which need to be manually moved, ensure enough clearance in the bin storage area in order to manoeuvre and turn the bins.

Scooter Storage

(Applicable for new construction and upgrades/modifications)

Dedicated scooter storage is not a requirement for new construction or existing social housing; however it may be considered as an additional feature, on a case by case basis, for particular new projects or upgrades.

A new scooter storage facility must meet the following requirements:

- A roofed, well ventilated structure offering weather protection for the scooters;
- Charging points to be situated to easily charge each scooter without requiring extension cords;
- The installation of photovoltaic cells to provide power to the charging points may be considered. If this feature is adopted, appropriate back-up power must still be made available.

Security and insect screens for doors and windows

(Applicable for new construction, maintenance replacements and upgrades/modifications)

Security screens must be installed to operable sections of external doors and windows for all existing and new dwellings, including all floor levels for multi-level dwellings, except to doorways that are required by the National Construction Code or other legislation to have a fire door with self-closing or automatically closing mechanism.

General requirements for security screens include:

- When installed to windows in habitable rooms (i.e. living areas and bedrooms), egress from the room in the event of a fire must be considered.
- Must be keyed alike for an individual property.
- Security bars are not acceptable.

Security screens to **doors** must:

- have a door seal / bug strip at the bottom of the door;
- have a triple lock;
- not have door closers, unless required due to a tenant's identified specific needs;
- If in an area where a hinged security door would present a safety hazard (e.g. onto a narrow landing) a solid core entrance door with an operable panel for ventilation must be considered.
- Powder coated aluminium jamb adaptors, to be used to strengthen door jambs less than 30mm thick when 30mm screws to hinges and striker plates do not penetrate studs or equivalent full height reinforcing

Security screens to **windows** must:

- Typically be fixed.
- Houses only: provide a means of escape from bedrooms in the case of a fire. Acceptable methods of escape through a window could include:
 - Breaking a fixed glass panel, provided that:
 - The glass is breakable (i.e. not polycarbonate or other non-breakable glass) and/or;
 - The fixed panel is not covered by fixed security screens or bars.
- Or
- Through an operable security screen, consistent with the requirements for the protection of openable windows in accordance with the National Construction Code. Where bedrooms are grouped together provide one operable security screen, preferably in a bedroom furthest from the living areas.
- If an external window hood or fixed shade screen is installed, it must not restrict the opening of the screen.
- For operable screens, have a locking mechanism. Ensure the latches and locks are visible in poor light conditions.

- Use concealed, tamper resistant fixings. Pop riveting is not acceptable

There are two different security screen types which may be acceptable, depending on the application. Features and performance criteria requirements for each type are outlined below.

Stainless steel security mesh screens

Requirements for stainless steel security mesh screens include:

- Must be constructed of stainless steel security mesh secured in an aluminium frame.
- Must require only normal cleaning with readily available cleaning products, in order to maintain the manufacturer's warranty.
- Frame to be an anodised or powder coated finish as specified, in a plain colour (not wood grain finish). Stainless steel mesh to be powder coated black. Stainless steel mesh must be secured to the frame in such a way that the powder coated finish is not compromised.
- Hinged security screen doors must include a lock with external key entry that can be locked manually from the inside with a large snib (i.e. without the key). Snib must lock the entire lock system.

Aluminium diamond grille screens

Security screens of this type must:

- Have an expanded aluminium (diamond) grille, preventing a probe of 50mm x 25mm x 15mm from passing through.
- Be an anodised or powder coated finish as specified. For retrofit applications, screens to be powder coated to match existing, unless specified otherwise. Grille may be black for mechanically fixed grilles;
- Have replaceable, integral, black fibreglass or aluminium insect mesh. Small mesh is acceptable for areas that are affected by midges or sand flies; however small mesh will reduce ventilation;
- Have a polycarbonate lock guard on the inside of the door;
- Hinged security screen doors must include a lock with external key entry that can be locked manually from the inside with a large snib (i.e. without the key). Snib must lock the entire lock system.

Security screens Application of acceptable security screen types		
Application	Security screen type	
	Stainless steel security mesh	Aluminium diamond grille
New multi-unit construction	Required	n/a
New or existing detached houses and duplexes	Acceptable	Acceptable
Replacement of existing expanded aluminium grille screens	Acceptable	Acceptable
Replacement of existing stainless steel security mesh	Acceptable	n/a

For further information, refer to Housing Services' **Security and Insect Screening Policy**

Sliding wardrobe doors

(Applicable for new construction, maintenance replacements and upgrades/modifications)

General requirements:

- Operation to be smooth and must require minimum effort for use by persons with a disability.
- Handles or pulls to be large enough for easy use by persons with reduced hand power.
- Shelving to be located away from room corner (or position of bed head).

Wardrobe suites – medium density fibreboard (MDF) sliding doors:

- Powder coated aluminium framed doors, pelmet and tracks.
- Colour: White or to match existing.
- Doors fitted with rollers at base on floor track.
- Infill material: 6mm to 7.5mm medium density fibreboard faced with selected vinyl sheeting.
Inside face of doors to be similarly finished or painted to seal the inside face.

Wardrobe suites - hollow core doors:

- Tracks and rollers: Powder coated aluminium tracks.
- Proprietary items designed for the applicable door loadings.
- Doors: Standard interior flush panel hollow core doors with hardboard facings
- Finish: Painted.
- Pulls: Full height timber moulds to vertical edges.

Smoke alarms

(Applicable for new construction, maintenance replacements and upgrades/modifications)

Hard wired, auditory smoke alarms are provided to all public housing dwellings in order to comply with legislated requirements. Selection and installation of smoke alarms must be in accordance with all applicable legislated requirements and codes.

Smoke alarms must be hard-wired to the electricity supply, with a rechargeable, non-removable backup battery. The battery must have a ten-year warranty.

Photoelectric smoke alarms should normally be used. However, using a photoelectric alarm may pose a significant risk of false alarms in some locations (e.g. outside a bathroom or laundry entrance where steam is generated). If the only suitable location for the alarm poses such a risk, an ionisation type alarm may be considered for installation.

Warning devices for tenants with impaired hearing

In response to identified need, tenants with impaired hearing may require visual and/or vibrating warning devices to alert them to danger in the event of a fire.

Smoke alarm subsidy scheme

The Smoke Alarm Subsidy Scheme is funded by Queensland Fire and Emergency Services and administered by Deaf Services Queensland. Under the scheme, eligible hearing impaired clients receive a fully wireless smoke alarm, complete with auditory and visual alarm, and vibrating pad, at minimal cost to them.

Public housing tenants are eligible to apply for this scheme. Existing, auditory smoke alarms in the dwelling can remain in place, with the subsidised wireless device/s installed by the tenant as an additional system.

Hard wired visual warning devices

If a tenant with impaired hearing is unable to access the Smoke Alarm Subsidy Scheme, or if additional devices are required, visual warning devices should be installed. Requirements include:

- A minimum 15 Watt (4.2 Joules) white strobe light with a 90 per minute flash rate.
- Hard wired
- A power on indicator
- A test button.
- The ability to be interconnected to existing smoke alarms
- The ability to operate in conjunction with a vibrating pad (to alert tenant to fire when sleeping)
- A rechargeable battery backup system.

Reference documents and websites:

- *AS1603.11-2010: Automatic Fire Detection and Alarm Systems. Part 11: Visual Warning Devices. (Sections 2.5, 2.6.2)*
- *HB123-1999: Guidelines for selection, location and installation of visual warning devices in buildings. (Chapter 2: Strobe- type visual warning devices)*
- Queensland Fire and Emergency Services: (<https://www.qfes.qld.gov.au/>)
- Deaf Services Queensland: (www.deafservicesqld.org.au)

Tap ware

(Applicable for new construction, maintenance replacements and upgrades/modifications)

Tap ware must:

- Be durable and easy to clean
- Be water efficient, with a maximum flow rate of nine litres per minute
- Be free from sharp edges and points
- Be free of gaps and voids (to avoid catching fingers) and be easily gripped
- Solid brass construction, with a chrome or satin chrome finish. Secondary components such as coloured indicators, caps and knobs, may be of plastic or similar.
- Have temperature indicators which are easily visible and universally recognisable.
- In the case of a shower over a bath, have separate shower and bath tap sets. Diverters are not permitted.
- Have ceramic discs, enabling easy use with minimal pressure.

Shower heads

Hand-held shower equipment, and shower heads (including arm and rose) must be water efficient, long-lasting and low maintenance. General requirements include:

- Finish: chrome on metal for body and arm. Secondary components such as coloured indicators, caps and hoses may be either chrome or wear-resistant, long-lasting plastic.
- No loose or easily-removable parts.
- Water saving shower products shall be a complete unit. Retrofitted flow control valves are not acceptable.

LHDG Platinum Level dwellings:

- Shower kit sliding cradle on vertical stainless steel rail or an L-shaped grab rail
- Grab rails to AS 1428.1 (2009) Design for access and mobility requirements.
- Hose: 1500mm long reinforced PVC. Ensure that the shower head does not reach to the rim of the toilet at the full extension of the hose.
- Ancillary components: Chrome on metal.
- Adjustable shower head must
 - Be installed on the shower head holder support rail.
 - Have a sliding handpiece cradle with friction stay.
 - Allow the shower head to be positioned at various angles and heights (between 1000mm and 1800mm above the floor)

Other dwellings:

- Wall-fixed shower rose with a fixed arm.
- May have adjustable swivel head but no adjustable arm.

The following table outlines acceptable tapware types by application.

Acceptable tap ware types by application			
	Application		
	General Level dwellings (no accessibility features). LHDG Gold Level dwellings.	LHDG Platinum Level dwellings. (Must comply with <i>AS1428.1:2009. Section 15 Sanitary Facilities</i>)	Tamper resistant (with minimal ligature risk. To be used only in response to identified need.)
	Tapware requirements		
Basin	Single lever, basin mounted mixer. Optional (for replacements): Basin mounted tap set with fixed spout (separate hot and cold taps)	Single lever, basin mounted mixer with extended, accessible lever.	Basin mounted tap set (separate hot and cold taps) with tamper-resistant slimline handles and water outlet
Shower	Single lever wall mounted mixer with wall mounted shower rose on fixed arm. Optional (for replacements): wall mounted shower set (separate hot and cold taps)	Single lever mixer. Combination grab bar/shower rail with friction fitting for hand held shower. 1500mm flexible hose must not reach the rim of the toilet when fully extended.	Hot and cold tap assembly. (separate hot and cold taps) with tamper resistant slimline handles, and tamper-resistant, anti-ligature shower outlet
Bath	Single lever wall mounted mixer, with fixed bath spout. Optional (replacements): wall mounted bath set with fixed bath spout. (separate hot and cold taps)	n/a	n/a
Kitchen Sink	Single lever, sink mounted kitchen mixer tap with swivel spout	Single lever, sink mounted kitchen mixer tap with extended lever and swivel spout.	Tamper resistant tap set (separate hot and cold taps) or Tamper resistant mixer with swivel spout
Laundry Sink	Single lever mixer tap with swivel spout, mounted on tub or wall.	Single lever mixer tap with swivel spout, mounted on wall	n/a

Television antennas

(Applicable for new construction, maintenance replacements and upgrades/modifications)

Appropriate digital antennas must be provided:

- In all new construction
- To vacant properties intended for reletting, where no antenna exists.

Antennas in either single or multiple dwellings must ensure adequate reception (for the area) of available free to air channels. To the extent possible, antennas must be located out of sight from the street and appropriately fixed for the site's design wind speed.

Where a faulty existing antenna is unserviceable or not cost effective to repair it must be replaced with an appropriate digital antenna. Where necessary, cabling to the internal television socket/s must also be replaced.

Termite barriers and controls

(Applicable for new construction and maintenance)

Acceptable types of termite barriers and controls include:

- Physical barriers: required for all new construction projects. Chemical barriers are not to be provided where there is a viable physical barrier option.
- Physical or chemical barriers are acceptable to be used for retrofit works. Chemical termite barrier systems may be appropriate in circumstances of termite infestation in existing dwellings

Applicable Australian Standards:

- **AS 3660.1 - 2014:** Termite management – New building work
- **AS 3660.2 - 2000:** Termite management – In and around existing buildings and structures – Guidelines.

Termite barriers and controls must comply with the following criteria:

- Provide a safe, low environmental impact product, eliminating the use of chemical treatments wherever possible;
- Provide a continuous physical barrier to subterranean termites and subsequent termite attack on the structure, fit out and contents of the building, for the life of the building.
- Physical barriers and ancillary materials are to provide movement flexibility in the barrier and the jointing systems to maintain the integrity of the barrier.
- Installers must be appropriately trained and licensed to perform termite control systems and provide an appropriate warranty, covering:
 - Reinstallation necessitated by termite attack;
 - Replacement of timber attacked by termites; and/or
 - Removal and reinstatement of building contents, whether built-in or not, as necessary to replace affected timber.

Physical barriers which also contain a chemical impregnation (composite products) may be used for new construction projects providing that the products Material Safety Data Sheet declares that it is not classified as hazardous according to the criteria of Safe Work Australia and not a dangerous good according to the Australian Dangerous Goods code.

Thermal insulation

(Applicable for new construction and upgrades/modifications)

Performance Criteria

- Insulation will be of a batt or blanket material type only
- Loose fill material, temporarily bonded material or foil insulation is not acceptable.

Installation / Application

- The entire ceiling area is to be insulated with the exception of eaves, awnings, ceilings to outbuildings, and open carports.
- Where roofs are stepped on different levels ensure externally exposed walls enclosing roof space are insulated to the same degree as the roof.
- Where insulation is being retrofitted, roofs with a low pitch or raked ceilings may prohibit installation. Where this occurs, the provision of insulation must be deferred until the ceiling/roof is replaced.
- Wall areas are to be insulated only where noted in project documentation.

Time delay switches

(Applicable for new construction, maintenance and upgrades/modifications)

All switches must be robust and tamper resistant.

Photoelectric switch requirements:

- Suitable for connection to single phase supply.
- Inbuilt surge protection from lightning.
- Suitable for installation in locations exposed to the weather.
- Inbuilt time delay operation.
- Constructed of UV stabilized material.

Time delay switch requirements:

- Standard pattern in size.
- Pneumatic push button type operation.
- Minimum adjustable time operation period of up to 10 minutes.
- Minimum International Protection rating of IP23.
- White in colour.

Time switch requirements:

- Analogue/electromechanical type.
- Quartz movement.
- 24-hour program to control communal lighting.
- Weekly program to control evaporative cooling units.
- Programmable by captive segments.
- Internal reserve system providing a minimum supply failure reserve of 150 hours.
- Minimum switching time of 15 minutes for the 24-hour model and 2 hours for the weekly model.
- Manual override.
- Suitable for din rail or surface mounting. (The din rail is a standardised 35mm wide metal rail that is used for mounting electrical equipment)

Vanity units and wall cabinets

(Applicable to new construction, upgrades and home modifications)

Storage is required in the bathroom for personal care equipment and medication. It may be provided by way of storage under the vanity bench, or by a wall hung cabinet. The location of storage must be informed by the abilities of the residents and the risks associated with the storage of medication.

Wall hung vanity units (i.e. not touching the floor) are required for new construction, and are required for upgrades and modifications (provided that plumbing allows), enabling future replacement without affecting floor tiling.

Materials: vanity units

- Acceptable basin types:
 - Remote housing
 - Gold Level (and also additional bathrooms, and bathrooms on the upper level of highset houses): integral with a moulded polymer bench top.
 - Platinum Level : Semi-recessed
 - Non-remote housing
 - General Level: Drop-in, or integral with moulded polymer benchtop
 - Gold Level and Platinum Level: Semi-recessed.
- Basin colour: White
- Carcase: Coloured melamine board, MDF, MR or fully sheeted with high-pressure melamine laminated sheet.
- Handles: Preferably D-pulls with satin chrome finish.
- For wall hung vanity units, provide legs for extra strength.

Platinum level dwellings: Provide a vanity with a bank of drawers and a semi-recessed basin; with adequate circulation space (refer to AS 1428.1-2009, Figure 46). Position the basin to the end of the vanity unit that is away from the corner. Provide clearance under vanity (refer to AS4299-1995, Figure 4.4: washbasin clearances)

Materials: wall cabinets

- Prefabricated proprietary cabinets are preferred for upgrade work.
- Metal construction finish; powder coated or baked enamel white.
- Cabinets may be surface mounted, recessed or semi-recessed.
- Doors may be single or double, swinging or sliding and may be mirrored or solid.

Water tempering

(Applicable for new construction and upgrades/modifications)

The Australian Standard for hot water systems, AS/NZS 3500.4 requires water to be delivered to sanitary fixtures at a maximum temperature of 50 degrees Celsius to minimise the risk of scalding.

Standard industry practice has been to locate the tempering device as close as practical to the hot water storage tank. *AS/NZS 3500.4: Plumbing and drainage, Part 4: Heated water services*, requires that tempering valves shall be 'readily accessible.' The standard does not define readily accessible and as such, there is inconsistency in the location of tempering valves.

Additional requirements to the Australian Standards regarding water tempering, include:

- **Hot water tempering valves** are to be located at the hot water system, regulating temperature to all hot water outlets, including the kitchen and laundry. Hot water tempering valves must be provided:
 - In all new construction
 - When hot water systems are replaced or relocated (except in cases where a continuous flow hot water unit that is factory set to deliver hot water at a maximum temperature of 50 degrees is being installed). If installing upon replacement of a hot water system, ensure that any other tempering devices and thermostatic mixing valves (i.e. to bathrooms), have been removed.
 - When bathrooms or ensuites are upgraded
- **Thermostatic mixing valves:**
 - Are identified by the stop valves located on the cold and hot water inlet pipes. They feature a rapid shutdown capability should the temperature exceed the set temperature.
 - Must only be installed when they are identified as a requirement to meet the physical requirements of persons with a disability (where a tempering valve is not sufficient) as they must be inspected and serviced annually by a licensed plumber with mixing valve accreditation, and have a life expectancy of between five and ten years (depending on water quality)
 - The valve is generally located under a vanity basin or behind a removable panel in the room or close by.

Refer also to Housing Services' **Hot Water Temperature Control Policy**

In response to risks of Legionnaires' Disease, warning stickers must be installed on all gas and electric storage hot water system, providing advice on safe usage. Continuous flow gas hot water systems do not store water and therefore do not concentrate legionella

Further information for tenants is available at:

<http://www.qld.gov.au/housing/public-community-housing/water-supply>

Appendix 1: Version control

Version control	
Standard / section	Notable updates since December 2015 version.
Introduction	<ul style="list-style-type: none"> Referenced changed name of RIH standards, to <i>Design and Construction Standards for Remote Housing</i>. Noted that General Level refers to non-remote housing only, as this is not referenced in the <i>Design and Construction Standards for Remote Housing</i>. Noted that Selection of products should aim to minimise ongoing operating costs for tenants.
Bathroom sanitary fixtures	<ul style="list-style-type: none"> Updated information on vanity basins to reflect different requirements for remote and non-remote housing.
Curtains, curtain rods and curtain brackets	<ul style="list-style-type: none"> Changed product standard name from 'Curtains' Included requirement that curtain style must be suitable for use on metal rods (e.g. pinch pleat curtains on rings, eyelet curtains), and that rods to be minimum 25mm diameter. Included requirements for curtain rods.
Electric and gas cooking appliances	<ul style="list-style-type: none"> Noted that upright ranges are acceptable in Gold Level dwellings (Remote housing only)
Fencing	<ul style="list-style-type: none"> Referenced updated name of <i>Design and Construction Standard for Remote Indigenous Housing</i>.
Garden sheds	<ul style="list-style-type: none"> Noted that the requirement for 9sq.m garden sheds in remote communities includes highset houses Specified that recessed edge is required to self-draining concrete slab Noted that a path is not required between the house and the garden shed Noted that the garden shed must have an appropriate high strength frame, and be of an appropriate strength for the design and wind classification of the site.
Lifts	<ul style="list-style-type: none"> Specified lifts to be 1400mm wide x 1600mm deep (previously just stated 1400mm x 1600mm)
Mechanical cooling	<ul style="list-style-type: none"> Noted that the standard is not applicable to remote housing. Refer to Design and Construction Standard for Remote Housing for details about ceiling fans requirements and provision for air conditioners. Changed wording from 'habitable rooms' to living dining areas and all bedrooms
NBN Equipment	<ul style="list-style-type: none"> Included information about NBN preparation for remote areas (Sky Muster service) Removed <i>requirement</i> for open enclosures to have a door.
Security screens	<ul style="list-style-type: none"> Removed previous note that the standard did not apply to remote housing. Security screen product requirements for remote housing are now aligned with non-remote housing.
Termite barriers and controls	<ul style="list-style-type: none"> Noted that physical barriers are <i>required</i> for all new construction projects (previously stated <i>preferred</i>)
Vanity units and wall cabinets	<ul style="list-style-type: none"> Included details about vanity unit requirements for Gold Level (and also additional bathrooms and bathrooms on the upper level of highset houses) in remote housing.