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**MP 3.5 – CONSTRUCTION OF BUILDINGS IN FLOOD HAZARD AREAS**

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**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.

**Commencement**

This version of Mandatory Part (MP) 3.5, published on 22 October 2012, commences on 26 October 2012.

**Application**

- (1) This Part applies to the lawful carrying out of *building work*<sup>1</sup> 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 <i>class 1</i> or a <i>class 4</i> part of a <i>building</i>	✓	✓	✓	
Construction of a new <i>class 2, 3, 9a</i> or <i>9c building</i>	✓	✓	✓	✓
Relocation of a <i>class 1 building</i>	✓	✓	✓	
Additions to a <i>class 1 building</i> where the additions constitute 50% or more of the <i>floor area</i> of the existing <i>building</i>	✓	✓	✓	
Additions to a <i>class 2, 3, 9a</i> or <i>9c building</i> , or a <i>class 4</i> part of a <i>building</i>	✓	✓		✓
Construction of a new <i>class 5, 6, 7, 8</i> or <i>9b building</i>		✓	✓	✓

<sup>1</sup>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 an *allotment* 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 *allotment* where the *building* is, or is proposed to be, located; or
  - (ii) storm surge.

Note:

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

### Limitation

The *acceptable solution A1* for this Part only applies to *building work* carried out on an *allotment*, or part of an *allotment*, 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

Where A1 does not apply, an *alternative solution* will be required in order to comply with P1. To formulate an *alternative solution*, the services of a *competent person* may be required.

### Referral agency

#### *Defined flood level*

If the level relied on in a building development application as the *defined flood level* for an area is lower than the level declared under the *Building Regulation 2006*, section 13, the local government is a concurrence agency for the application.

#### *Maximum flow velocity of water*

If the flow velocity relied on in a building development application as the *maximum flow velocity of water* for an area is less than the flow velocity declared under the *Building Regulation 2006*, section 13, the local government is a concurrence agency for the application.

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.

### Compliance with the QDC

Compliance with this Part can be achieved only 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 *acceptable solution*; or

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

Note:

See the *Building Act*, section 14.

### **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*

### **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 *draft national standard*:

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

**allotment** means a separate, distinct parcel of land on which a *building* is to be built, or is built.

**authority having jurisdiction** means a local government that declares, under the *Building Regulation 2006*, section 13, the *finished floor level* for *class 1 buildings*.

**Building Act** means the *Building Act 1975*.

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

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

**class** see the *Building Act*, schedule 2.

**competent person** see the *Building Regulation 2006*, section 17(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 the *Building Regulation 2006*, sections 5B and 13 and schedule 4.

Note:

A local government may set a *DFL* by:

- (a) declaring a *DFL* under the *Building Regulation 2006*, section 13; or
- (b) accepting or varying a *DFL* stated in a building development application that is lower than the declared *DFL*.

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

**draft national standard** means the draft national Standard for Construction of Buildings in Flood Hazard Areas, prepared by the Australian Building Codes Board, version 2012.1, dated May 2012.

**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 2006*, section 13 and schedule 4.

**flood hazard area** means an area, whether or not mapped, designated by a local government as a natural hazard management area (flood) under the *Building Regulation 2006*, section 13.

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

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

**freeboard** see the *Building Regulation 2006*, sections 5E, and 13 and schedule 4.

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

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

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

**inactive flow or backwater area** see the *Building Regulation 2006*, section 13 and schedule 4.

**maximum flow velocity of water (MFV)** see the *Building Regulation 2006*, sections 5C, 5D and 13 and schedule 4.

Note:

1 A local government may set an *MFV* by:

- (a) declaring an *MFV* under the *Building Regulation 2006*, section 13; or
- (b) accepting or varying an *MFV* stated in a building development application that is lower than the declared *MFV*.

(See the *Sustainable Planning Regulation 2009*, schedule 7, table 1, item 31.)

2 If a local government has not declared an *MFV*, an *MFV* may be determined on the basis of:

- (a) any flow velocity of water recorded for a flood affecting the flood hazard area or the location for the building work; or
- (b) a report prepared by a relevant expert or based on historical documents or information.

**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*, schedule 2.

**relevant expert** see the *Building Regulation 2006*, section 5A and schedule 4.

**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 *draft national 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 *draft national standard*.

**PERFORMANCE REQUIREMENT****ACCEPTABLE SOLUTION****Buildings in flood hazard areas**

- 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*.
- 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*.
- A1** (1) If a *building* is a *class 1 building*:
- (a) the *building* complies with sections 2.3, 2.5 - 2.8 and section 2.10 of the *draft national standard*; and
  - (b) the *finished floor level* for the *building* is:
    - (i) if the local government has declared under the *Building Regulation 2006*, section 13 the *finished floor level* for *class 1 buildings*—the level declared; or
    - (ii) otherwise—the level required by section 2.4 of the standard.
- (2) If a *building* is other than a *class 1 building*, the *building* complies with sections 2.3 - 2.8 and section 2.10 of the *draft national standard*.
- Note:
- Where A1 does not apply (refer to the provision in this part with the heading 'Limitations'), an alternative solution will be required to comply with P1. To formulate an alternative solution, the services of a *competent person* may be required.
- 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 the *Building Regulation 2006*, section 13 the *finished floor level* for *habitable rooms* of *class 1 buildings*—the level declared; or
  - (b) otherwise—the *flood hazard*

**PERFORMANCE REQUIREMENT**

**ACCEPTABLE SOLUTION**

**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—

- (i) if the *building* has an *onsite sewerage facility*—the *on-site sewerage facility*; or
- (ii) 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:  
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.

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*.

**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*.

**A4** A *customer dedicated substation* located in a *building* is located above 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*.



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 *allotment*.

**Version history**

<b>Version</b>	<b>Commencement date</b>	<b>Publication date</b>
<b>1.0</b>	<b>26 October 2012</b>	<b>22 October 2012</b>