



Certificate of Accreditation

Sewage Management Facility

Domestic Greywater 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: *Earthsafe Waterbank WB10 DGTS*

Manufacturer: *Earthsafe (Service) Pty Ltd*

Of: *Unit 2, 6 Paddock Place, Rutherford, NSW, 2320*

The Earthsafe Waterbank WB10 DGTS as described in Schedule 1, has been accredited as a sewage management facility for use in single domestic premises in NSW. This accreditation is subject to the conditions of accreditation and permitted uses specified in Schedule 2.

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

Issued: *19 October 2020*

Certificate No: *DGTS002*

Expires: *31 December 2025*

Schedule 1: Specification

Earthsafe Waterbank WB10 Domestic Greywater Treatment System

General Description

The Earthsafe Waterbank WB10 system is designed to treat all domestic greywater for a maximum of 10 persons. The Earthsafe Waterbank WB10 system is assembled in any of the following configurations:

- a single vertical axis cylindrical (tapered) injection moulded polypropylene collection well with a capacity of 3000 litres and manufactured by Everhard Industries Pty Ltd (Certificate No: STCW001), or
- a single vertical axis cylindrical concrete collection well with a capacity of 3,000 litres and manufactured by Rutherford Concrete Products Pty Ltd, or
- a single vertical axis cylindrical concrete collection well with a capacity of 7,400 litres and manufactured by Rutherford Concrete Products Pty Ltd. This configuration is known as a split black water/ greywater treatment system where the two chamber septic tank compartments are totally separated from the greywater treatment system by a partition wall.

The key processing steps in the system involves the treatment of the greywater in an aeration chamber followed by membrane filtration and UV disinfection.

After passing through a lint filter located at the inlet of the tank, the greywater flows into a raw water equalization chamber (outer portion of the tank) where air is introduced under a controlled on-off cycle ensuring the greywater is well mixed and biological breakdown occurs through oxidation. During the off period an anoxic condition is developed that contributes to a reduction in the total nitrogen level in the treated water. The treated greywater flows into a 400 litre inner clarification chamber containing a 100 micron membrane filter. The filter removes any remaining solids prior to transfer of the treated water to the UV disinfection unit and the final pump chamber.

The treated water from the clarification chamber is continually recycled through the UV disinfection unit by way of an air lift pump through a quartz glass sleeve or self-cleaning Teflon coil, which creates a natural turbulence and ensures that the water is thoroughly radiated as it passes through the tube. The UV tube is a low-pressure mercury lamp model TUV 36W manufactured by Philips or its equivalent. The final effluent is collected in a pump chamber ready for re-use for toilet flushing, washing machine use or external use such as garden irrigation.

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 Authority to install an Earthsafe Waterbank WB10 DGTS 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 (General) Regulation 2005.
- 1.2 The Earthsafe Waterbank WB10 DGTS 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 Earthsafe Waterbank WB10 DGTS 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 Earthsafe Waterbank WB10 DGTS 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 Earthsafe Waterbank WB10 DGTS 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 a DGTS in their area once Ministry 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 Earthsafe Waterbank WB10 DGTS, 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 the premises to enter into an annual service contract with a representative of Earthsafe Waterbank Pty Ltd or a service contractor or company acceptable to the local council.
- 3.2 It is the intention of Earthsafe Waterbank Pty Ltd to connect the Earthsafe Waterbank WB10 DGTS to a central base by telephone line and monitor the system at regular intervals to ensure that optimum operation of the system is maintained at all times.

With the remote monitoring program installed, the Earthsafe Waterbank WB10 DGTS shall be serviced at six monthly intervals in accordance with the details set out in the service manual.

Without the remote monitoring program in place, the Earthsafe Waterbank WB10 DGTS shall be serviced at four monthly intervals in accordance with the details set out in the service manual.

- 3.3 Each service shall include a check on all mechanical, electrical and functioning parts of the system including:
- Pumps, air blower, fan or air venturi,
 - The alarm system,
 - Sludge accumulation in the treatment tank,
 - Operation of the treatment cycles in the treatment tank,
 - The effective operation of the effluent re-use options,
- 3.4 The local council should require that a service report sheet, in triplicate, be 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 Earthsafe Waterbank WB10 DGTS. 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 authority.

4.2 Effluent from the Earthsafe Waterbank WB10 DGTS taken in any random grab sample shall comply with the following standard:

- BOD⁵ less than 20 mg/L
- SS less than 20 mg/L
- Thermotolerant coliforms less than 10 cfu/100 ml

5.0 Permitted uses

5.1 The effluent is suitable for re-use for the following purposes:

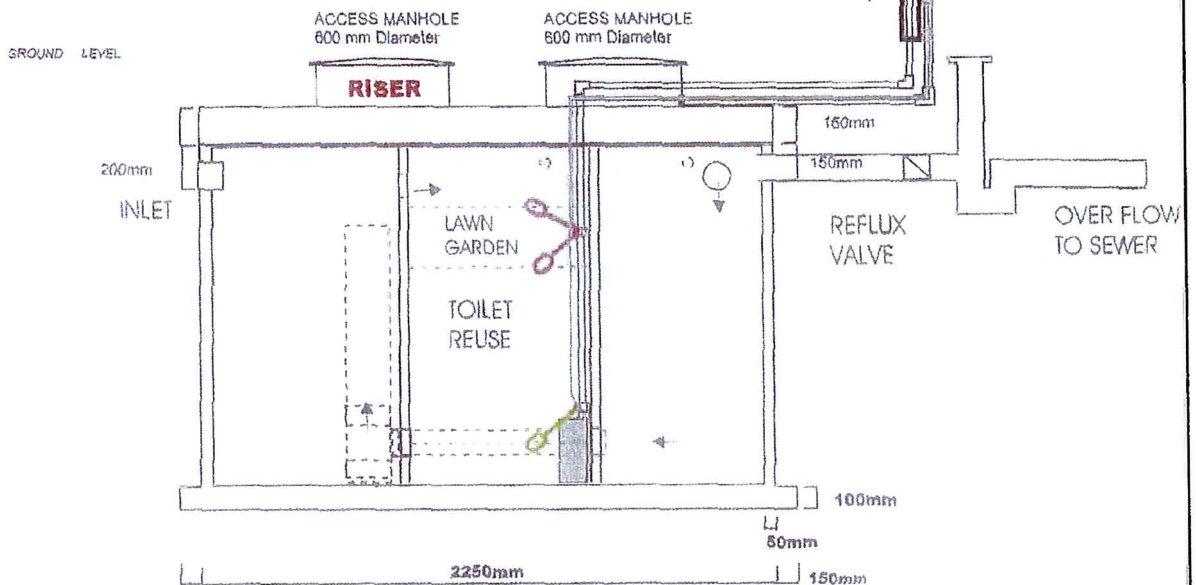
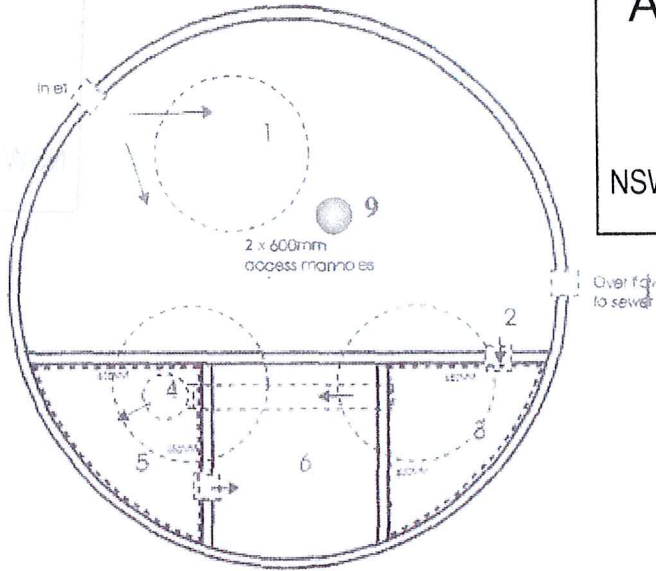
- toilet flushing;
- cold water supply to washing machine;
- garden purposes by irrigation of a type approved by the local council.

ES10DGTS - GREY WATER TREATMENT SYSTEM

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- LEGEND;
1. AERATION SURGE CHAMBER
 2. AIR LIFT FEED
 3. FILTER MEMBRANE CHAMBER
 4. ZEOLITE FILTER
 5. FILTER MEMBRANE CHAMBER
 6. PUMPWELL
 7. UV DISINFECTION UNIT
 8. CONTROL UNIT
 9. DISC DIFFUSER



NOTE:
ALL TANKS TO COMPLY WITH AS 1546.1 . ALL PVC FITTINGS TO COMPLY WITH AS 1477

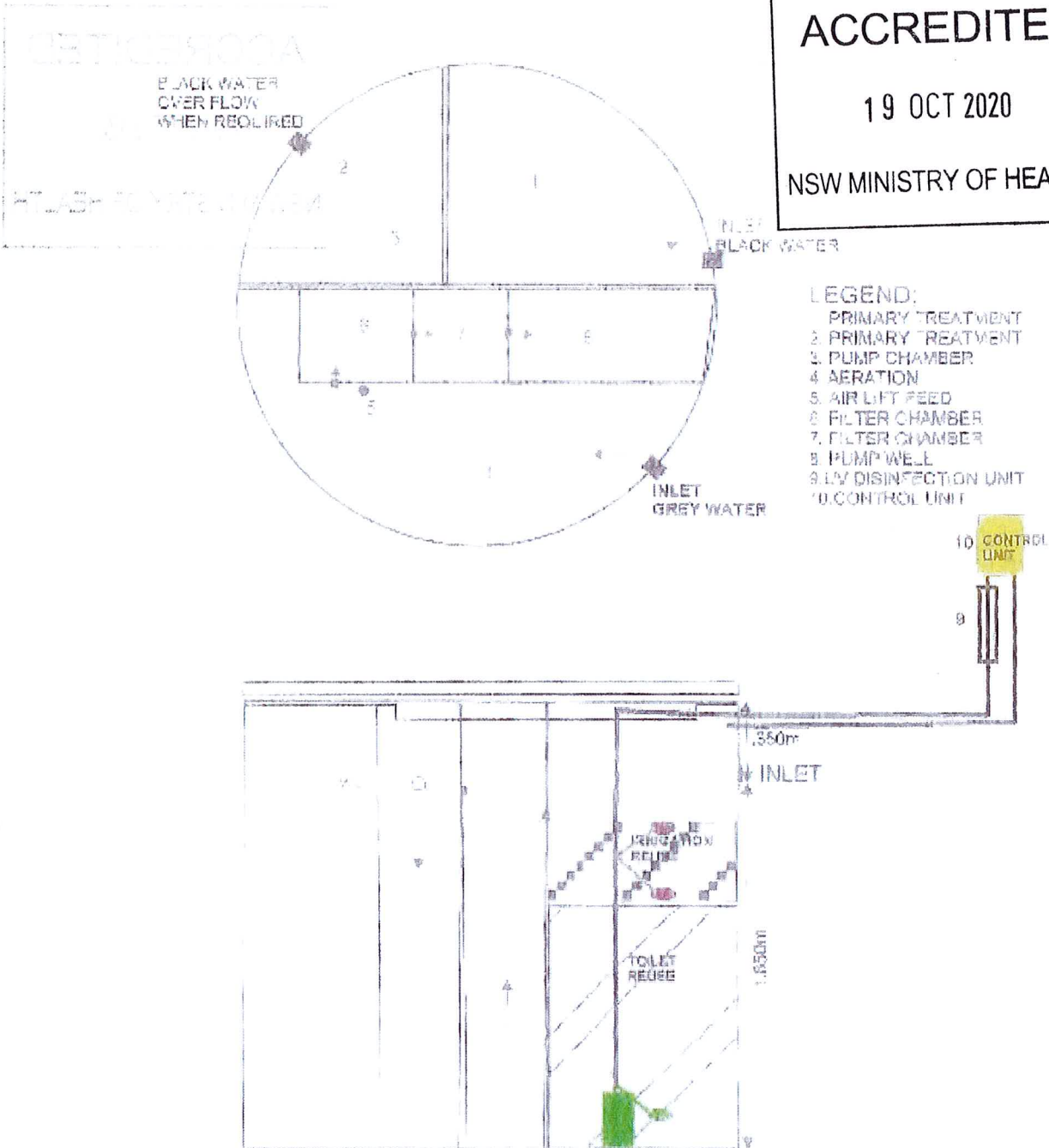


ES10DGTS - SPILT BLACK WATER / GREY WATER TREATMENT SYSTEM

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NOTE:
ALL TANKS TO COMPLY WITH AS 1516.1. ALL PVC FITTINGS TO COMPLY WITH AS 1477

WaterBANK

GREYWATER SYSTEM

ACCREDITED

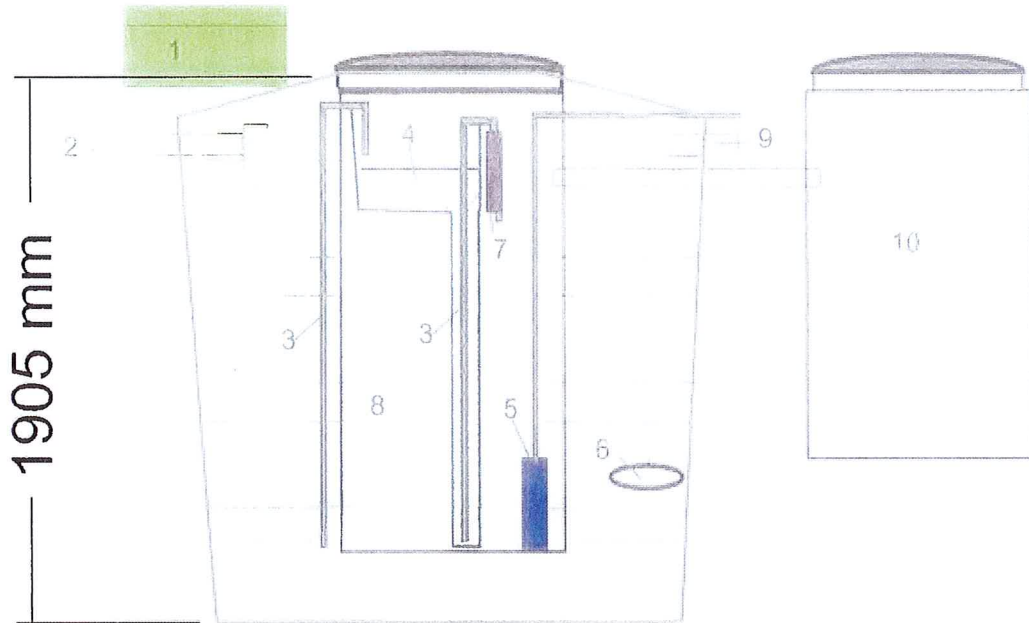
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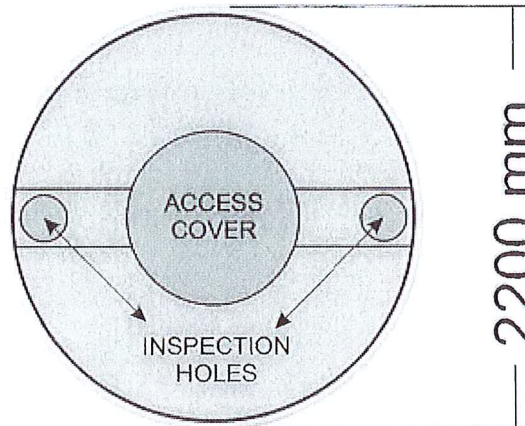
earthsafe

SIDE
VIEW



1905 mm

ELEVATION
VIEW



2200 mm

LEGEND

1. CONTROL BOX.
2. SELECTED GREYWATER INLET WITH FILTER.
3. AIRLIFT PUMPS.
4. MAIN FILTER.
5. PRESSURE PUMP & PUMPLINE TO HOUSE.
6. AERATION.
7. U/V DISINFECTION.
8. TREATED WATER STORAGE INNER TANK.
9. OVERFLOW TO SEWER.
10. OPTIONAL PUMPWELL (600lt - 3000lt)

EARTHSAFE AUSTRALIA PTY Ltd.

PHONE:
1800 WATER 1
1800 92837 1