BAKER BUILDING CERTIFICATION
clayton@bakerbuildingcert.com.au
m: 0448 377 172 a: Po Box 1083, Tolga 4882

04th September 2019

Douglas Shire Regional Council
PO Box 359
CAIRNS Q 4870

Attention: Planning Section

Dear Sir/Madam,

Re: Proposed carport at 141 Davidson Street, Port Douglas. Lot 7 on SP309132

Baker Building Certification has been engaged to assess an application for the proposed open carport on the abovementioned allotment. A preliminary assessment of the proposal has indicated that the proposed carport triggers assessment against the tourist and accommodation and flood and storm tide hazard overlay as outlined in the Douglas Shire Planning Scheme 2016.

Applicant: The Shed Company, c/ Baker Building Certification.

6.2.14 Tourist accommodation zone code

Performance outcomes	Acceptable outcomes	Applicant response
For self-assessable and assessable development		
Height		
PO1 The height of all buildings and structures must be in keeping with the residential character of the area.	**AO1** Buildings and structures are not more than 13.5 metres and 3 storeys in height.	**Complies** Carport will be no greater than 4.5m and is considered single storey in height.
Setbacks (other than for a dwelling house)		
PO1 Buildings are setback to: (a) maintain the character and amenity of the area; (b) achieve separation from neighbouring buildings and from road frontages.	**AO1** Buildings are setback: (a) a minimum of 6 metres from the main street frontage; (b) a minimum of 4 metres from any secondary street frontage; (c) 4.5 metres from a rear boundary; (d) 2 metres from a side or an average of half of the height of the building at	**Proposed** Carport is proposed to be setback >6m rom the road frontage and 200mm from the right and left side boundaries. The side boundary encroachments will not affect the surrounding allotments as the proposed carport is open allowing existing levels of light and

Performance outcomes	Acceptable outcomes	Applicant response
	the side setback, whichever is the greater.	ventilation to remain. The adjoining allotments structures are also adequately separated from the location of the proposed open carport.
Site coverage (other than for a dwelling house)		
PO2 The site coverage of all buildings does not result in a built form that is bulky or visually obtrusive.	**AO2** The site coverage of any building is limited to 50% Building proportions and scale (other than for a dwelling	**Complies** The site coverage of all buildings does not exceed 50% of the allotment size and the proposed carport is minor in comparison to the existing dwelling on site.
Building proportions and scale (other than for a dwelling house)		
PO3 The proportions and scale of any development are in character with the area and local streetscape.	**AO3.1** The overall length of a building does not exceed 30 metres and the overall length of any continuous wall does not exceed 15 metres. **AO3.2** Balconies, patios and similar spaces are not enclosed or capable of being enclosed and used as a habitable room. **AO3.3** Balconies, patios and similar spaces are designed to be open and light weight in appearance with a maximum of 20% of the façade being fully enclosed. **AO3.4** Roof forms, materials and colours of buildings enhance the amenity of	**Complies** The proposed open carport is consistent with the purpose and overall outcomes sought for the zone. The carport does not exceed 30m. No balconies are proposed and roof colours of the proposed carport are to match existing roof colours in the area. Proposed roof colour: Surfmist to match existing.

Performance outcomes	Acceptable outcomes	Applicant response
	the street and locality, including: (a) the roofs of buildings are light coloured and non-reflecting; (b) white and shining metallic finishes are avoided on external surfaces in prominent view. Note – The building incorporates building design features and architectural elements detailed in Planning scheme policy SC 6.2 – Building design and architectural elements.	
Landscaping (other than for a dwelling house)		
PO4 Landscape planting is provided for the recreational amenity of residents/guests and incorporates dominant tropical vegetation which enhances the streetscape and the amenity of the area.	**AO4.1** A minimum of 35% of the site is provided as open space and recreation area with a minimum of 30% of this total; area provided for landscape planting. **AO4.2** Within the frontage setback area, a minimum width of 2 metres of landscape area includes a minimum 75% dense planting. **AO4.3** Within the side and rear setback areas, a minimum width of 1.5 metres of landscape area includes 75% dense planting.	**Complies** The site coverage of all buildings and structures and associated services will not have an adverse effect on the scenic values of the site, site cover will be no more than 50% in total. Existing landscaping will remain and any removed to construct the carport will be re-installed.
PO5 The establishment of uses is consistent with the outcomes sought for the Tourist accommodation zone and protects the zone from the intrusion of inconsistent uses.	**AO5** Inconsistent uses as identified in Table 6.2.14.3.b are not established in the Tourist accommodation zone.	**Complies** The proposed carport is consistent with the outcomes sought for the Tourist accommodation zone and protects the zone from the intrusion of inconsistent uses. Other carports are within the Tourist accommodation zone.

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Performance outcomes	Acceptable outcomes	Applicant response
PO6 Development is located, designed, operated and managed to respond to the characteristics, features and constraints of the site and surrounds. Note – Planning scheme policy – Site assessments provides guidance on identifying the characteristics, features and constraints of a site and its surrounds.	**AO6** No acceptable outcomes are prescribed.	**Complies,** Development is located on an existing flat level building pad.
PO7 Development does not adversely affect the tropical, tourist and residential character and amenity of the area in terms of traffic, noise, dust, odour, lighting or other physical or environmental impacts.	**AO7** No acceptable outcomes are prescribed.	**Complies** A 49m2 open carport will not adversely affect the tropical, tourist and residential character and amenity of the area in terms of traffic, noise, dust, odour, lighting or other physical or environmental impacts.

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Performance outcomes	Acceptable outcomes	Applicant response
PO9 Tourist developments include recreational and ancillary services and facilities for the enjoyment of guests.	**AO9.1** Development which includes accommodation for tourists incorporates a mix of the following recreational and ancillary services and facilities: (a) swimming pools; (b) tennis courts; (c) barbecue areas; (d) outdoor lounging / recreation areas; (e) restaurants / bars; (f) tourist-focussed shopping; (g) tour booking office; (h) spa / health clubs. **AO9.2** Any commercial services or facilities incorporated into a tourist development are small scale and predominantly service in-house guests only. **AO9.3** Where a commercial service or facility offers services to persons over and above in-house guests, the commercial component provides onsite car parking for 50% of the floor area available for use in accordance with the relevant requirements of the Parking and access code	**Complies** Existing facilities are on site, the proposed carport does not trigger the needs for existing facilities to be upgraded. The proposed carport is an additional parking facility. The allotment would not be deemed commercial use.
PO10 New lots contain a minimum area of 1000m2.	**AO10** No acceptable outcomes are prescribed	**N/A** The lot was previously approved by council. The proposed is for an open carport only.
PO11	**AO11**	**N/A**

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Performance outcomes	Acceptable outcomes	Applicant response
New lots have a minimum road frontage of 20 metres.	No acceptable outcomes are prescribed.	The lot was previously approved by council. The proposed is for an open carport only.
PO12 New lots contain a 25 metre x 20 metre rectangle.	**AO12** No acceptable outcomes are prescribed	**N/A** The lot was previously approved by council. The proposed is for an open carport only.

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8.2.4 Flood and storm tide hazard overlay code

Performance outcomes	Acceptable outcomes	Applicant response
For self-assessable and assessable development		
PO1 Development is located and designed to: ensure the safety of all persons; minimise damage to the development and contents of buildings; provide suitable amenity; minimise disruption to residents, recovery time, and rebuilding or restoration costs after inundation events. Note – For assessable development within the flood plain assessment sub-category, a flood study by a suitably qualified professional is required to identify compliance with the intent of the acceptable outcome.	**AO1.1** Development is sited on parts of the land that is not within the Flood and Storm tide hazards overlay maps contained in Schedule 2; or For dwelling houses, **AO1.2** Development within the Flood and Storm Tide hazards overlay maps (excluding the Flood plain assessment sub-category) is designed to provide immunity to the Defined Inundation Event as outlined within Table 8.2.4.3.b plus a freeboard of 300mm. **AO1.3** New buildings are: (a) not located within the overlay area; (b) located on the highest part of the site to minimise entrance of flood waters; (c) provided with clear and direct pedestrian and vehicle evacuation routes off the site. **AO1.4** In non urban areas, buildings and infrastructure are set back 50 metres from natural riparian corridors to maintain their natural function of reducing velocity of floodwaters.	**Proposed** The proposed carport complies with the QDC MP 3.5. In effect as the structure is considered a non-habitable structure assessment against the flood overlay is not triggered. The structure is also open in effect allowing any stormwater discharge to flow reducing the risk of collapse of the carport that may potentially damage surround infrastructure in the unlikely event of a flood.
For assessable development		

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Performance outcomes	Acceptable outcomes	Applicant response
PO2 The development is compatible with the level of risk associated with the natural hazard.	**AO2** The following uses are not located in land inundated by the Defined Flood Event (DFE) / Storm tide: (a) Retirement facility; (b) Community care facility; (c) Child care centre.	**Complies** The proposed is an open carport.

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Performance outcomes	Acceptable outcomes	Applicant response
PO3 Development siting and layout responds to flooding potential and maintains personal safety	For Material change of use AO3.1 New buildings are: (d) not located within the overlay area; (e) located on the highest part of the site to minimise entrance of flood waters; (f) provided with clear and direct pedestrian and vehicle evacuation routes off the site. Or **AO3.2** The development incorporates an area on site that is at least 300mm above the highest known flood inundation level with sufficient space to accommodate the likely population of the development safely for a relatively short time until flash flooding subsides or people can be evacuated. or **AO3.3** Where involving an extension to an existing dwelling house that is situated below DFE /Storm tide, the maximum size of the extension does not exceed 70m2 gross floor area. Note – If part of the site is outside the Hazard Overlay area, this is the preferred location of all buildings. For Reconfiguring a lot **AO3.4** Additional lots: (a) are not located in the hazard overlay area; or (b) are demonstrated to be above the flood level identified for the site. Note - If part of the site is outside the Hazard Overlay area, this is the	**Proposed** The proposed carport complies with the QDC MP 3.5. In effect as the structure is considered a non-habitable structure assessment against the flood overlay is not triggered. The structure is also open in effect allowing any stormwater discharge to flow reducing the risk of collapse of the carport that may potentially damage surround infrastructure in the unlikely event of a flood. The carport is no bigger than 50m2 and does not result in an intensification of residential uses within the flood affected areas on land situated below the DFE/Storm tide.

Performance outcomes	Acceptable outcomes	Applicant response
	preferred location for all lots (excluding park or other open space and recreation lots). Note – Buildings subsequently developed on the lots will need to comply with the relevant building assessment provisions under the Building Act 1975. **AO3.5** Road and/or pathway layout ensures residents are not physically isolated from adjacent flood free urban areas and provides a safe and clear evacuation route path: (a) by locating entry points into the reconfiguration above the flood level and avoiding culs-de-sac or other non-permeable layouts; and (b) by direct and simple routes to main carriageways. **AO3.6** Signage is provided on site (regardless of whether the land is in public or private ownership) indicating the position and path of all safe evacuation routes off the site and if the site contains, or is within 100m of a floodable waterway, hazard warning signage and depth indicators are also provided at key hazard points, such as at floodway crossings or entrances to low-lying reserves. Or **AO3.7** There is no intensification of residential uses within the flood affected areas on land situated	

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Performance outcomes	Acceptable outcomes	Applicant response
	below the DFE/Storm tide.	
	For Material change of use (Residential uses) **AO3.1** The design and layout of buildings used for residential purposes minimise risk from flooding by providing: (a) parking and other low intensive, nonhabitable uses at ground level; Note - The high-set 'Queenslander' style house is a resilient low-density housing solution in floodplain areas. Higher density residential development should ensure only nonhabitable rooms (e.g. garages, laundries) are located on the ground floor.	**Complies** The proposed open carport is located on existing ground levels.
PO5 Development directly, indirectly and cumulatively avoids any increase in water flow velocity or flood level and does not increase the potential flood damage either on site or on other properties. Note – Berms and mounds are considered to be an undesirable built form outcome and are not supported.	For Operational works **AO5.1** Works in urban areas associated with the proposed development do not involve: (a) any physical alteration to a watercourse or floodway including vegetation clearing; or (b) a net increase in filling (including berms and mounds). **AO5.2** Works (including buildings and earthworks) in non urban areas either: (a) do not involve a net increase in filling greater than 50m3 ; or (b) do not result in any reductions of on-site flood storage capacity and contain within the subject site any changes to	**Complies** The proposed carport is open in effect allowing existing levels water flow velocity to move in its natural path of travel. No fill is required to construct the open carport, and very little excavation for the pier holes.

Performance outcomes	Acceptable outcomes	Applicant response
	depth/duration/velocity of flood waters; or (c) do not change flood characteristics outside the subject site in ways that result in: (i) loss of flood storage; (ii) loss of/changes to flow paths; (iii) acceleration or retardation of flows or any reduction in flood warning times elsewhere on the flood plain. For Material change of use **AO5.3** Where development is located in an area affected by DFE/Storm tide, a hydraulic and hydrology report, prepared by a suitably qualified professional, demonstrates that the development maintains the flood storage capacity on the subject site; and (a) does not increase the volume, velocity, concentration of flow path alignment of stormwater flow across sites upstream, downstream or in the general vicinity of the subject site; and (b) does not increase ponding on sites upstream, downstream or in the general vicinity of the subject site. For Material change of use and Reconfiguring a lot **AO5.4** In non-urban areas, buildings and infrastructure are set back 50 metres from natural riparian corridors to maintain their natural function of reducing velocity of floodwaters. Note – Fences and irrigation infrastructure (e.g. irrigation tape) in rural areas should be managed to minimise adverse the impacts	

Performance outcomes	Acceptable outcomes	Applicant response
	that they may have on downstream properties in the event of a flood.	
PO6 Development avoids the release of hazardous materials into floodwaters.	For Material change of use **AO6.1** Materials manufactured or stored on site are not hazardous or noxious, or comprise materials that may cause a detrimental effect on the environment if discharged in a flood event; or **AO6.2** If a DFE level is adopted, structures used for the manufacture or storage of hazardous materials are: (a) located above the DFE level; or (b) designed to prevent the intrusion of floodwaters. AO6.3 Infrastructure is designed and constructed to resist hydrostatic and hydrodynamic forces as a result of inundation by the DFE. **AO6.4** If a flood level is not adopted, hazardous materials and their manufacturing equipment are located on the highest part of the site to enhance flood immunity and designed to prevent the intrusion of floodwaters. Note – Refer to Work Health and Safety Act 2011 and associated Regulation and Guidelines, the Environmental Protection Act 1994 and the relevant building assessment provisions under the Building Act 1975 for requirements related to the manufacture and storage of hazardous	**Complies** The proposed carport will not release hazardous materials into floodwaters.

Performance outcomes	Acceptable outcomes	Applicant response
	materials.	
PO7 The development supports, and does not unduly burden, disaster management response or recovery capacity and capabilities.	**AO7** Development does not: (a) increase the number of people calculated to be at risk of flooding; (b) increase the number of people likely to need evacuation; (c) shorten flood warning times; and (d) impact on the ability of traffic to use evacuation routes, or unreasonably increase traffic volumes on evacuation routes	**Complies,** The proposed open carport does not increase the risk to the number of people affect by flood. The carport is open to allow existing flood waters to follow the natural discharge paths.
PO8 Development involving community infrastructure: (a) remains functional to serve community need during and immediately after a flood event; (b) is designed, sited and operated to avoid adverse impacts on the community or environment due to impacts of flooding on infrastructure, facilities or access and egress routes; (c) retains essential site access during a flood event; (d) is able to remain functional even when other infrastructure or services may be compromised in a flood event.	**AO8.1** The following uses are not located on land inundated during a DFE/Storm tide: (a) community residence; and (b) emergency services; and (c) residential care facility; and (d) utility installations involving water and sewerage treatment plants; and (e) storage of valuable records or items of historic or cultural significance (e.g. archives, museums, galleries, libraries). or **AO8.2** The following uses are not located on land inundated during a 1% AEP flood event: (a) community and cultural facilities, including facilities where an education and care service under the Education and care Services National law (Queensland) is operated or child care service under the Child Care Act 2002 is conducted, (b)	**N/A** The proposed carport is not considered community infrastructure.

Performance outcomes	Acceptable outcomes	Applicant response
	community centres; (c) meeting halls; (d) galleries; (e) libraries. The following uses are not located on land inundated during a 0.5% AEP flood event. (a) emergency shelters; (b) police facilities; (c) sub stations; (d) water treatment plant The following uses are not located on land inundated during a 0.2% AEP flood event: (a) correctional facilities; (b) emergency services; (c) power stations; (d) major switch yards. and/or **AO8.3** The following uses have direct access to low hazard evacuation routes as defined in Table 8.2.4.3.c: (a) community residence; and (b) emergency services; and (c) hospitals; and (d) residential care facility; and (e) sub stations; and (f) utility installations involving water and sewerage treatment plants. **AO8.4** Any components of infrastructure that are likely to fail to function or may result in contamination when inundated by flood, such as electrical switch gear and motors, telecommunications connections, or water supply pipeline air valves are: (a) located above DFE/Storm tide or the highest known flood level for the site; (b) designed and constructed to exclude floodwater intrusion / infiltration.	

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Performance outcomes	Acceptable outcomes	Applicant response
	AO8.5 Infrastructure is designed and constructed to resist hydrostatic and hydrodynamic forces as a result of inundation by a flood.	

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Recommendation

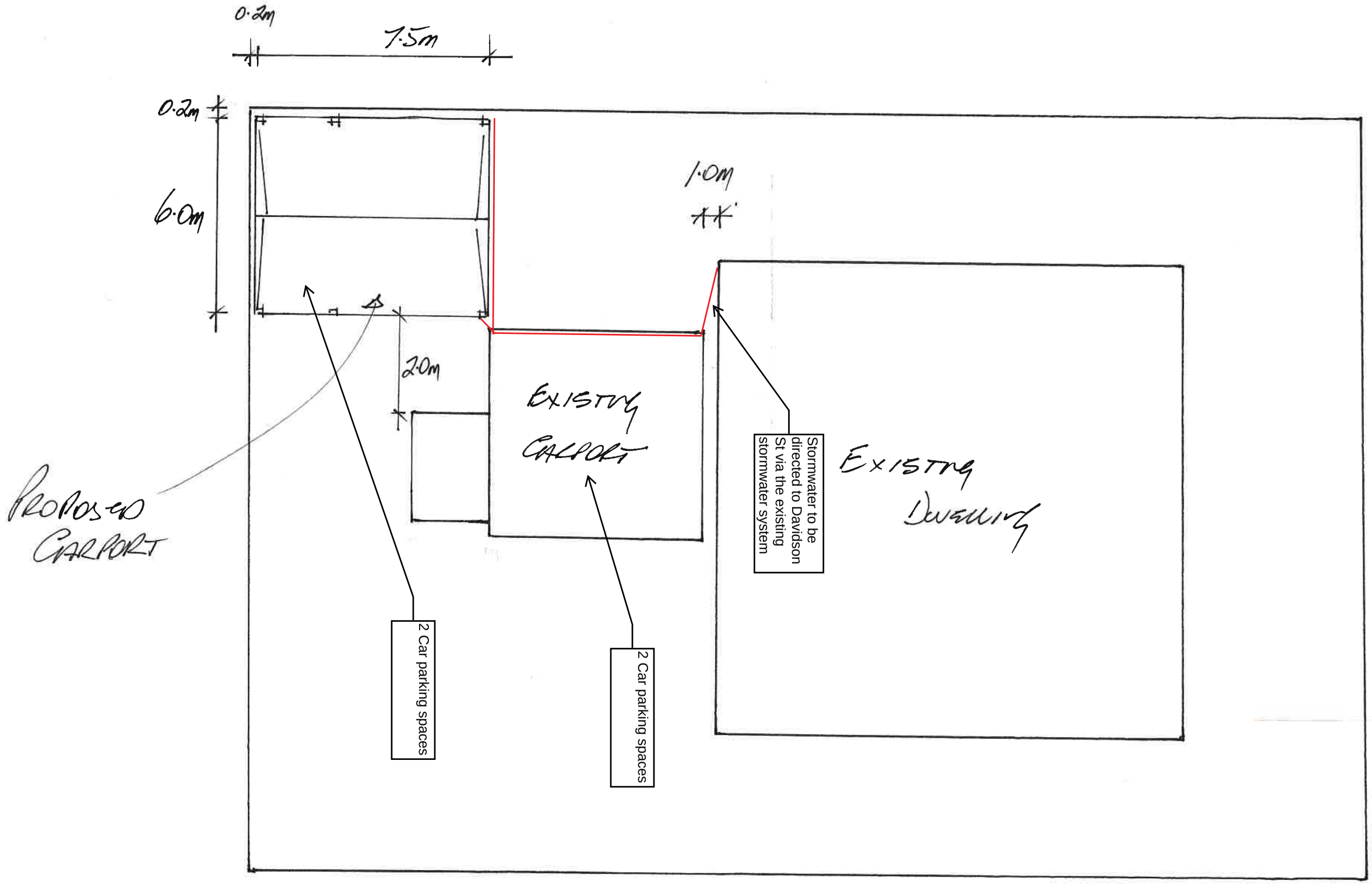
The proposed siting layout request generally appears to satisfy the performance criteria sought from Douglas Shire Planning Scheme, it could be considered acceptable to approve the siting layout request for the proposed open carport at 141 Davidson Street.

Should you have any further queries please do not hesitate to contact the Officer involved Aaron Sweeney on 0437127724 or aaron@bakerbuildingcert.com.au

Yours faithfully.

Prepared by *Aaron Sweeney A1215391*

Baker Building Certification.

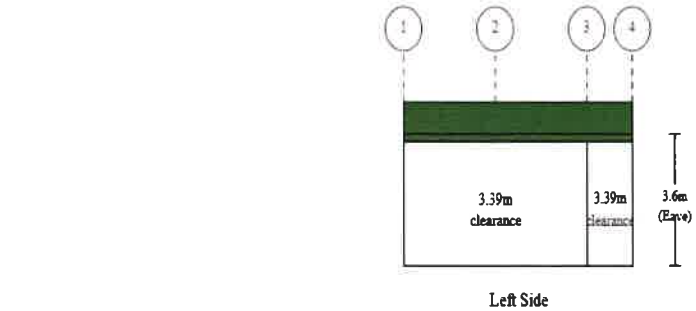


THE Shed Company
RESIDENTIAL RURAL COMMERCIAL
QBSA 1163345
23 Vickers St Edmonton Qld 4869
Ph 40 451 402 Fax 40 455 799

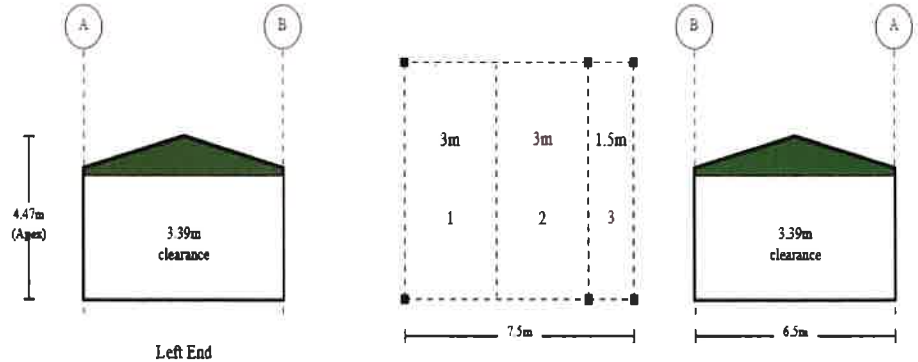
Site plan for
Con Armamentos
141 Davidson St
Port Douglas 4877

Lot No 7 Plan No SP 309132

Supplying premium quality BlueScope buildings manufactured locally.



Left Side



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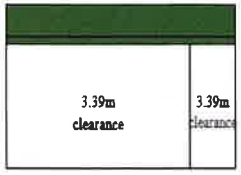

Right Side

Purchaser Name: Con Aramentos		Building Layout Ref# KEITH1907003-2	Seller: THE Shed Company Cairns Name: Keith Osborne Phone: (07) 4045 1402 Fax: (07) 4045 5799 Email: cairns@theshedcompany.com.au	THE Shed Company RESIDENTIAL · RURAL · COMMERCIAL
Site Address:				
Ref # KEITH1907003-2	Print Date: 14/08/19			

MP 3.5 – Construction of buildings in flood hazard areas

Contents

Part 1 Introduction

Part 2 Interpretation

Part 3 Performance requirements and acceptable solutions

Part 1 Introduction

1 Purpose

To ensure—

(a) particular *buildings* located in *flood hazard areas*—

(i) resist flotation, collapse or significant permanent movement caused by flood water; and

(ii) safeguard occupants and other people against illness or injury caused by flood water affecting *buildings*; and

(iii) are protected from *backflow*; and

(iv) have *utilities* that are protected from the effects of flood water; and

(b) that a *customer dedicated substation* is designed or located so its ability to function effectively is not affected by flood water.

2 Commencement

This Part of the *Queensland Development Code* (this Part) was published on 12 December 2013 and commences on 20 December 2013.

3 Application

(1) This Part applies to the lawful carrying out of *building work*[1] as indicated by ticks (✓) in the relevant columns in Table 1, to the extent the *building work* is carried out wholly or partly within a *flood hazard area* and a *defined flood level* is declared by a local government for the *flood hazard area*.

Table 1 – Application of MP 3.5

Application	Performance Requirements			
	P1	P2	P3	P4
Construction of a new *class* 1 or a *class* 4 part of a *building*	✓	✓	✓	
Construction of a new class 2, 3, 9a or 9c *building*	✓	✓	✓	✓
Relocation of a *class* 1 *building*	✓	✓	✓	
Additions to a *class* 1 *building* where the additions constitute 50% or more of the *floor area* of the existing *building*	✓	✓	✓	
Additions to a *class* 2, 3, 9a or 9c *building*, or a *class* 4 part of a *building*	✓	✓		✓
Construction of a new *class* 5, 6, 7, 8 or 9b *building*		✓	✓	✓

[1]Any plumbing or drainage work mentioned in this Part is plumbing or drainage work under the *Plumbing and Drainage Act 2002* and is subject to the requirements under that Act.

(2) Despite subsection (1), this Part does not apply to—

(a) a *building* with an importance level 4 as specified by the *BCA*; or

(b) alterations that are not additions to the *floor area* of an existing *building*; or

(c) *building work* that is for, or directly relates to, raising an existing *building*; or

(d) repairing an existing *building*; or

(e) adding an extra storey above an existing part of a *building*; or

(f) a floating *building* anchored to mooring piles that comply with Mandatory Part 3.1 of the *QDC*, *performance criteria* 3; or

(g) *utilities* for a new *class* 5, 6, 7, 8 or 9b *building* where the *building's* certificate of classification states that the *building* is not intended to be occupied during, or in the aftermath of, a *defined flood event (DFE),* unless a local government has set contrary requirements for these classes of *building* in a local *planning scheme*, *temporary local planning instrument* or by resolution; or

(h) a *building* located, or proposed to be located, on a lot that is subject to—

(i) significant mudslide or significant landslide caused by rainfall or runoff, where it would be reasonable to expect that the mudslide or landslide would affect the part of the lot where the *building* is, or is proposed to be, located; or

(ii) storm surge.

Note—

See the *Building Act*, sections 36 and 37.

4 Limitation

The *acceptable solution* A1(a) for this Part only applies to *building work* carried out on a lot, or part of a lot, located in—

(a) an area with a *maximum flow velocity* not greater than 1.5 metres per second; or

(b) an *inactive* flow *or backwater area*.

Note—

If *building work* does not comply with A1, an *alternative solution* will be required in order to ensure it complies with P1. To formulate an *alternative solution*, the services of a *competent person* may be required.

5 Referral agency

Defined flood level

(1) Under section 13 of the *Building Regulation*, a local government may declare a *DFL* for all or part of a *flood hazard area*.

(2) If the *DFL* stated in a *building development application* is lower than the *DFL* declared by the local government, the local government must, as a concurrence agency, decide whether the *DFL* stated in the application is appropriate.

Maximum flow velocity of water (MFV)

(1) Under section 13 of the *Building Regulation*, a local government may declare an *MFV* for all or part of a *flood hazard area*.

(2) If the *MFV* stated in a *building development application* is lower than the *MFV* declared by the local government, the local government must, as a concurrence agency, decide whether the *MFV* stated in the application is appropriate.

Note—

For details of the concurrence agency jurisdiction, see the *Sustainable Planning Act 2009*, and the *Sustainable Planning Regulation 2009*, schedule 7, table 1, items 30 and 31.

6 Compliance with the QDC

Under section 14 of the *Building Act*, *building work* complies with the *QDC* only if it complies with all relevant performance requirements under the *QDC*. The building work complies with a relevant performance requirement only if it achieves a relevant building solution under the *QDC* for the performance requirement. This can be achieved by—

(a) complying with the relevant acceptable solution for the performance requirement; or

(b) formulating an alternative solution that complies with the performance requirement or is shown to be at least equivalent to the relevant acceptable solution; or

(c) a combination of paragraphs (a) and (b).

7 Associated requirements

- *Building Act 1975*
- Building Code of Australia (*BCA*)
- *Building Regulation 2006*
- Electricity *Act 1994*
- *Electricity Regulation 2006*
- *Plumbing and Drainage Act 2002*
- *Standard Plumbing and Drainage Regulation 2003*
- *Sustainable Planning Act 2009*
- *Sustainable Planning Regulation 2009*

Part 2 Interpretation

8 What is *defined flood level*

(1) ***Defined flood level*** *(**DFL***) is the level to which it is reasonably expected flood waters may rise.

(2) The *DFL* for a lot in a *flood hazard area* is—

(a) the level declared by a local government, under section 13 of the *Building Regulation 2006,* to be the *DFL* for the part of the area where the lot is located; or

(b) if the *DFL* stated in a *building development application* for the lot is lower than the *DFL* declared by the local government—the level stated in the application, subject to a *concurrence agency's response.* .

Note—

If the *DFL* stated in a *building development application* is lower than the *DFL* declared by the local government, the local government must, as a concurrence agency, decide whether the *DFL* stated in

the application is appropriate. (See the *Sustainable Planning Regulation 2009*, schedule 7, table 1, item 30.)

9 What is *freeboard*

(1) ***Freeboard*** is a height above the *DFL* that takes account of matters that may cause flood waters to rise above the *DFL*.

(2) The freeboard for a lot in a *flood hazard area*, is—

(a) if a local government has declared a freeboard for the part of the area where the lot is located, under section 13 of the *Building Regulation* —the height above the DFL declared to be the freeboard; or

(b) otherwise— a height of at least 300mm.

10 What is *maximum flow velocity*

(1) ***Maximum flow velocity*** (***MFV***), for all or part of a *flood hazard area*, is a flow velocity of water that is reasonably expected to be the maximum flow velocity of water for all or part of the area.

(2) The MFV for a lot in a *flood hazard area* is—

(a) if a local government has declared, under section 13 of the *Building Regulation,* an MFV for the part of the area where the lot is located—

(i) the flow velocity declared to be the MFV for the part of the area; or

(ii) if the *MFV* stated in a *building development application* for the lot is lower than the *MFV* declared by the local government—the *MFV* stated in the application, subject to a *concurrence agency's response*; or

(b) otherwise—

(i) the flow velocity stated by a *competent person* to be the MFV for the lot; or

(ii) a flow velocity determined to be the MFV for the lot, based on historical documents or information about the flow velocity of water for the part of the *flood hazard area* where the lot is located.

Note for section 10(2)(a)(ii)—

If the *MFV* stated in a *building development application* is lower than the *MFV* declared by the local government, the local government must, as a concurrence agency, decide whether the *MFV* stated in the application is appropriate. (See the *Sustainable Planning Regulation 2009*, schedule 7, table 1, item 31.)

11 Definitions

Note—

Italicised words within the body of the text, other than legislation titles, are defined below.

(1) The following definitions define particular words used in this Part and in sections 2.3–2.8 and 2.10 of the *national flood standard*—

acceptable solution see the *Building Act*, section 14.

alternative solution see the *Building Act,* schedule 2.

appropriate authority means a local government that declares, under the *Building Regulation*, section 13, the *finished floor level* for *class* 1 *buildings*.

backflow means the reverse flow of waste from a *sanitary drain* into a *building*.

BCA see the *Building Act,* schedule 2.

building see the *Building Act,* schedule 2.

Note—

The term includes any part of a *building*.

Building Act means the *Building Act 1975.*

Building Regulation means the *Building Regulation 2006.*

building development application see the *Building Act*, schedule 2.

building work see the *Building Act*, section 5.

class see the Building Act, schedule 2.

competent person, means—

(a) a person who is a registered professional engineer of Queensland specialising in hydrologic and hydraulic models; or

(b) a person assessed as a *competent person* under the *Building Regulation*, section 17(3).

concurrence agency's response see the *Sustainable Planning Act 2009*, schedule 3.

connection point see the *Standard Plumbing and Drainage Regulation 2003,* schedule 6.

customer dedicated substation means a *substation* installed in a *building* after an entity has acted under section 59(2)(a) of the *Electricity Regulation 2006*.

***defined flood event (DFE*)** means a flood event where flood water rises to the *DFL* for the area.

defined flood level (DFL) see section 8.

enclosed, for a non-*habitable room*, means the room is completely surrounded on all sides by walls that would restrict, but not necessarily totally prevent, flood water from entering the room.

Example—

A room surrounded on all sides with a brick veneer wall (including weep holes) and a garage or pedestrian door would be considered to be *enclosed*. However, a room surrounded by cladding incorporating gaps that allow relatively free movement of water would not be considered *enclosed*.

essential services means services related to a *fire safety installation* that is required by the *QDC* or the *BCA*.

fire safety installation see the *Building Act*, schedule 2.

finished floor level see the *Building Regulation*, section 13.

flood hazard area means an area, whether or not mapped, designated by a local government as a flood hazard area under the *Building Regulation*, section 13.

Note—

The *Building Regulation*, section 13 requires a local government to keep a register of the flood hazard areas it designates, and when each designation was made.

flood hazard level, for a *flood hazard area*, means the *DFL* plus the *freeboard*.

floor area see the *Building Act*, schedule 2.

freeboard see section 9.

habitable room see the *national flood standard*, section 1.7.

hydrodynamic action see the *national flood standard*, section 1.7.

hydrostatic action see the *national flood standard*, section 1.7.

inactive flow or backwater area see the *Building Regulation*, section 13.

Note—

The *Building Regulation*, section 13 provides that ***inactive flow or backwater area*** means all or part of a flood hazard area where the maximum flow velocity of water is not likely to be greater than 1.5m/s. That section allows a local government to declare an inactive flow or backwater area for all or part of a flood hazard area.

maximum flow velocity of water see section 10.

national flood standard means the Standard for Construction of Buildings in Flood Hazard Areas, Version 2012.2, prepared by the Australian Building Codes Board.

on-site sewerage facility see the *Plumbing and Drainage Act 2002*, schedule.

performance requirement see the *Building Act*, section 14.

planning scheme see the *Sustainable Planning Act 2009*, schedule 3.

Queensland Development Code (QDC) see the *Building Act*, section 13.

reflux valve means a valve that prevents the reverse flow of waste by means of a flap or other mechanism.

sanitary drain see the *Plumbing and Drainage Act 2002*, schedule.

substation see the *Electricity Act 1994*, schedule 5.

temporary local planning instrument see the *Sustainable Planning Act 2009*, schedule 3.

utilities means any of the following—

(a) lift motors and lift motor rooms for emergency lifts;

(b) electrical switchboards and meters;

(c) back-up power supplies and generators for *essential services*;

(d) sprinkler valve rooms and any associated pumps;

(e) fire indicator panels;

(f) controls for stairwell pressurisation and air-handling systems used for smoke control;

(g) hot water systems.

wet flood proofing see the *national flood standard*, section 1.7

(2) To remove any doubt, it is declared that a definition mentioned in this Part applies for the purposes of interpreting sections 2.3–2.8 and 2.10 of the *national flood standard*.

Part 3 Performance requirements and acceptable solutions

PERFORMANCE REQUIREMENT	***ACCEPTABLE SOLUTION***

Design and construction of buildings

P1 A *building* must be designed, constructed, connected and anchored so that, in the event of a flood up to the *DFL*, it—

(a) resists flotation, collapse or significant permanent movement, resulting from—

(i) *hydrostatic action*; and

(ii) *hydrodynamic action*; and

(iii) erosion and scouring; and

(iv) wind; and

(v) any other action; and

(b) safeguards occupants and other people against illness and injury caused by flood water affecting the *building*.

A1 The *building* complies with sections 2.3, 2.5 - 2.8 and section 2.10 of the *national flood standard*, and—

(a) if the *building* is a *class* 1 *building* and the local government has declared, under section 13 of the *Building Regulation 2006*, the *finished floor level* for a *class* 1 *building*—the *finished floor level* of the *building* complies with the level declared; or

(b) otherwise—the *finished floor level* of the *building* complies with section 2.4 of the *national flood standard*.

Note—

Where A1 does not apply (refer to the provision in this part with the heading 'Limitations'), an alternative solution will be required in order to ensure it complies with P1. To formulate an alternative solution, the services of a *competent person* may be required.

PERFORMANCE REQUIREMENT	ACCEPTABLE SOLUTION

Design and location of utilities

P2 *Utilities* associated with a *building,* other than an electrical meter for a *class* 1 *building*, must be designed or located to reduce the effects of flood water on the *utilities* in the event of a flood up to the *DFL*.

A2 (1) *Utilities* associated with a *class* 1 *building*, other than an electrical meter for the *building,* are located above—

(a) if the local government has declared, under section 13 of the *Building Regulation*, the *finished floor level* for a *class* 1 *building*—the level declared; or

(b) otherwise—the *flood hazard level*.

(2) *Utilities* associated with a *building* other than a *class* 1 *building* are located above the *flood hazard level*.

Note—

Electrical installations may be installed by a person only if the person is a licensed electrician. Electrical meters must be installed in accordance with electrical entity requirements.

Protection from backflow from sanitary drains

P3 A *building* with a *sanitary drain* must be protected from *backflow* so that in the event of a flood up to the *DFL* the effects of flood water on the *building* are reduced.

A3 (1) A *building* with a *sanitary drain* is protected from *backflow* by a *reflux valve* fitted between the *building* and—

(a) if the *building* has an *onsite sewerage facility*—the *on-site sewerage facility*; or

(b) otherwise—the *connection point*.

(2) Also, a *reflux valve* fitted under subsection (1) is accessible for maintenance in accordance with AS3500.2:2003, section 4.5.

Note—

A reflux valve may be fitted by a person only if the person is licensed to fit the valve under the *Plumbing and Drainage Act 2002*.

PERFORMANCE REQUIREMENT	ACCEPTABLE SOLUTION

Design and location of customer dedicated substations

P4	A *customer dedicated substation* located in a *building* must be designed or located so its ability to function effectively is not affected by a flood event up to the *DFL*. Note— Under section 59(2)(a) of the *Electricity Regulation 2006,* an entity may require the owner of premises to provide space on the premises for a *substation*.	**A4**	A *customer dedicated substation* located in a *building* is located above the *DFL*.

Note—

Some planning schemes may not permit development be to be carried out on land prone to flooding. Check with the local government in the area to determine what land use restrictions apply to the relevant lot.

Version history

Version	Publication date	Commencement date
1.0	22 October 2012	26 October 2012
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