Tasmanian Government

Certificate of Accreditation

On-Site Waste Water Management System

This Certificate of Accreditation is hereby issued by the Director of Building Control and acting pursuant to Section 18 of the *Building Act 2016* and the National Construction Code, as applicable.

System:	**Clivus Multrum Waterless Composting Toilet System – Models CM8 & C10**
Manufacturer/Supplier	**Ecoflo Waste Water Management Pty Ltd, ABN 33 606 583 895**
Of	**6 Hurricane Street, Banyo, Qld 4014**

This is to certify that the Ecoflo Waste Water Management Pty Ltd Treatment System (the System) as described in schedule 1, is accredited as on-site waste water management system for use in a in single dwellings and non-residential Facilities (within plumbing installations in Tasmania). This accreditation is subject to the conditions of accreditation and permitted uses specified in Schedule 2, and in accordance with the National Construction Code as applicable.

Peter John Graham
Director of Building Control
Consumer, Building and Occupational Services
Department of Justice

Date of Issue: **19 December 2019** **Certificate No: DOC/20/1342**

This Certificate of Accreditation is valid until 19 December 2024, subject to conditions or unless withdrawn earlier by the Director of Building Control

Document development history

Version Dated	Certificate Number	Amendment Notes
18 April 2016	DOC/16/22151	Certificate Expired 1/09/19
19 December 2019	DOC/20/1342	Certificate renewal

Schedule 1

Ecoflo Waste Water Management Waterless Composting Toilet Systems

Informative

General Description

The Ecoflo Waste Water Management waterless composting toilet system is designed to receive and treat human waste from toilet pedestals in domestic.

System Components (see also schematic drawings in appendix A, below)

The system consists of three major components.

1. Toilet pedestal.
2. Waste chute.
3. Composting tank and vent pipe.

Capacity and dimensions of the composting tanks may be found in appendix B below. For further details refer to the appropriate Owner's Manual.

Energy consumption

Estimated electricity usage based on *supplier's* advice:

Electrical equipment	Rating	Daily average hours of operation as specified by manufacturer	Consumption, kWh/year	Estimated annual cost at $0.31/kWh
Fan, 12 volt	5 watts	24 hrs/day	44 kWh	$13.64

Description of Treatment Process

Human excreta and toilet paper, together with a carbon-rich bulking agent such as wood shavings, is gradually decomposed in a ventilated environment. The bulking agent is added regularly to maintain the optimum carbon/nitrogen ratio, to improve air flow and promote bacterial growth. Baffles and air channels distribute air flow and promote the aerobic composting process. The volume of the organic material is continually reducing as fresh material is added to the top of the pile. Finished compost can be removed from the bottom of the pile when appropriate. The electric extractor fan maintains negative air pressure in the compost chamber to reduce the risk of odours escaping.

Schedule 2: Conditions of Accreditation

Normative

1 Definitions

AS/NZS 1546.2 means 'Joint Australian/New Zealand Standard 'AS/NZS 1546.2:2008 On-site domestic wastewater treatment units, Part 2: Waterless composting toilets';

AS/NZS 1547 means the Joint Australian/New Zealand Standard '*AS/NZS 1547:2012 On-site domestic-wastewater management'*;

AS/NZS 3000 means the Joint Australian/New Zealand Standard '*AS/NZS 3000:2000 Wiring rules';*

AS/NZS 5667 means the Joint Australian/New Zealand Standard '*AS/NZS 5667.1:1998 Water quality – Sampling, Part 1: Guidance on the design of sampling programs, sampling techniques and preservation and handling of samples'*;

BOD5 means '5-day Biochemical Oxygen Demand';

Council means 'the Municipal Council having jurisdiction';

Commissioned means 'when the test results from a NATA Certified Laboratory show that the water quality requirements for the *system* have been met and all pre-commissioning tests have been carried out in accordance with AS/NZS 1547 on all associated equipment including the land application *system*';

Designer means 'a person who is accredited under the *Building Act 2016* or a *Plumber* who has a specialty in the area of designing on-site waste water management *system* installations;

Director means 'the Director of Building Control';

E. coli means 'Escherichia coli of the family Enterobacteriaceae which is a bacterium used in public health as an indicator of faecal pollution';

g/m^3 means grams per cubic metre, which is equivalent to milligrams per litre (mg/L);

Informative defines the application of Schedule 1, which is for information and guidance only;

Manufacturer means 'Ecoflo Waste Water Management'

NATA means 'National Association of Testing Authorities'

PCA means 'Vol. 3 of the National Construction Code (Plumbing Code of Australia)';

Permit means 'a Permit issued by the *council* pursuant to Section 156 of the *Building Act 2016'*;

Permit Authority means 'a person or body authorised for that purpose by the *council* of the municipal area in which the *system* is installed';

Plumber means 'a person who holds an appropriate class of licence under the *Occupational Licensing Act 2005* as a Plumber Practitioner (Certifier)'.

Supplier means 'the party that is responsible for ensuring that products meet and, if applicable, continue to meet, the requirements on which the certification is based.' The supplier for the **Clivus Multrum series is Ecoflo Waste Water Management Pty Ltd;**

System means 'Ecoflo Waste Water Management waterless composting toilet system **models CM8 & CM10.**

TSS means 'Total Suspended Solids'.

2 General

2.1 For each installation the owner/occupier of the premises must make an application for a permit to a permit authority to install a system as a waste water management system in accordance with Part 12 of the Building Act 2016.

2.2 For each installation the application to the *permit authority* must include:

(a) Plans and specification of the nominated system;

(b) Where applicable, a site plan drawn to scale showing the location and type of any proposed waste water management system for the premises and state the method of managing greywater generated on-site;

(c) A statement detailing the proposed method of disposal of the composted end product, the frequency of such disposal and the estimated volume of composted end product to be removed;

(d) A statement about whether the system is likely to produce a liquid component and how it is proposed to dispose of the liquid. The statement shall be supported by detailed plans of any necessary liquid disposal system;

(e) A copy of the Certificate of Accreditation which includes details of the supplier.

2.3 The system must be supplied, constructed and installed in accordance with the design submitted and accredited by the Director.

2.4 This Certificate of Accreditation is valid for five (5) years from the date of issue or until withdrawn by the *Director* at any time and is not transferable. Any application for variation or renewal must be accompanied by Product Certification that has been issued by a JAS-ANZ accredited Conformity Assessment Body (CAB) and other required documentation in accordance with the latest Application for Accreditation Form.

2.5 Each *system* must be provided with a comprehensive manual with details of:

(i) Installation procedures to ensure correct installation of the unit,

(ii) Maintenance procedures necessary to ensure the efficient and safe operation of the unit, and

(iii) Health and safety requirements for operation and maintenance.

2.6 The termination and location of the vent must comply with AS/NZS 3500, Part 2: Sanitary plumbing and drainage.

3 Installation and Commissioning

3.1 All plumbing work carried out in connection with the system installation must satisfy the requirements of the Building Act 2016 and the Plumbing Code of Australia and be carried out by a licensed plumber with appropriate training and qualifications.

3.2 All electrical work must be carried out by a licensed electrician and in accordance with the relevant provisions of AS/NZS 3000.

3.3 The location, lighting and ventilation of a room in which a *system* is installed must satisfy the requirements of the National Construction Code (NCC).

3.4 All pipework that forms part of the installation shall be certified and authorised through the application of the WaterMark Certification Scheme.

3.5 Each *system* installation must be inspected and checked by the *designer* or the *designer's* agent. The *designer* on completion is to certify that the *system* has been constructed, installed and *commissioned* in accordance with its design, the conditions of accreditation and any additional requirements set out in the *permit*.

4 Maintenance and Monitoring

4.1 Each installation must be serviced and monitored in accordance with the conditions of accreditation, the conditions of the *permit* and *manufacturer's* requirements.

4.2 At the end of the second anniversary of the accreditation date and each anniversary thereafter, the supplier must provide a list of all their installed systems by anniversary year of installation to the Director. The *Director* may randomly select up to 5 (five) or 10% of the installed *systems* (whichever is the greater) from each year of installation for testing by the *supplier*. The *supplier*, at its own cost,

shall arrange testing and verification to the Director (or his/her agent) confirming the correct functioning and operation of the unit. The verification report shall include the following:

a) Address of premises;
b) Date inspected & tested;
c) Model identification and;
d) Any service history;

5 Performance

The composting capacity and maximum usage of the system models are shown in the following table:

Model	Rated Capacity uses/day/year	Power (for fan)
CM8	20/d or 8,000/yr	Electric
CM10	25/d or 10,000/yr	Electric

NOTE: Maximum uses/visits are in accordance with the manufacturers recommendations for the various models. For example the CM8 is rated for up to 8,000 uses/visits per year, and so on up to the CM40 which is rated for up to 40,000 uses/visits per year. For residential use the design factors and information given in AS/NZS1546.2, Appendix E, should be taken into account.

6 On-going Management

6.1 Unless otherwise directed by the permit authority, the composted end product is to be:

(a) buried for 6 – 12 months within an area where it will not come into contact with consumable plants or surface waters prior to its application to land. The minimum cover of soil over the deposited end product must be 100 mm; or
(b) Transported off site to an authorised disposal site.

6.2 The mechanical aspects of the system shall be maintained in accordance with the manufacturer's instructions and appropriate spare parts such as an extractor fan should be on hand in case of failure, as recommended by the supplier.

6.3 The system must be operated in accordance with the following by:

(a) The removal of compost from the system*;*

(b) Conducting periodic checks of the system, including liquid drainage (if required) to a suitable land application solution / absorption trench;

(c) Conducting periodic checks of the compost moisture level and appearance.

in accordance with the supplier's Supplementary Instructions and manufacturer's Owner's Manual.

7 Permitted use

7.1 The system is designed to receive and treat human waste from toilet pedestals in domestic premises or non-residential facilities.

7.2 The system is not intended for the disposal or treatment of grey water. See clause 2.2 (b).

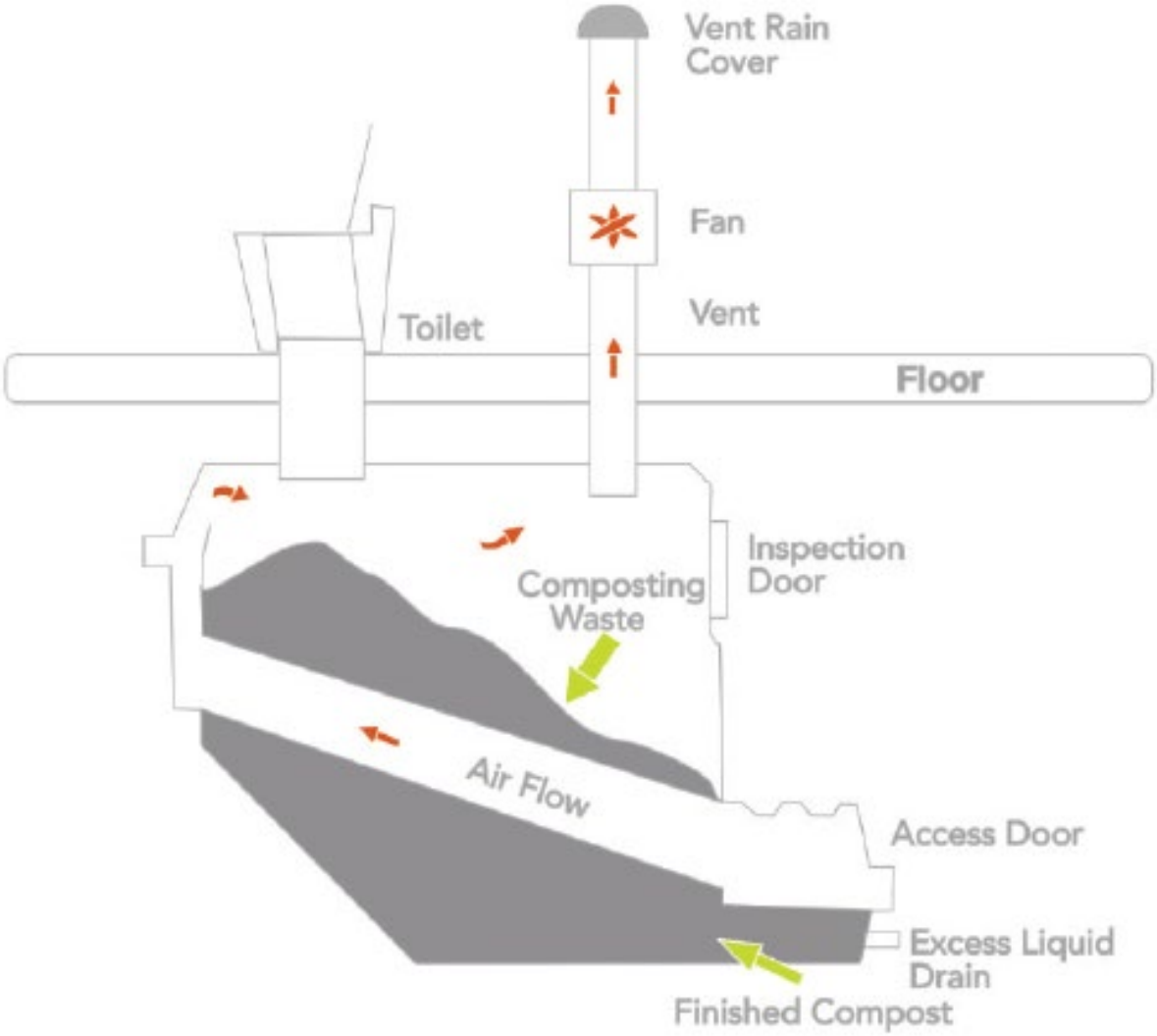
8 Winter or cold climate use

The composting chamber of the *system* must be kept warm (at least 15°C) to maintain the bacterial activity and composting process. If necessary, the space where the composting chamber is located must be heated to maintain the correct composting temperature.

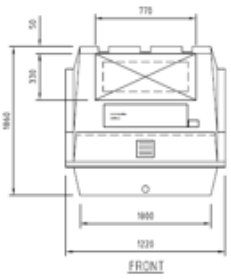
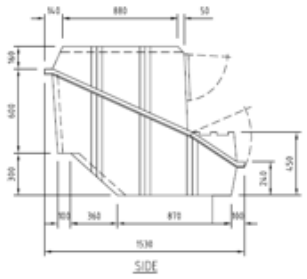
Systems installed in locations subject to low temperatures (e.g. Lake St. Clair, Cradle Mountain or locations above 900m Australian Height Datum (AHD)), must install insulation around the vent pipe.

Appendix A

Typical schematic drawing of Ecoflo Waste Water CM installation



Appendix B
Compost chamber dimensions and capacity

NOMINAL CAPACITY Daily I 20 visits (average) Annual I 8000 visits The Clivus CM8 is ideal for typical domestic applications.		
NOMINAL CAPACITY Daily I 25 visits (average) Annual I 10000 visits The Clivus CM10 is ideal for domestic + small public applications, especially where two pedestals are required.