



Health

Certificate of Accreditation

Sewage Management Facility

Aerated Wastewater Treatment System

This Certificate of Accreditation is issued by the Secretary of the NSW Ministry of Health pursuant to Clause 41(1) of the Local Government (General) Regulation 2005.

System: Ultra Clear Model ST8 AWTs

*Manufacturer: Highland Tanks Pty Ltd t/a
Ultra Clear Wastewater Treatment Systems*

Of: 16 Gantry Place, Braemar, NSW, 2575

The Ultra Clear model ST8 AWTs as described in Schedule 1, has been accredited as a sewage management facility for use in a single domestic premises in NSW. This accreditation is subject to the conditions of accreditation and permitted uses specified in Schedule 2.

*Director, Environmental Health
for Secretary (delegation PH335)*

Issued: 19 September 2016

Certificate No: AWTs 019

Expires: 31 December 2020

Schedule 1: Specification

Ultra Clear model ST8 Aerated Wastewater Treatment System

General Description

The Ultra Clear model ST8 Aerated Wastewater Treatment System (AWTS) is designed to treat the wastewater from a residential dwelling occupied by a maximum of 8 persons. The Ultra Clear model ST8 AWTS is contained in a single vertical axis type cylindrical precast concrete collection well with a design capacity of 7300 litres. The operational water level in the system is 1310 mm. The system consists of:

- A primary sedimentation chamber with a total capacity of 2552 litres;
 - Two aeration chambers with a total capacity of 2106 litres and containing two packs of BTM200 Bio Tube with a volume of 0.25 m³ and a total surface area of 100 m²;
- A settling chamber with a capacity of 384 litres;
- An irrigation pump chamber with a total capacity of 521 litres including a minimum of 335 litres designated as a disinfection contact volume;
- A chlorine disinfection unit installed on the outlet of the settling chamber;
- Air is supplied to the aeration chambers by a Hiblow HP-80 air pump producing air at a nominal rate of 80 litres/minute;
- A 10 metre head submersible irrigation pump with automatic pump controls.

Schedule 2: Conditions of Accreditation

1.0 General

- 1.1 For each installation the owner/occupier of the premises shall make an application to the local council to install an Ultra Clear model ST8 AWTS as a waste management facility in accordance with Section 68, Part C of the *Local Government Act 1993* and Clause 26 of the *Local Government (General) Regulation 2005*.
- 1.2 The Ultra Clear model ST8 AWTS shall be supplied, constructed and installed in accordance with the design as submitted and accredited by the NSW Ministry of Health.
- 1.3 Any modification or variations to the accredited design of the Ultra Clear model ST8 AWTS shall be submitted for separate consideration and variation of the Certificate of Accreditation by the Secretary of the NSW Ministry of Health.
- 1.4 Each Ultra Clear model ST8 AWTS shall be permanently and legibly marked on a non-corrosive metal plaque or equivalent, attached to the lid with the following information:
 - The brand name of the system;
 - The manufacturer's name or registered trademark;
 - The month and year of manufacture.
- 1.5 The manufacturer shall supply with each Ultra Clear model ST8 AWTS an owner's manual, which sets out the care, operation, maintenance and on-going management requirements of the system.
- 1.6 The manufacturer shall provide the following information to each local authority where it is intended to install an AWTS in their area once NSW Ministry of Health accreditation has been obtained:
 - Statement of warranty
 - Statement of service life
 - Quality Assurance Certification
 - Installation Manual
 - Service Manual
 - Owner's Manual
 - Service Report Form

- Engineering Drawings on A3 format
- Detailed Specifications
- A4 Plans
- Accreditation documentation from NSW Health.

2.0 Installation and Commissioning

- 2.1 The local council should require that on completion of the installation of the Ultra Clear model ST8 AWTS, the system is inspected and checked by the manufacturer or the manufacturer's agent. The manufacturer or the agent is to certify that the system has been installed and commissioned in accordance with its design, conditions of accreditation and any additional requirements of the local council.
- 2.2 The local council should require that all electrical work must be carried out by a licensed electrician and in accordance with the relevant provisions of AS/NZS 3000.

3.0 Maintenance

- 3.1 The local council shall require the owner/occupier of a premises to enter into an annual service contract with a representative of Highlands Tanks Pty Ltd or a service contractor or company acceptable to the local council.
- 3.2 The Ultra Clear model ST8 AWTS shall be serviced at three monthly intervals in accordance with the details set out in the owner's and service manuals.
- 3.3 Each three monthly service shall include a check on all mechanical, electrical and functioning parts of the system including:
- The chlorinator and replenishment of the disinfectant,
 - Pumps, air blower, fan or air venturi,
 - The alarm system,
 - Slime growth on the filter media,
 - Operation of the sludge return system,
 - The effluent irrigation area,
 - On-site testing for free residual chlorine, pH and dissolved oxygen (optional).
- 3.4 The local council should require that a service report sheet, in triplicate, is completed for each service. The original shall be given to the owner, the duplicate forwarded to the local council and the triplicate retained by the service contractor.

4.0 On-going Management

- 4.1 The owner's manual prepared by the manufacturer shall contain a plan for the on-going management of the Ultra Clear model ST8 AWTS. The plan shall include details of:
- the treatment process,
 - procedures to be followed in the event of a system failure,
 - emergency contact numbers,
 - maintenance requirements,
 - inspection and sampling procedures to be followed as part of the on-going monitoring program developed by the local council.
- 4.2 Effluent from the Ultra Clear model ST8 AWTS taken in any random grab sample shall comply with the following standard:
- | | |
|----------------------------|---|
| • BOD ⁵ | less than 30 mg/L |
| • TSS | less than 45 mg/L |
| • E.coli | less than 100 cfu/100 ml |
| • Free residual chlorine - | greater than 0.5 and less than 2.0 mg/L |

5.0 Permitted uses

5.1 The effluent is suitable for re-use for garden purposes by way of any of the forms of irrigation as described in Appendix M of AS/NZS 1547:2012:

- above ground spray irrigation; or
- surface drip irrigation covered by mulch; or
- sub-surface drip irrigation installed at around 100 mm depth.

Each of the three forms of irrigation is subject to the approval of the local council.

6.0 Reduction in nutrient levels

During the testing of the Ultra Clear model ST8 AWTS the treated effluent was tested for total N (TN) concentrations. The treatment process has the capacity to reduce the total N concentration as follows:

- Total N concentration from an average of 53.44 mg/l to an average of 18.08 mg /l which represent a reduction of 66.2 %.

8 person single tank system - Model ST8

HIGHLAND TANKS PTY LTD trading as
ULTRA CLEAR
WASTEWATER TREATMENT SYSTEMS
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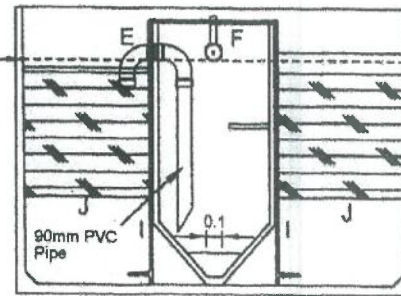
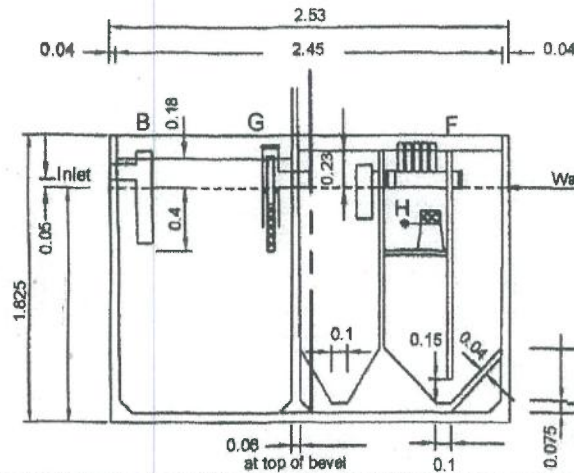
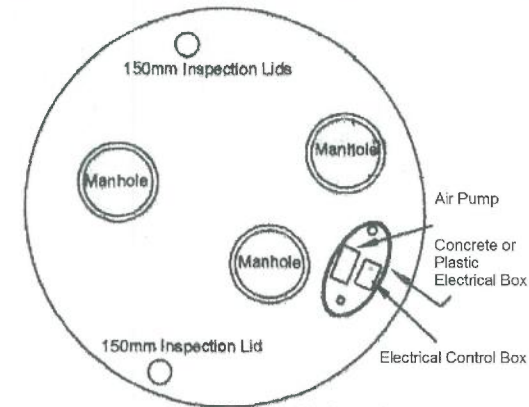
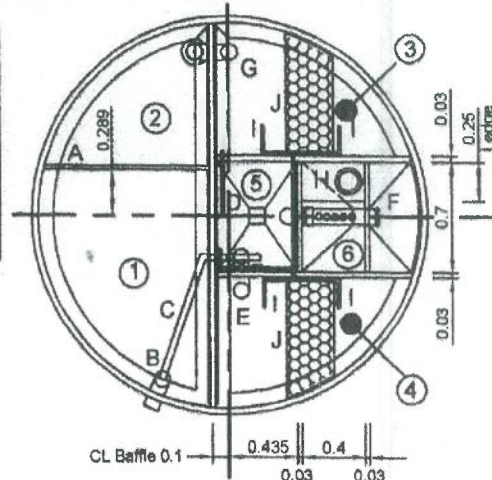
AERATED WASTEWATER TREATMENT SYSTEM
MODEL ST8
 SUITABLE TO DEAL WITH WC'S & ALL WASTE ON RESIDENTIAL PREMISES.

Drawn by: L. TASKER Design by: D. W. REBBECK

SPECIFICATION FOR

Name _____
 Installation _____
 Address _____
 No. of Persons _____

No.	Capacity	Description
1	1699 Ltrs	Primary Chamber 1
2	853 Ltrs	Primary Chamber 2
3	1184 Ltrs	Aerobic Chamber 1
4	1184 Ltrs	Aerobic Chamber 2
5	384 Ltrs	Settling Chamber
6	524 Ltrs	Disinfection Pump Chamber



Parts Index

No.	Description
A	Flow Hole Primary 1 to Primary 2
B	Inlet Square
C	Sludge Return Pipe
D	Scum Skimmer
E	Flow Pipe Aeration to Settling Chamber
F	Chlorinator
G	Flow Restrictor
H	Pump Ledge and Pump
I	Air Diffuser Line
J	Media Pack

APPROVED
 1 9 SEP 2016
 NSW MINISTRY OF HEALTH

All internal and sundries supplied and installed by
 ULTRA CLEAR WASTEWATER TREATMENT SYSTEMS
 UCST8SD 26 Revision 5 19/06/2013

COLLECTION WELLS manufactured by Highland Concrete Tanks
 PO Box 1158, MITTAGONG NSW 2575 Factory: 16 Gantry Place, BRAEMAR
 Phone: 02 4889 8288 Fax: 02 4889 8566
 All Septic Tanks & Collection Wells are manufactured to comply with
 Australian Standards AS/NZS 1546.1:2008