Tasmanian Government

Certificate of Accreditation

On-Site Domestic Wastewater Management System

AS1546.2 Waterless Composting Toilets

This Certificate of Accreditation is hereby issued by the Minister for Building and Construction pursuant to Section 18 of the *Building Act* 2016 and the the National Construction Code (NCC), as applicable.

System:	**Green Loo Enviro Loo Waterless Composting Toilet Units** **Enviro Loo D 2010 / C 2020 / B 2030 / I 1040**
Manufacturer or Supplier:	**Green Loo Pty Ltd,** **ACN 624 421 156**
Of:	**Unit 3-4 17A Ern Harley Drive, Burleigh Heads, Queensland 4220**

This is to certify that the **Green Loo Enviro Loo Models D 2010 / C 2020 / B 2030 / I 1040 Waterless Composting Toilet Unit,** (the **'unit')** described in Schedule 1, is accredited as an on-site domestic wastewater treatment unit for use in a single dwelling in Tasmania. This accreditation is subject to the conditions of accreditation and permitted uses specified in Schedule 2, and the National Construction Code.

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

Date of Issue: 30 June 2022 **Certificate Number: DOC/22/55213**

This Certificate of Accreditation is in force until 30 June 2027, unless withdrawn earlier at the discretion of the Director of Building Control

Document Development History

Version	Date	Application date	Sections amended
1.0	30/06/22	Green Loo Enviro Loo models D 2010, C 2020, B 2030 and I 1040 to AS1546.2:2008 Waterless Composting Toilets	Original release

Schedule 1: Specification

Informative

Green Loo waterless composting toilet unit models: Enviro Loo D 2010 / C 2020 / B 2030 / I 1040

General Description

The Green Loo composting toilet units are designed to receive and treat human waste and reduce such wastes after a composting period into an innocuous waste that is capable of being disposed of within the premises without nuisance or risk to health.

The Enviro Loo is a dry toilet system that functions without water or chemicals. It can be installed almost anywhere. One of the great advantages that the Enviro-Loo has over other larger capacity compost toilet systems is the fact that - as the main body is buried - the toilet bowl is level with the ground.

Specification

The Green Loo Enviro Loo is a self-contained composting toilet unit comprises of a removable composting container, with a ventilation pipe and a liquid waste drainage device attached to the rear of the unit.

The composting process inside of the Green Loo is equipped with a convenient drain tube to drain excess liquid not evaporated to be dispersed via a gravel filled dispersal trench. Any excess liquid which is not used up in the composting process or evaporated through the vent system is drained out through the absorption trench attached to the back of the unit.

An air venting system is attached to the rear of the Green Loo unit to prevent any foul odours from developing. The Enviro Loo works harnessing the sun and wind, which provide the energy for liquids to evaporate and solid matter to dehydrate into a dry hygienic waste material, roughly 5% of its original mass. It functions completely off-the-grid and does not require water, electricity or chemicals to operate (there is an optional electric fan, if desired).

Model	Equivalent full time adult residential use
Enviro Loo Domestic D 2010	35 visits per day (10 People full time)
Enviro Loo Communal C 2020	75 visits per day (20 People full time)
Enviro Loo Bulk B 2030	110 Visits per day (30 people full time)
Enviro Loo Large Commercial I 1040	140 visits per day (40 People full time)

Schedule 2 – Conditions of Accreditation

Normative

1. Definitions

Where included in this Certificate of Accreditation and Schedules:

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

AS/NZS 1546.2 means the Joint Australian/New Zealand Standard '*AS/NZS 1546.2:2008 On-site domestic wastewater treatment units, Part 2: Waterless Composting Toilets'*

AS/NZS 3000 means the Joint Australian/New Zealand Standard '*AS/NZS 3000 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 *unit* 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'

EC means electrical conductivity

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 **'Green Loo Pty Ltd'**

NATA means 'National Association of Testing Authorities'

Normative defines the application of Schedule 2, which is an integral part of the Certificate of Accreditation

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

Permit means 'a Permit issued by the *council* pursuant to Part 12 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 on-site waste water management 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 Green Loo Enviro Loo D 2010 / C 2020 / B 2030 / 1 1040 is **Green Loo Pty Ltd**

Unit means **Green Loo** Enviro Loo D 2010 / C 2020 / B 2030 / 1 1040

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 unit 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 unit 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 When issuing a permit the permit authority is to satisfy itself that, the designer's choice of the system configuration is appropriate for the proposed site conditions and use.

2.4 This Certificate of Accreditation is valid up until the date nominated on the front page of this accreditation. Any application for variation or renewal must be accompanied by Product Certification to AS/NZS1546.2 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. The Certificate of Accreditation may be withdrawn by the Director at any time and is not transferable.

2.5 The supplier must supply the owner and occupier, of each installation, with a user manual setting out the following:

a) the treatment process;

b) procedures to be followed in the event of a *system* failure;

c) emergency contact number;

d) care, operation, monitoring and maintenance requirements; and

e) inspection and sampling procedures to be followed as part of the on-going monitoring and program required by the *permit authority*.

2.6 Each application to a permit authority to install a system must be accompanied by a site-and-soil evaluation report and design report in accordance with AS/NZS 1547 as appropriate.

2.7 The supplier must provide the following information to each permit authority where it is intended to install a system in their jurisdiction:

- Statement of warranty
- Statement of service life
- Quality Assurance Certification
- Installation Manual
- Owner's Manual

- Engineering Drawings on A3 format
- Detailed system Specifications
- Copy of Certificate of Accreditation and Schedules

2.8 Any proposed modifications to the unit's specified processes, equipment, materials, fittings or manuals must be authorised by the Director and may be subject to additional verification and/or testing.

2.9 Discharge of liquid waste from the Green Loo unit must be drained to a below ground absorption trench, designed and installed as per AS/NZS 1547:2012.

Product approval documentation
The following documents are referenced as part of this Accreditation:

Document	Document date
Global Certification Pty Ltd – Product Certificate Report of Enviroloo to AS/NZS 1546.2:2008 Report Number 16636A	20/12/2021

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

3.4 The sanitary compartment containing the unit must not open directly into a habitable room or pantry unless access is by a permanently ventilated airlock, hallway or circulation space. A permanently ventilated air lock (which may be a circulation space) must be provided with ventilation which the greater of –

a) 8000 mm^2; or

b) 1/500th of the floor area of the circulation space.

Note: Competing appliances such as wood fired heating appliances, gas fired heaters and other forms of mechanical ventilation may need an air intake installed from outside the building. The Green Loo units have active vents. Competing appliances and their intake air requirements and venting arrangements need to be taken into consideration**.**

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* instructions.

5. Performance

5.1 Maximum design capacity as specified by the *supplier*.

6. On-going Management

6.1 The mechanical aspects of the unit 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*.

6.2 The unit must be operated in accordance with the following by:

a) The removal of compost from the *unit;*

b) Conducting periodic checks of the unit, 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.

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

a) buried on site 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 300 mm; or

b) Transported off site to an authorised disposal site.

7. Permitted use

7.1 The *unit* is designed to receive and treat human waste from toilet pedestals in domestic premises.

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

8. Winter use

8.1 The *units* are suitable for continuous or periodic use during the cold winter months.

Note: The *units* are not insulated. Therefore, in non-heated or non-insulated enclosures/rooms the compost may freeze in the drum.

8.2 Limited winter use

For limited winter use (i.e. only a couple of weekends a month) in cold temperatures, the unit can be used as a holding tank. However, adequate

space must be provided in the unit. The fan or extractor must be operated in accordance with the manufacturer's instructions.

Note: These requirements are only applicable to limited use, e.g. planning on using the unit once a month or so during the winter months. If the unit is used more frequently during the winter months, the extended winter use conditions apply.

8.3 Extended winter use

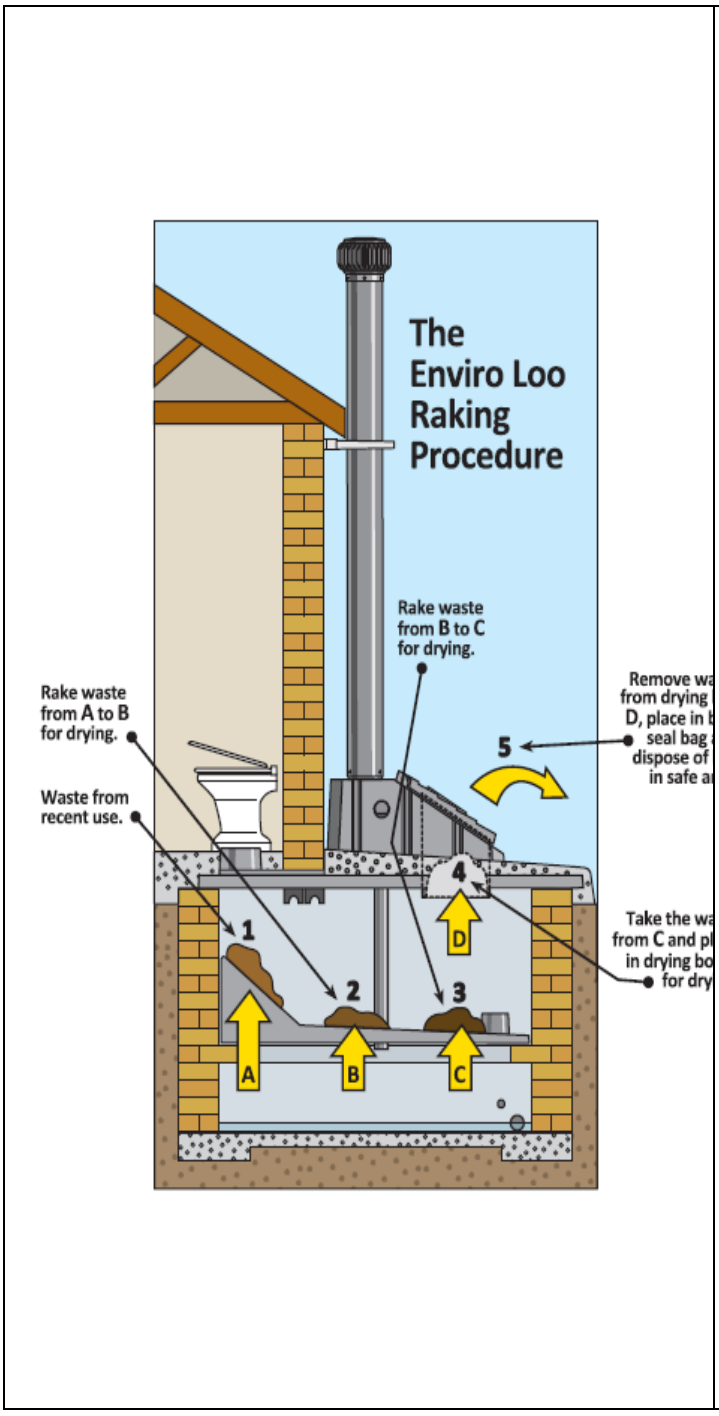
For continuous use or extended use during winter (i.e. every weekend, or residential use), the unit must be kept warm (at least 15°C) to maintain the composting activity.

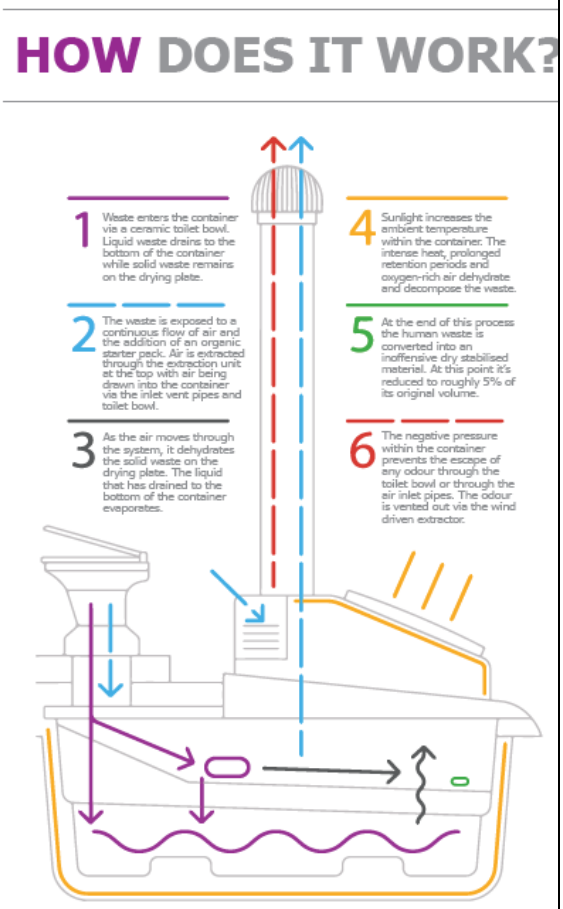
The fan or extractor must be run continuously in accordance with the manufacturer's instructions.

8.4 *Units* installed in locations subject to low temperatures, such as Lake St. Clair, Cradle Mountain or the central highlands of Tasmania locations above 900m Australian Height Datum (AHD), must install insulation around the vent pipe.

Appendix A – Enviro Loo Model

Schematic diagram



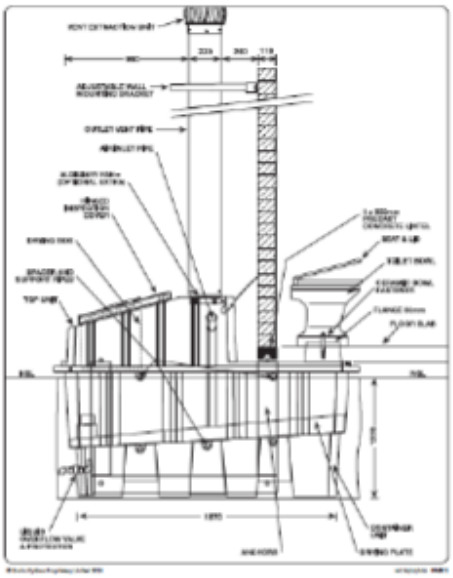


Enviroloo Technical specifications

Enviro Loo

MODEL: B2030 STANDARD

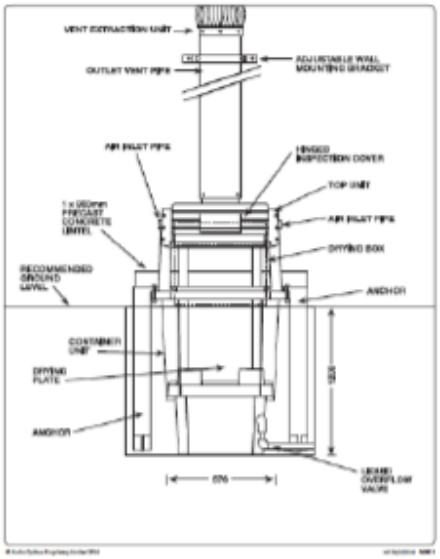
ENGINEERING PLANS: SIDE VIEW



Enviro Loo

MODEL: B2030 STANDARD

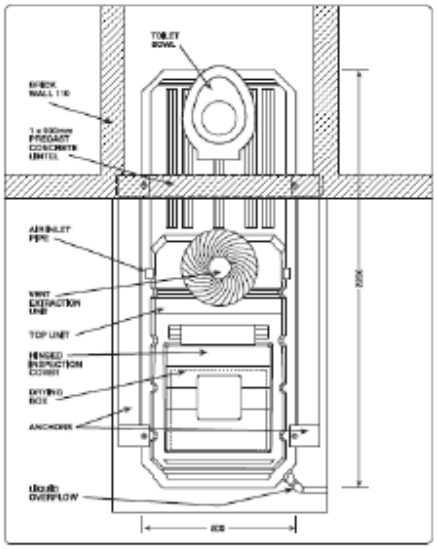
ENGINEERING PLANS: END VIEW



Enviro Loo

MODEL: B2030 STANDARD

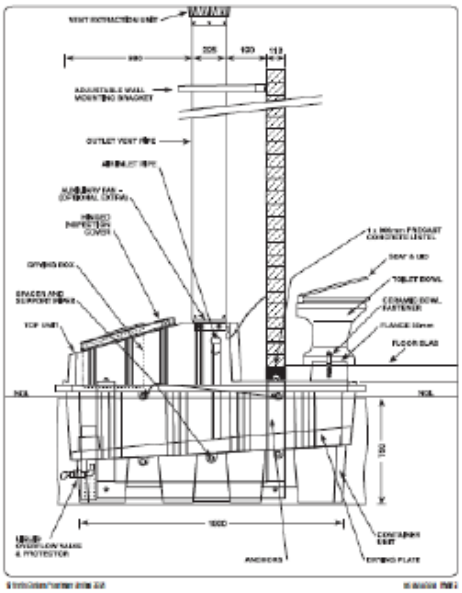
ENGINEERING PLANS: TOP VIEW



Enviro Loo

MODEL: C2020 STANDARD

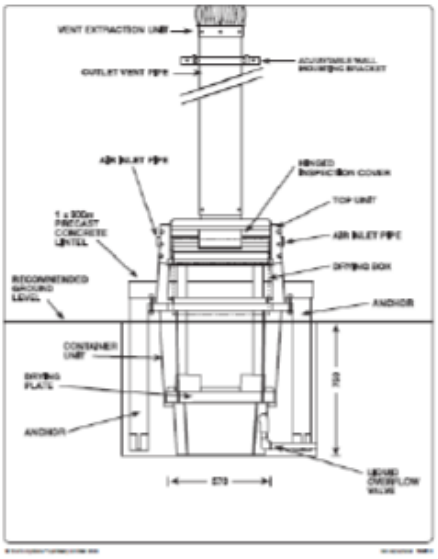
ENGINEERING PLANS: SIDE VIEW



Enviro Loo

MODEL: C2020 STANDARD

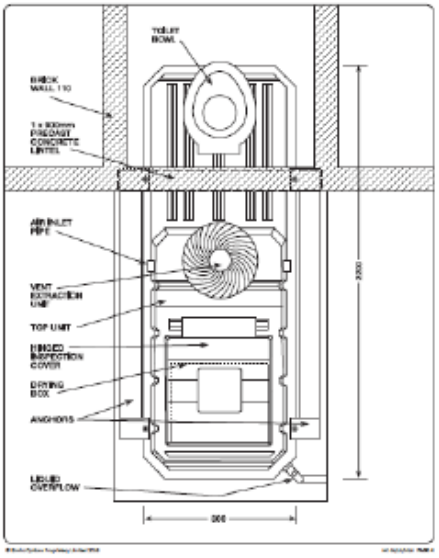
ENGINEERING PLANS: END VIEW



Enviro Loo

MODEL: C2020 STANDARD

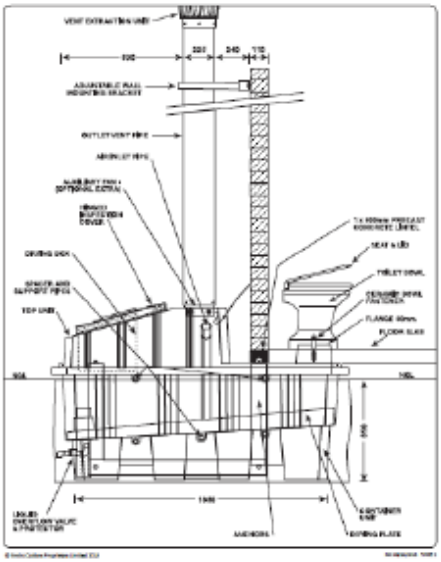
ENGINEERING PLANS: TOP VIEW



Enviro Loo

MODEL: D2010 STANDARD

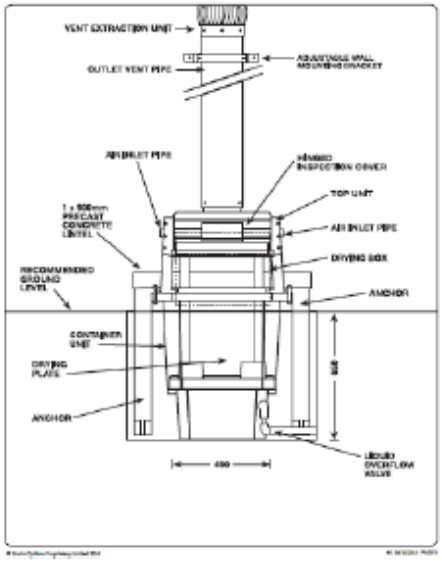
ENGINEERING PLANS: SIDE VIEW



Enviro Loo

MODEL: D2010 STANDARD

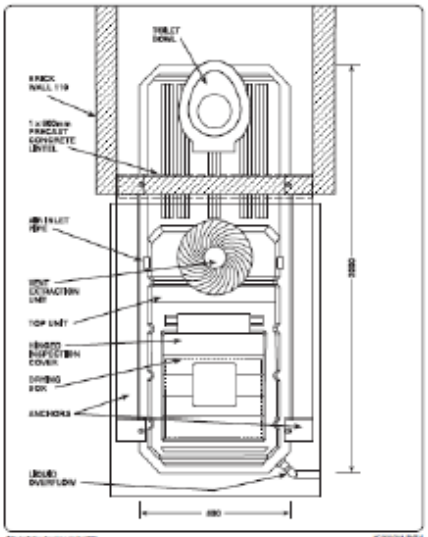
ENGINEERING PLANS: END VIEW



Enviro Loo

MODEL: D2010 STANDARD

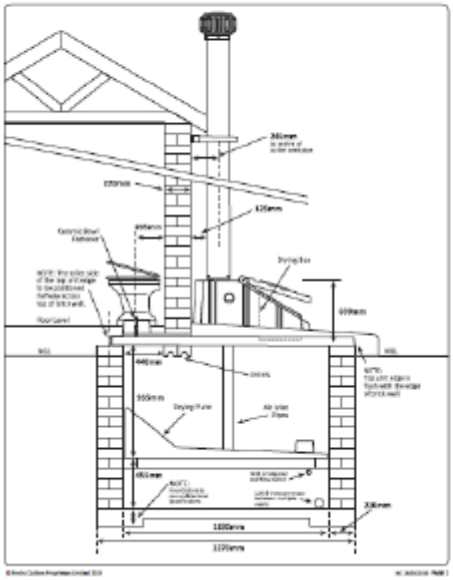
ENGINEERING PLANS: TOP VIEW



Enviro Loo

MODEL: INDUSTRIAL 1040

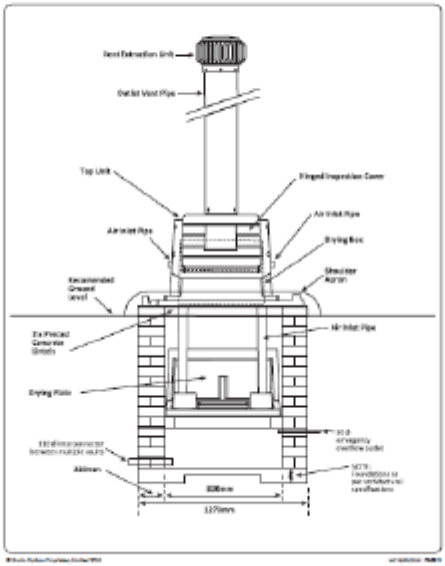
ENGINEERING PLANS: SIDE VIEW



Enviro Loo

MODEL: INDUSTRIAL 1040

ENGINEERING PLANS: END VIEW



Enviro Loo

MODEL: INDUSTRIAL 1040

ENGINEERING PLANS: TOP VIEW