MP 4.2 – WATER SAVINGS TARGETS

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Purpose

To specify water savings targets for *Class 1* buildings supplied directly with water from the *reticulated town water supply system*, by a water service provider registered under the *Water Act 2000*.

Commencement

This version of MP 4.2 –

(a) commences on 1 November 2012 and
(b) replaces the version of MP 4.2 published on 22 October 2008.

Application

(1) This Part applies where a building development application is made in a local government area listed in Appendix A for the construction of a Class 1 building on or after 1 November 2012.

(2) This part does not apply to alterations and additions to an existing Class 1 building.

(3) Despite paragraphs (1) and (2), this Part does not apply if the building development application is for a building in a local government area for which the *Minister* has given an exemption from this Part.

Exemption

(1) A local government may apply to the *Minister* for an exemption from MP 4.2. A local government's application to the *Minister* must be in the approved form.

(2) An exemption granted to a local government by the *Minister* under this Part:

(a) continues until repealed or amended by the *Minister*; and
(b) applies to all building development applications lodged with the local government on or after the date on which an exemption is granted.

Referral Agency

There is no referral agency for this code.

Where the *acceptable solutions* of this standard are not adopted, the assessment manager may assess the building for compliance with the *performance criteria* of this Code under Chapter 4 Part 3 of the *Building Act 1975*.

Associated Requirements

- *Plumbing and Drainage Act 2002*
- *Standard Plumbing and Drainage Regulation 2003*
- *Sustainable Planning Act 2009*
- *Sustainable Planning Regulation 2009*

- *Building Act 1975*
- *Building Regulation 2006*
- *Water Act 2000*
- *Health Regulation 1996*
- Local government planning schemes

Referenced Standards

Standard number	Date	Title
AS/NZS 3500	2003	Plumbing and Drainage
AS/NZS4766(Int)	2002	Polyethylene storage tanks for water and chemicals
AS1397	2001	Steel sheet and strip - Hot-dipped zinc-coated or aluminium/zinc-coated
ASTM A240/A240M-05	2005	Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
AS3735	2001	Concrete structures retaining liquids
AS/NZS1546.1	1998	On-site domestic wastewater treatment units – Septic Tanks
AS/NZS1170.1	2002	Structural design actions – Permanent, imposed and other actions
AS/NZS1170.2	2002	Structural design actions – Wind actions
HB230		Rainwater tank installation and design

Definitions

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

Acceptable solution – means a relevant building solution which is deemed to satisfy the relevant performance criterion for the purposes of S14 (4) (a)(ii) of the *Building Act 1975*

Alternative water substitution measure means communal *rainwater tanks*, dual reticulation or treated storm water.

Class 1 – means one or more buildings which in association constitute –

(a) **Class 1a** – a single dwelling being –

(i) a detached house; or

(ii) one of a group of two or more attached dwellings, each being a building, separated by a fire-resisting wall, including a row house, terrace house, town house or villa unit; or

(b) **Class 1b** – a boarding house, guest house, hostel or the like –

(i) with a total area of all floors not exceeding 300m^2 measured over the enclosing walls of the Class 1b; and

(ii) in which not more than 12 persons would ordinarily be resident,

which is not located above or below another dwelling or another Class of building other than a private garage.

External use – means the use of collected rainwater for outdoor application, such as gardening, irrigation, ponds, filling swimming pools and outdoor cleaning.

Greywater means domestic wastewater from a bath, basin, kitchen, laundry or shower, whether or not the wastewater is contaminated with human waste.

Greywater treatment plant – means a treatment plant installed on the premises for treating, on the premises, *greywater* generated on the premises.

Minister means the Minister responsible for the *Building Act 1975*.

Rainwater tank – means a covered tank or combination of covered tanks used to collect rainwater from a building roof.

Reticulated town water supply system – means a pipe network managed by a water service provider registered under the *Water Act 2000* for delivering drinking water directly to premises.

Roof means the upper surface of a building.

Sanitary outlet – means an outlet from an assembly of pipes, fittings and apparatus, excluding kitchen and water closets outlets, which is used to collect and convey the discharge to the sanitary plumbing system.

Tank - means a covered tank or combination of covered tanks used to collect recycled water or a *rainwater tank*.

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
Water savings targets	
P1 *Class 1* buildings supplied directly with water from the *reticulated town water supply system*, by a water service provider registered under the *Water Act 2000*, must achieve targets listed in Appendix A. To achieve the targets in Appendix A, water must be sourced by means other than the use of the *reticulated town water supply system*.	**A1** *Class 1* buildings connected to a *reticulated town water supply system* provided by a water service provider registered under the *Water Act 2000* use: (a) a *rainwater tank*; or (b) a *greywater treatment plant;* or (c) *alternative water substitution measure*; or (d) a combination of (a) and/or (b) and/or (c) as specified in a local planning instrument, State Code or State Planning Policy.
***Rainwater tank* installation, capacity and water quality protection measures**	
P2 A *rainwater tank* must have sufficient storage capacity to provide an acceptable contribution to meet water savings targets listed in Appendix A having regard to: (a) local rainfall pattern; (b) roof catchment area; and (c) area available to site the *rainwater tank*.	**A2** A *rainwater tank:* (a) has a minimum storage capacity – (i) of at least 5,000 litres for a detached *Class 1* building (ii) at least 3,000 litres for a *Class 1* building other than a detached *Class 1* building; or (iii) greater than (a) (i) or (a) (ii) as specified by the local government in a local planning instrument; and (b) is installed to receive rainfall from: (i) a minimum roof catchment area that is at least one half of the total roof area or 100m^2, whichever is the lesser; or (ii) a minimum roof catchment area that is greater than (b) (i), as specified by the local government in a local planning instrument; and (c) is connected to – (i) toilet cisterns and washing machine cold water taps (other than those connected to a *greywater treatment plant or alternative water substitution measure)*; and

PERFORMANCE CRITERIA		ACCEPTABLE SOLUTIONS	
			(ii) an *external use*; and (iii) other fixtures as specified by the local government in a local planning instrument.
P3	A *rainwater tank* must have suitable measures to prevent contaminants from entering the *rainwater tank* having regard to the nature and level of contaminants within the locality.	**A3**	A *rainwater tank* has: (a) a screened downpipe rainhead, having screen mesh 4 – 6mm and designed to prevent leaves, from entering each downpipe; and (b) a minimum of 20 litres of the first flush of roof catchment *rainwater* diverted/discarded before entering the *rainwater tank* where: (i) connected to showers, wash basins, kitchen or hot water services; or (ii) required by a local government in a local planning instrument.
P4	A *rainwater tank* must have suitable measures to prevent mosquitoes breeding in the tank and vermin entering the tank.	**A4**	A *rainwater tank* is provided with: (a) either – (i) mosquito-proof screens of brass, copper, aluminum or stainless steel gauze not coarser than 1 mm aperture mesh; or (ii) flap valves at every opening of the *rainwater tank*; and (b) a vermin trap; or (c) where a wet system is used to harvest rainwater, mosquito-proofing in accordance with HB230.
P5	Internal fixtures supplied from a *rainwater tank* must have a continuous supply of water.	**A5**	A *rainwater tank* has: (a) an automatic switching device providing supplementary water from the *reticulated town water supply*, or (b) a trickle top up system, providing supplementary water from the *reticulated town water supply* with - (i) a minimum flow rate of 2 litres per minute and a maximum flow rate of 4 litres per minute; and

PERFORMANCE CRITERIA		ACCEPTABLE SOLUTIONS
		(ii) top up valves installed in an accessible location; and (iii) a minimum storage volume of the *reticulated town water supply* top up not exceeding 1,000 litres or as specified by the local government in a local planning instrument.
P6 Water from a *rainwater tank* must not contaminate the drinking water within a *reticulated town water supply system*.	**A6**	A backflow prevention device or dual check valve with an atmospheric port is installed to protect the drinking water within the *reticulated town water supply system* in accordance with AS/NZS 3500:2003 Plumbing and Drainage.
System materials		
P7 Materials used in a *rainwater tank* must be suitable for its intended use.	**A7**	(a) Polyethylene tanks comply with AS/NZS4766:2006 polyethylene storage tanks for water and chemicals. (b) Galvanised steel sheet complies with AS1397:2001 steel sheet and strip – hot-dipped zinc-coated or aluminium/zinc-coated, and have a minimum coating of 550 g/m^2. (c) Stainless steel sheet complies with ASTM A240/A240M-05 standard specification for chromium and chromium-nickel stainless steel plate, sheet, and strip for pressure vessels and for general applications. (d) Concrete tanks comply with AS3735:2001 concrete structures containing liquids. (e) Collection well/underground water cell (non potable), or bladder tank complies with Vertical Axis Type Section 10 of AS/NZS 1546.1:1998 on-site domestic wastewater treatment units – Septic Tanks.
Signage on *tanks*		
P8 Where a *tank* is installed to supply water to the plumbing fixtures, the *tank* must be signed appropriately.	**A8**	A *rainwater tank* has - (a) one notice on the front of the *rainwater tank* and one notice on the cover, not less than 450 mm × 250 mm in size. (b) text in capital letters of not less

PERFORMANCE CRITERIA		ACCEPTABLE SOLUTIONS	
			than 25 mm in height with the following identification: WARNING: RAINWATER. A *tank* has - (a) one notice on the front of the *tank* and one notice on the cover, not less than 450 mm × 250 mm in size. (b) text in capital letters of not less than 25 mm in height with the following identification: WARNING: RECYCLED WATER – DO NOT DRINK. (c) all outlet points clearly marked "WARNING: NOT FOR DRINKING" with safety signs to comply with AS 1319 and AS 1345.
	***Rainwater tank* stands**		
P9	Where a *rainwater tank* is supported on a stand or other structure, the supporting structure must be capable of withstanding any loads likely to be imposed on it.	**A9**	A *rainwater tank* stand or other supporting structure complies with AS/NZS1170.1:2002 permanent, imposed and other actions and AS/NZS1170.2:2002 wind actions.
	***Rainwater tank* openings**		
P10	*Rainwater tank* openings are constructed to prevent ingress of surface stormwater and groundwater.	**A10**	(a) All *rainwater tanks* are sealed to prevent surface stormwater and groundwater entering the *rainwater tank*. (b) Non water-tight access lids are sealed, or terminate a minimum 150 mm above finished ground level stormwater flows with the ground sloped away from the tank and access lid. (c) Water tight access lids are permitted to finish flush with the finished surface level.

PERFORMANCE CRITERIA		ACCEPTABLE SOLUTIONS	
	***Rainwater tank* overflow – point of discharge**		
P11	*Rainwater tank* placement and tank overflow is to be designed to ensure stormwater does not pond under building floors or flood around foundations of buildings.	**A11**	(a) The *rainwater tank* overflow is connected to the existing stormwater system or kerb and channel, or inter-allotment stormwater pit. (b) If no stormwater system exists and the property falls away from the street the *rainwater tank* overflow may have to be drained to an on-site stormwater dispersion system. The local government must approve on-site stormwater dispersion systems before installation. (c) The water from the overflow is considered to be stormwater and the requirements of AS/NZS 3500:2003 apply. (d) A physical air break or non-return valve on the outlet from the *rainwater tank* overflow is provided before connecting to the stormwater drainage system. All plumbing and stormwater connections comply with local government requirements.
	Greywater treatment plant		
P12	A *greywater treatment plant* must have sufficient storage capacity to provide an acceptable contribution to meet water savings targets listed in Appendix A having regard to: (a) the amount of available *greywater*; and (b) the required demand for *greywater*.	**A12**	A *greywater treatment plant*: (a) is installed to receive *greywater* from all bathroom *sanitary outlets* in the building; (b) has a minimum processing capacity to treat total *greywater* input vessel volume in 24 hours; (c) has a storage capacity not exceeding 2,000L; (d) is connected to supply treated water to: (i) all toilet cisterns; (ii) washing machine cold water taps; (iii) an *external use*; and (iv) other fixtures as specified by the local government in a local planning instrument;

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
	(e) supplies treated water separate to the *reticulated town water supply system*: (i) to all toilet cisterns; and (ii) for cold water washing machines using a separate tap directly connected from the *greywater treatment plant*; and (iii) an *external use*; and (iv) other fixtures as specified by the local government in a local planning instrument; (f) has an appropriate low hazard backflow prevention device installed to protect the *reticulated town water supply system;* (g) complies with *Table T1A* of the *Queensland Plumbing and Wastewater Code* for the effluent compliance value for end uses with a high level of human contact; (h) has an automatic switching device providing supplementary water from the *reticulated town water supply system*; and (i) disposes of untreated *greywater* to the sewer.

Appendix A

Water savings targets for Queensland local government areas

Group 1: Water savings targets of 16 kL per year for new detached houses and 10 kL per year for other new *Class 1* dwellings apply in the following local government areas:
Barcoo Shire Council, Boulia Shire Council, Diamantina Shire Council, Longreach Regional Council, Quilpie Shire Council.
Group 2: Water savings targets of 24 kL per year for new detached houses and 14 kL per year for other new *Class 1* dwellings apply in the following local government areas:
Barcaldine Regional Council, Bulloo Shire Council, Burke Shire Council, Carpentaria Shire Council, Charters Towers Regional Council, Cloncurry Shire Council, Cook Shire Council, Croydon Shire Council, Doomadgee Aboriginal Shire Council, Etheridge Shire Council, Flinders Shire Council, Kowanyama Aboriginal Shire Council, McKinlay Shire Council, Mount Isa City Council, Mornington Shire Council, Paroo Shire Council, Pormpuraaw Aboriginal Shire Council, Richmond Shire Council, Tablelands Regional Council, Winton Shire Council.
Group 3: Water savings targets of 36 kL per year for new detached houses and 22 kL per year for other new *Class 1* dwellings apply in the following local government areas:
Balonne Shire Council, Blackall - Tambo Regional Council , Isaac Regional Council, Murweh Shire Council, Rockhampton Regional Council, Roma Regional Council, Whitsunday Regional Council, Woorabinda Aboriginal Shire Council.
Group 4: Water savings targets of 44 kL per year for new detached houses and 26 kL per year for other new *Class 1* dwellings apply in the following local government areas:
Banana Shire Council, Cairns Regional Council, Cassowary Coast Regional Council, Central Highlands Regional Council, Hinchinbrook Shire Council, Palm Island Aboriginal Shire Council, Townsville City Council.
Group 5: Water savings targets of 51 kL per year for new detached houses and 31 kL per year for other new *Class 1* dwellings apply in the following local government areas:
Aurukun Shire Council, Bundaberg Regional Council, Dalby Regional Council, Gladstone Regional Council, Goondiwindi Regional Council, Lockhart River Aboriginal Shire Council, Mapoon Aboriginal Shire Council, Napranum Aboriginal Shire Council, Northern Peninsula Area Regional Council, North Burnett Regional Council, Southern Downs Regional Council, Torres Shire Torres Strait Island Regional Council.

Group 6: Water savings targets of 59 kL per year for new detached houses and 35 kL per year for other *Class 1* dwellings apply in the following local government areas:
Burdekin Shire Council, Cherbourg Aboriginal Shire Council, Hope Vale Aboriginal Shire Council, Mackay Regional Council, Wujal Wujal Aboriginal Shire Council, Yarrabah Aboriginal Shire Council.
Group 7: Water savings targets of 70 kL per year for new detached houses and 42 kL per year for other new *Class 1* dwellings apply in the following local government areas:
Brisbane City Council, Fraser Coast Regional Council, Gold Coast City Council, Gympie Regional Council, Ipswich City Council, Lockyer Valley Regional Council, Logan City Council, Moreton Bay Regional Council, Redland City Council, Scenic Rim Regional Council, Somerset Regional Council, South Burnett Regional Council, Sunshine Coast Regional Council, Toowoomba Regional Council.

Version history

Version	Commencement date	Publication date
1.5	1 January 2009	22 October 2008
1.4	1 May 2008	10 April 2008
1.3	1 January 2008	16 November 2007
1.2	1 January 2007	5 December 2006
1.1	1 September 2006	1 September 2006
1.0	1 March 2006	1 March 2006