

New South Wales - Government Accreditation Documents for:

Waterboy HSTP-10

On-Site Home Sewerage Treatment Plant

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**CERTIFICATE OF ACCREDITATION
Aerated Wastewater Treatment System**

This is to certify that the

Waterboy HSTP model 10 Aerated Wastewater Treatment System

manufactured by:

**Bushwater Holdings Pty Ltd
301 Oakey Flat Road
Morayfield QLD 4506**

has been accredited by the NSW Department of Health as a Sewage Management Facility under the provisions of Clause 43(1), Local Government (Approvals) Regulation 1999 subject to the conditions of accreditation specified in Schedule 1, and in accordance with the AWTS Accreditation Guidelines of September 1998.

Plans and Specifications:

The Waterboy HSTP model 10 system is contained in one polyethylene tank, 2865 mm in height and 2040 mm in diameter, with two smaller tanks located inside the main tank; each tank is 2750 mm in height and 740 mm in diameter. The smaller tanks are labeled as the sludge detention tank and the bioreactor membrane treatment tank. The total operating capacity of Waterboy system is 4910 litres.

The sludge detention tank has an operating capacity of 1057 litres, measured from the outlet to the membrane tank 200 mm below the top of the tank. A low level of aeration is maintained in the tank, which assists in the treatment and denitrification of the wastewater.

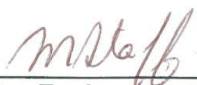
The membrane treatment tank has an operating capacity of 793 litres. The operating liquid level in the tank is some 150 mm from the top of the tank. The liquid level will rise and fall some 200 mm or 86 litres in volume to maintain a head of liquid above the membrane pack. An airflow is introduced below and in between the membrane plates to prevent a built up of bacterial sludge on the plate surface.

Treated effluent flows from each membrane plate to an external cylindrical pump well which is used as a combined chlorine contact/irrigation pump well. The Waterboy system is designed to treat sewage from a domestic premises occupied by a maximum of 10 persons.

10 December 2004 CofA AWTS 021

Date of issue

Certificate No


**Director Environmental Health Branch
for Director-General (delegation PH335)**

This Certificate of Accreditation is in force until 31 December 2009.

Schedule 1: Conditions of Accreditation

1. For each installation the owner/occupier of a premises shall make an application to the Local Authority to install a Waterboy HSTP model 10 AWTS as a waste management facility in accordance with Section 68, Part C of the Local Government Act 1993 and Clause 28 of the Local Government (Approvals) Regulation 1999.
2. The Certificate of Accreditation does not apply to the land application system used in conjunction with the AWTS.
3. The Waterboy HSTP model 10 AWTS shall be supplied, constructed and installed in accordance with the design as submitted and accredited by the NSW Health Department.
4. Any modification or variations of such accreditation design of the Waterboy HSTP model 10 AWTS shall be submitted for separate consideration and variation of accreditation by the Director-General of NSW Health.
5. Each Waterboy HSTP model 10 AWTS shall be permanently and legibly marked on a non- corrosive metal plaque attached to the lid with the following information:
 - The brand name of the system; and
 - The manufacturer's name or registered trademark;
 - The month and year of manufacture.
6. Effluent from the Waterboy HSTP model 10 AWTS taken in any random grab sample shall comply with the following standard:

• BOD ⁵	less than 30 mg/L
• SS	less than 45 mg/L
• Free residual chlorine	greater than 0.2 and less than 2.0 mg/l
• Thermotolerant coliforms	less than 100 cfu/100 mL
7. The Local Authority shall require the owner/occupier of a premises to enter into an annual service contract with a service contractor or company acceptable to the Local Authority.
8. The Waterboy HSTP model 10 AWTS shall be serviced at three monthly intervals in accordance with the details set out in the service manual.
9. At each anniversary of accreditation date the manufacturer shall provide a list of all their installed AWTS by anniversary year of installation to NSW Health. NSW Health will randomly select up to 5 (number) or 10% of the installed AWTS (which ever is the greater) from each year of installation. The manufacturer, at its own cost, shall arrange sampling of these locations to be performed within two months. Sampling is to be organised by an independent JAS/ANZ accredited

agency. Samples for BOD5, SS and thermotolerant coliforms are to be determined by a NATA registered laboratory, and samples for disinfectant concentration, if appropriate, are to be determined on site. The results are to be reported to NSW Health by:

- address of premises,
- date sampled,
- sample identification number,
- BOD5,
- SS,
- thermotolerant coliforms,
- disinfectant concentration,
- service history, and
- graphs of accumulative data for BOD, SS, thermotolerant coliforms and disinfection concentration results for each anniversary group.

10. A copy of the following information shall be provided by the manufacturer to each local authority where it is intended to install AWTS in their area once Departmental accreditation has been obtained:

- Statement of warranty
- Statement of service life
- Quality Assurance Certification
- Installation Manual
- Service Manual
- Household Operators Manual
- Service Report Form
- Engineering Drawings on A3 format
- Detailed Specifications
- A4 Plans
- Accreditation documentation from NSW Health.

11. The manufacturer shall obtain a license from a product certification body accredited by JAS-NZS whose product certification program complies with the requirements of a product certification program under AS/NZS 1546.3-2001, within twelve months of the date of the certificate of accreditation.

Note: During the testing of the Waterboy HSTP model 10 AWTS the treated water from the system was tested for total N and total P. The treatment process has a capacity to reduce the total N concentration on average by 87%, with all of the samples recording a total N level of <20 mg/l and the total P concentration on average by 89%, with all of the samples recording a total P level of <10 mg/l.

6.2 Performance Requirements

6.2.1 The performance requirements specified in *Section 2.4 of AS/NZS 1546.3-2001*, except for the effluent compliance criteria, and serviceable life criteria shall apply as appropriate to SMF.

6.2.2 Standard SMF: Effluent dispersal to above ground spray irrigation; covered surface drip irrigation; and shallow sub-surface drip irrigation to a depth of 150 mm below ground level. The effluent compliance criteria for accreditation of a standard SMF in lieu of (a) to (d), section 2.4.1 of AS/NZS 1546.3-2001 shall be as follows:

- (a) 90% of the samples taken over the three test periods shall have a BOD₅ less than or equal to 20 mg/L with no sample greater than 30 mg/L;
- (b) 90% of the samples taken over the three test periods shall have total SS less than or equal to 30 mg/L with no sample greater than 45 mg/L;
- (c) 90% of the samples taken over the three test periods shall have a thermotolerant coliform count not exceeding 30 cfu/100 ml with no sample exceeding 100 cfu/100 ml;
- (d) 90% of the samples taken over the three test periods shall have a TKN of no more than 20 mg/L;
- (e) Where chlorination is the disinfection process, the free residual chlorine concentration shall be greater than or equal to 0.2 mg/L and less than 2.0 mg/L in all samples taken.

6.2.3 Toilet Flushing SMF: Effluent disposal as in 6.2.2 and also for toilet flushing. The effluent compliance criteria for accreditation of a toilet flushing SMF in lieu of (a) to (d), section 2.4.1 of AS/NZS 1546.3-2001 shall be as follows:

- (a) 90% of the samples taken over the three test periods shall have a BOD₅ less than or equal to 10 mg/L with no sample greater than 20 mg/L;
- (b) 90% of the samples taken over the three test periods shall have total SS less than or equal to 10 mg/L with no sample greater than 20 mg/L;
- (c) 90% of the samples taken over the three test periods shall have a thermotolerant coliform count not exceeding 10 cfu/100 ml with no sample exceeding 30 cfu/100 ml;
- (d) 90% of the samples taken over the three test periods shall have a TKN of no more than 20 mg/L;
- (e) Where chlorination is the disinfection process, the free residual chlorine concentration shall be greater than or equal to 0.5 mg/L and less than 2.0 mg/L in all samples taken.

6.2.4 Installation of SMF in Environmentally sensitive areas as defined by Council: The effluent compliance criteria for accreditation of a SMF installed in environmentally sensitive areas, shall be able to meet in addition to 6.2.2 or 6.2.3 the following nutrient criteria:

- (a) The total nitrogen (N) concentration shall be less than or equal to 20 mg/L in all samples taken; and
- (b) The total phosphorus (P) concentration shall be less than or equal to 10 mg/L in all samples taken.

6.2.5 The serviceable life criteria for accreditation in lieu of section 2.4.4 of AS/NZS 1546.3-2001 shall be in accordance with section 7 of this guideline