September 2019

Domestic Septic Systems

Council Application Pack

1,450ltr Septic Tank (SEP-1450)

2,200ltr Septic Tank (SEP-2200)

4,000ltr Septic Tank (SEP-4000)

Protank® Leach Drain

OVERVIEW

Thank you for your interest in Coerco's Domestic Septic system products.
Welcome to Coerco. A name of an established and trusted Australian supplier for innovative polyethylene products; essential for every type of liquid or dry storage, and transportation.

We guarantee products of consistent quality, manufactured in Australia from high grade Australian materials. Processing our own Hexene Polyethylene material, sourced only from reputable Australian suppliers, mean we can guarantee our products will be stronger, and have a greater impact resistance, than cheaper alternatives.

Based in Western Australia we know first-hand the wear and tear our range of products frequently encounter. We also know the cost of product failure is too high to contemplate.

That's why we offer this water tight promise; pay a small premium and we will provide you with a product that not only performs better, but provides the reassurance of continued reliability over time.

CONTENTS

SYSTEM OVERVIEW

A septic tank is an apparatus for the bacteriolytic treatment of sewage designed to retain sewage for bacteriolytic treatment. These septic tanks are also suitable to act as a combined system, designed to receive household and such other liquid wastes as approved by the relevant Public Health organisations applicable to the installation site.

PRODUCT COMPLIANCE & CERTIFICATIONS

Coerco's septic tank range is manufactured and subjected to continual rigorous testing and analysis in accordance with Australian Standard AS/NZS1546.1 and have also been reviewed and accepted by various State department health bodies throughout Australia. See attached for supporting approval certification and approval documents.

PRODUCT DRAWINGS

Coerco range of septic general dimensional drawings are available showing inlet and outlet heights along with other useful information for your plumber, council authority and for your own records.

WARRANTY

Coerco as manufacturer of the septic tank or the reseller agent on behalf of Coerco warrants the product to be manufactured to **Australian Standard AS/NZS 1546.1** and to repair or replace (supply only) such tanks due to defective manufacture for a period of **5 years** from date of initial purchase. Further warranty information can be found on company website located here www.coerco.com.au/warranty

Government of **Western Australia**
Department of **Health**

Our ref F-AA-30918
Enquiries Henry Tan (9388 4936)

Mr Jerry Wallis
Coerco
PO Box 319
DALWALLINU WA 6609

Dear Mr Wallis,

APPROVAL OF THE COERCO PLASTIC SEPTIC TANKS

I am pleased to advise that the above approval has been granted for use of the Coerco septic tanks in Western Australia under:

Brand name: Coerco
Model name: URT-3500; URT-4000; URT-7000;
SEP-4000; SEP-1450; SEP-2200

Approval is granted in accordance with the attached conditions of approval and the approved plans.

The above documents all bear the official approval stamp of the Western Australian Department of Health (DOH). These documents may not be altered in any manner without the prior approval of the Chief Health Officer.

All local governments will be advised of this approval and shall be provided with full copies of the approval documentation.

If you have any questions regarding this approval, please contact the Water Unit of the Health Department on (08) 9388 4999.

Yours sincerely

Richard Theobald
delegate of
CHIEF HEALTH OFFICER

21 March 2017

W:\Public Health\EHD\Water Unit\WASTEWATER MANAGEMENT\WASTE\Product Approvals\PreApproval Documents\Septic Tanks\Plastic\Coerco aka Rapid Plastics\Application 2017\Coerco Septic Tank - Application Jan 2017 Letter.doc

Environmental Health
All correspondence PO Box 8172 Perth Business Centre Western Australia
Grace Vaughan House 227 Stubbs Terrace SHENTON PARK WA 6008
Telephone (08) 9388 4999 Fax (08) 9388 4955
28 684 750 332

Government of **Western Australia**
Department of **Health**

COERCO SEPTIC TANKS

CONDITIONS OF APPROVAL

This is to certify that the Coerco Pty Ltd septic tanks

Model Designation: **URT-3500; URT-4000; URT-7000; SEP-4000; SEP-1450; SEP-2200**

Manufactured by: **Coerco Pty Ltd**
9 Hugget Drive
DALWALLINU WA 6609

Department of Health Registration Number: **#187**

is approved by the Chief Health Officer under the Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974 for use within Western Australia in accordance with the conditions specified in Schedules 1 and 2.

Date of Issue: 21 March 2017

This approval expires on 2 November 2019 with the Coerco Pty Ltd StandardsMark Licence No: SMK40330 expiry date or until withdrawn by the Chief Health Officer.

Richard Theobald
delegate of
CHIEF HEALTH OFFICER

Environmental Health
All correspondence PO Box 8172 Perth Business Centre Western Australia
Grace Vaughan House 227 Stubbs Terrace SHENTON PARK WA 6008
Telephone (08) 9388 4999 Fax (08) 9388 4955
28 684 750 332

SCHEDULE 1: GENERAL DESCRIPTION

SPECIFICATION SUMMARY

Tank Model	Tank Type	Capacity (L)	Conditions/ Restrictions
URT-3500	Holding Tank	3500	Tank burial depth = 0mm (ground level)
URT-4000	Holding Tank	4000	
URT-7000	Holding Tank	7000	
SEP-4000	Holding Tank or Septic Tank (baffle option available)	4000	Tank burial depth = maximum of 500mm (below ground level)
SEP-1450	Holding Tank or Septic Tank	1450	
SEP-2200	Holding Tank or Septic Tank	2200	

SCHEDULE 2: CONDITIONS OF APPROVAL

1. General

1.1 Approval is granted in accordance with the drawings submitted and stamped by Department of Health.

1.2 No alteration to the design or specification of the Coerco septic tanks shall occur without prior approval of the Chief Health Officer.

1.3 Any changes to the design or the construction of the Coerco septic tanks shall be submitted for assessment and approval to the Department of Health before being made commercially available in Western Australia.

1.4 Conditions of approval may be varied or withdrawn at the discretion of the Chief Health Officer.

1.5 The serviceable life of the Coerco septic tank and associated fittings shall be a minimum of 15 years provided it is installed in accordance with Coerco Pty Ltd recommendations.

1.6 Each Coerco septic tank shall be permanently and legibly marked on a non-corrosive metal plaque or equivalent, attached on the top external face of the tank adjacent to the inlet fitting with the following information:

- The brand name of the system;
- The Department of Health Registration number;
- The month and year of manufacture.
- The capacity in litres
- Top load limitations and maximum depth of cover
- The weight of tank
- Top load limitations and maximum depth of cover

All marking shall be permanent, legible and clearly visible.

1.7 The manufacturer shall provide the following information to each Local Government where it is intended to install a Coerco septic tank in their area once Departmental Approval has been obtained:

- Statement of serviceable life
- Quality Assurance Certification
- Installation Manual
- Owner's Manual
- Engineering Drawings on A3 format
- Detailed Specifications
- Approval documentation from Department of Health WA.

2 Installation and Commissioning

2.1 For each installation, an application for approval to install shall be in the form of an application to install an apparatus as required under the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974.* Each application for installation shall be made to the Local Government and include full plans and specifications, a completed *Application to Construct or Install an Apparatus for the Treatment of Sewage* form, and pay all fees as prescribed.

2.2 The installation of each Coerco septic tank shall comply with the installation instructions specified by Coerco Pty Ltd and shall comply with minimum clearances specified in the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974.*

2.3 The Coerco septic tank shall be installed so that the inspection openings of the tank are at (or above) ground level and installation shall be in accordance with the installation instructions specified by Coerco Pty Ltd.

2.4 Extensions (risers) to access and inspection openings shall be fitted on tanks when the tank burial depth is more than 300mm below ground level. (Refer to Schedule 1 for approved burial depths)

2.5 When installed, extensions shall be fitted so that a watertight seal is achieved, and so that the extension and the joint are able to withstand external loads and pressures.

2.6 The Coerco septic tanks shall be supplied, constructed and installed in accordance with the design as approved by the Department of Health WA.

2.7 Coerco shall supply with each Coerco septic tank an owner's manual, which sets out the care, operation, and maintenance and on-going management requirements of the system.

2.8 The Coerco septic tanks are not approved for installation in trafficable areas

3 On-going Management

3.1 The owner's manual prepared by Coerco shall contain a plan for the on-going management of the Coerco septic tank. The plan shall include details of:

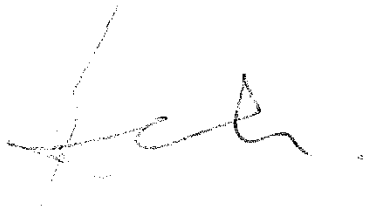
- the treatment process,
- procedures to be followed in the event of a system failure,
- emergency contact numbers,
- maintenance requirements including de-sludging.

4 Permitted uses

4.1 The Coerco septic tanks are approved only for below ground installations.

5 Reduction in nutrient levels

5.1 The Coerco septic tanks are not approved as a phosphorus or nitrogen removal system.



Richard Theobald
delegate of
CHIEF HEALTH OFFICER

21 March 2017

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SCHEDULE TO
STANDARDSMARK LICENCE

Tank Type	Description	Size	Additional Product Information	Date Endorsed
Septic Tank/Collection Well	NEP-3200 / SEP-3200 - Vertical axis cylindrical roto-moulded polyethylene tank. Certification applies only to the construction of the tank (including centre poles) and access cover. Tank also includes baffles.	3200L	Tank burial depth = 500mm (below ground level). Made from recycled 11UV PE.	5 Dec 2016
Septic Tank/Collection Well	NEP-4000 / SEP4000 - Vertical axis cylindrical roto-moulded polyethylene tank. Certification applies only to the construction of the tank (including centre poles) and access cover. Tank also includes baffles.	4000L	Tank burial depth = 500mm (below ground level). Made from recycled 11UV PE.	5 Dec 2016
Septic Tank/Collection Well	SEP-1450.Vertical axis cylindrical with domed top roto-moulded polyethylene tank. Certification applies only to the construction of the tank and access cover.	1450L	Tank burial depth = 500mm (below ground level). Made from recycled 11UV PE	5 Dec 2016
Septic Tank/Collection Well	SEP-2200.Vertical axis cylindrical with domed top roto-moulded polyethylene tank. Certification applies only to the construction of the tank and access cover.	2200L	Tank burial depth = 500mm (below ground level). Made from recycled 11UV PE.	5 Dec 2016

End of Record

Certificate No: SMK40330 Issued Date: 6 December 2016

This schedule supersedes all previously issued schedules

*** For details of manufacture, refer to the licensee**

SAI GLOBAL
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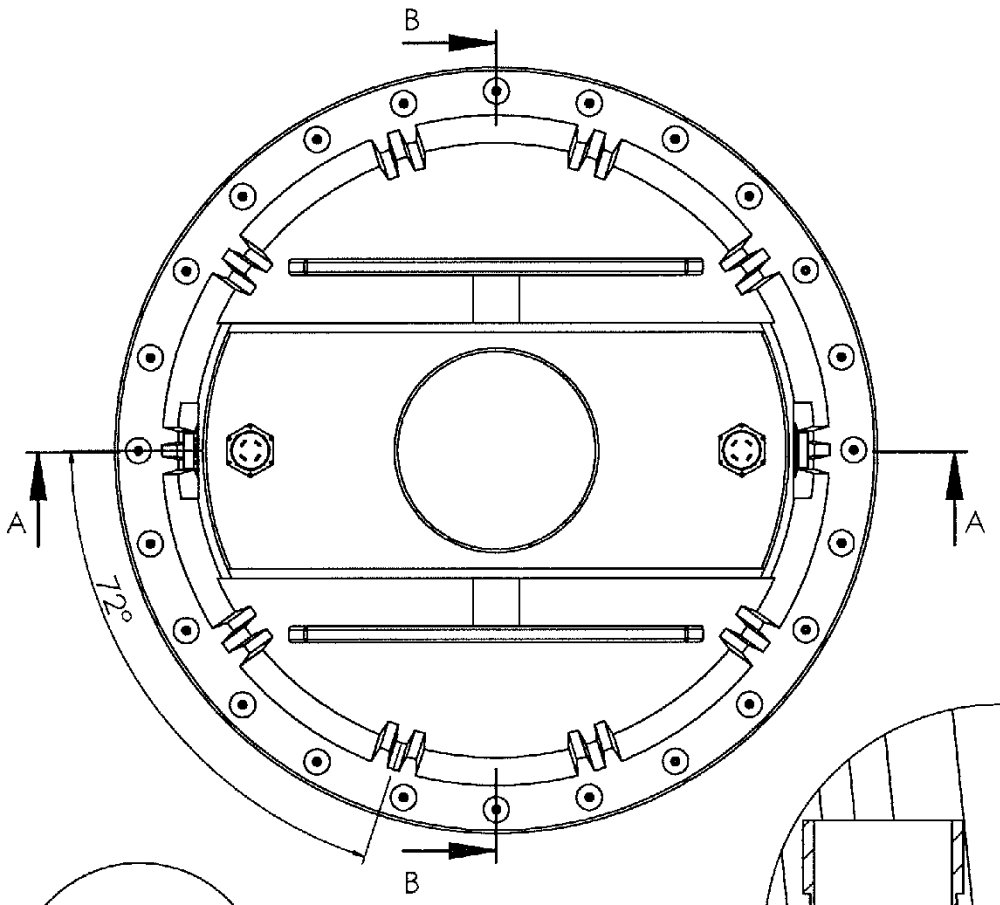
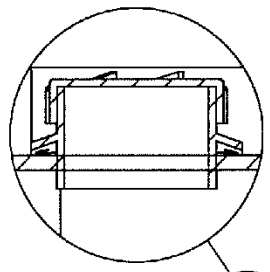
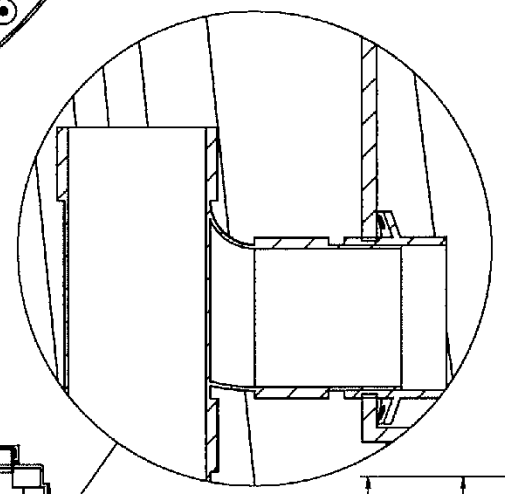


PLAN VIEW





Installation Instructions

- Excavate hole and line with 100mm of clean sand.
- Lower the tank into the hole and **FILL WITH WATER.**
- Fix manhole cover to upstand with four stainless steel screws
- Backfill using sand or similar with special attention to underside of anti-flotation flange.

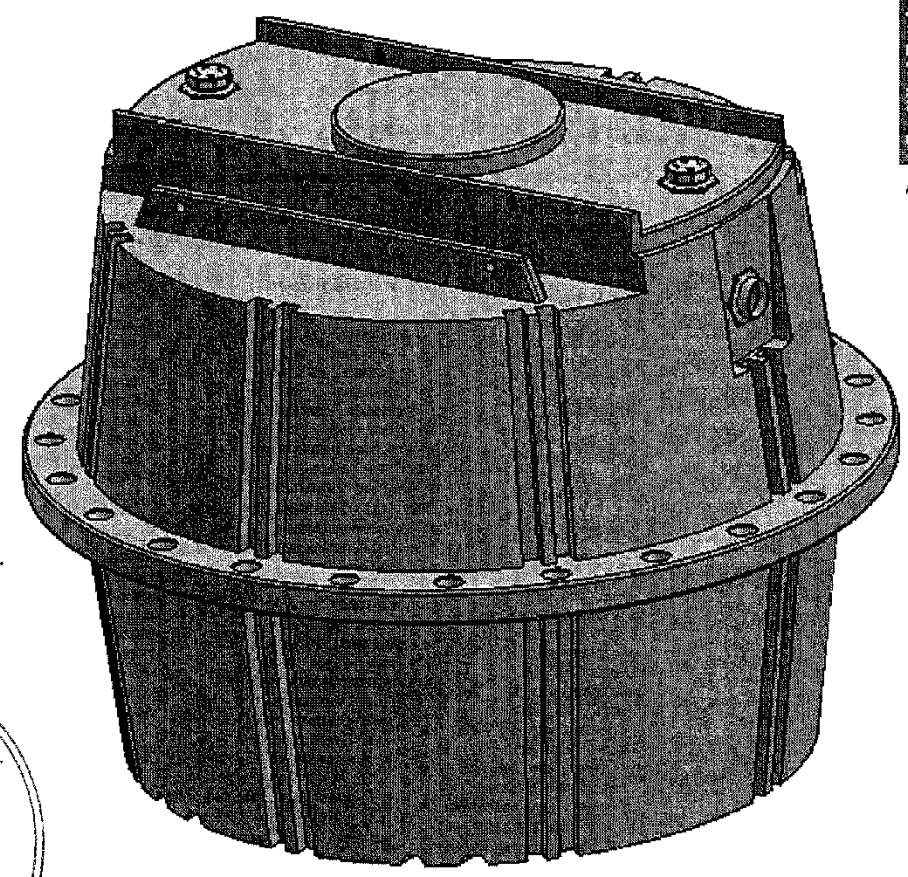
NEVER BACKFILL BEFORE FILLING TANK WITH WATER

IMPORTANT

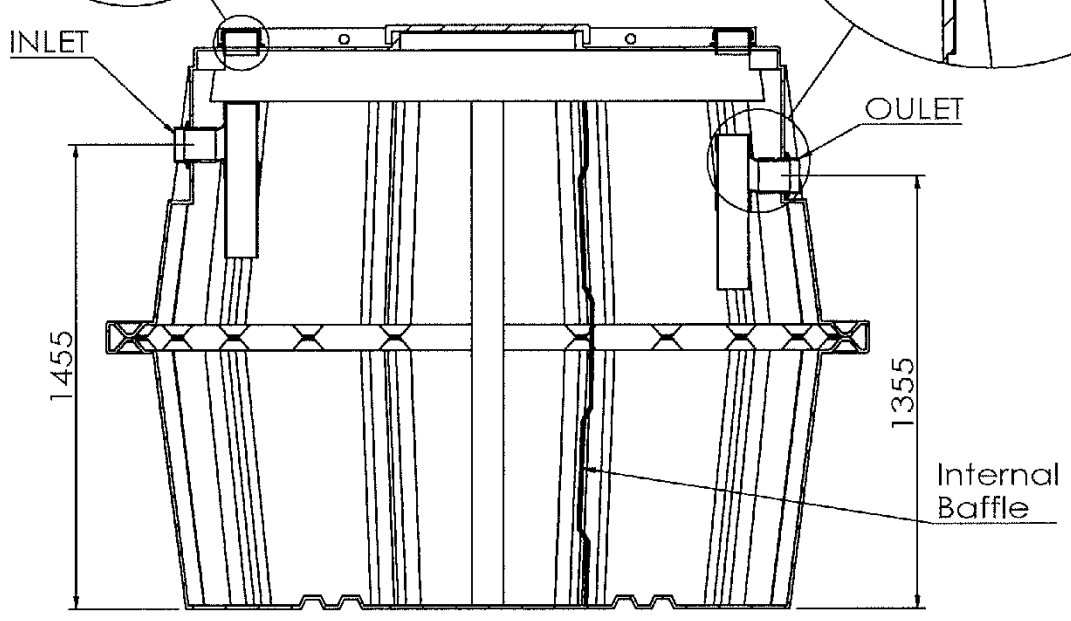
- Backfill must not completely cover the tank in most installations.
- **NEVER** completely pump the tank out. Always leave at least 800mm liquid depth.
- This septic tank has been manufactured to Australian Standard AS/NZS1546.1
- This septic tank is **NOT** designed for installation in trafficable areas.

DEPARTMENT OF HEALTH
APPROVED
21 MAR 2017
EDPH
OF WA

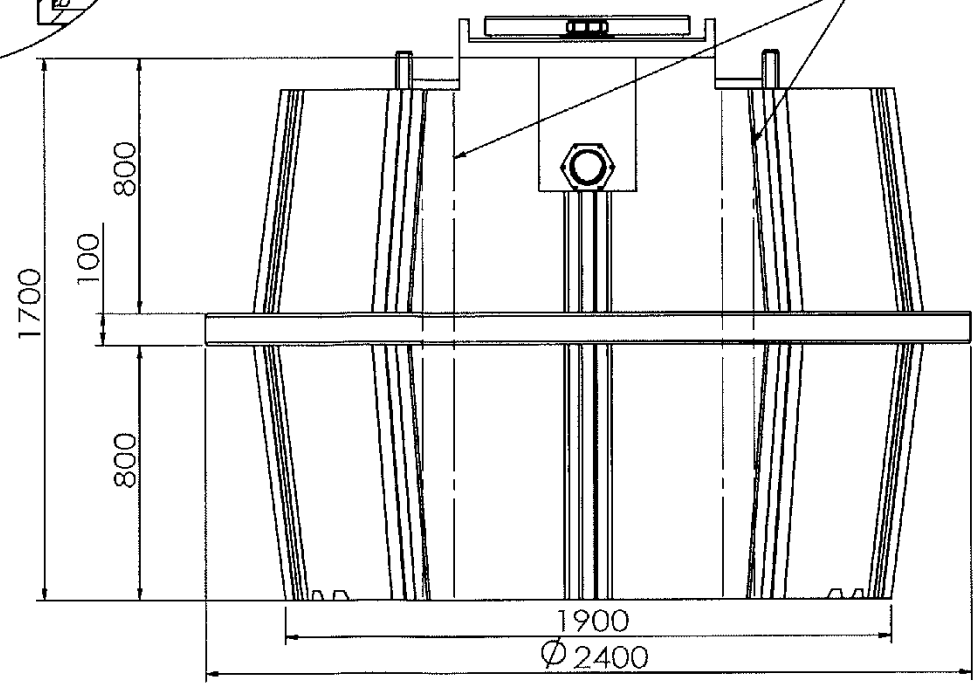
Certified Product™
Australian Standard
AS1546.1
Lic SMK40330
SAI Global



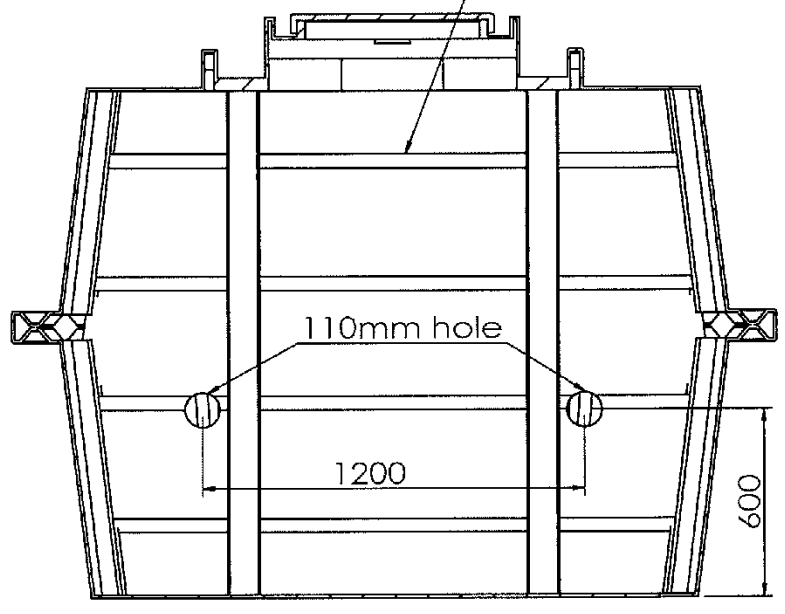
ISOMETRIC VIEW



Section A-A



SIDEVIEW



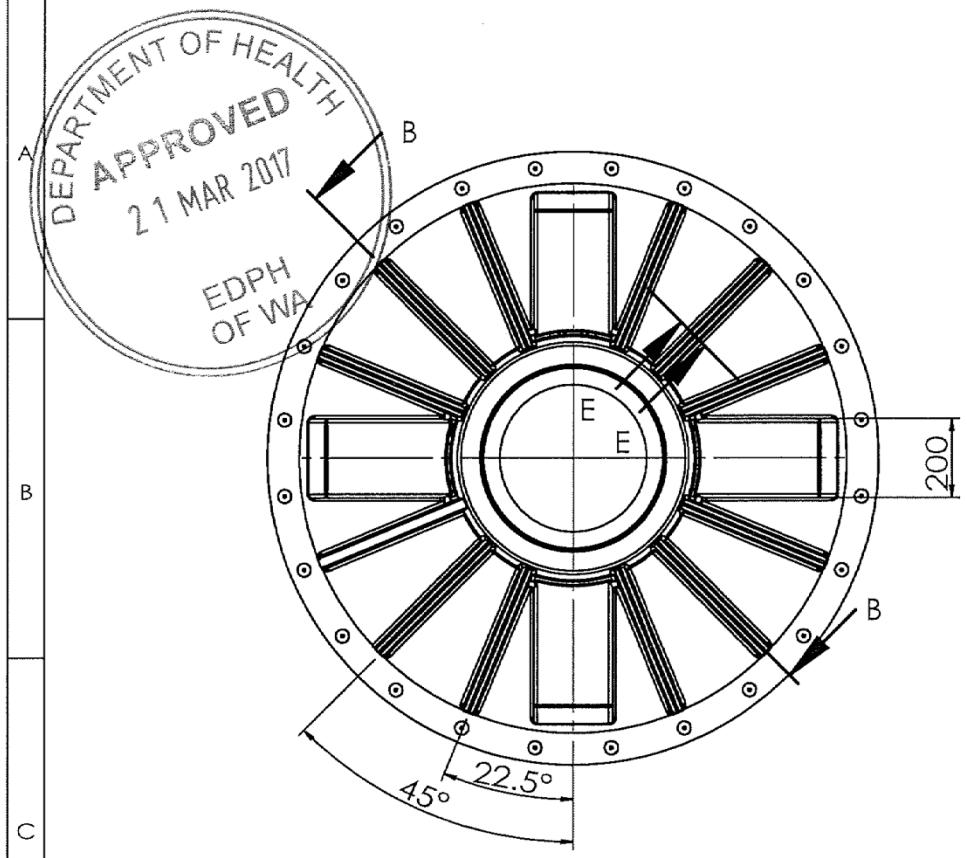
Section B-B

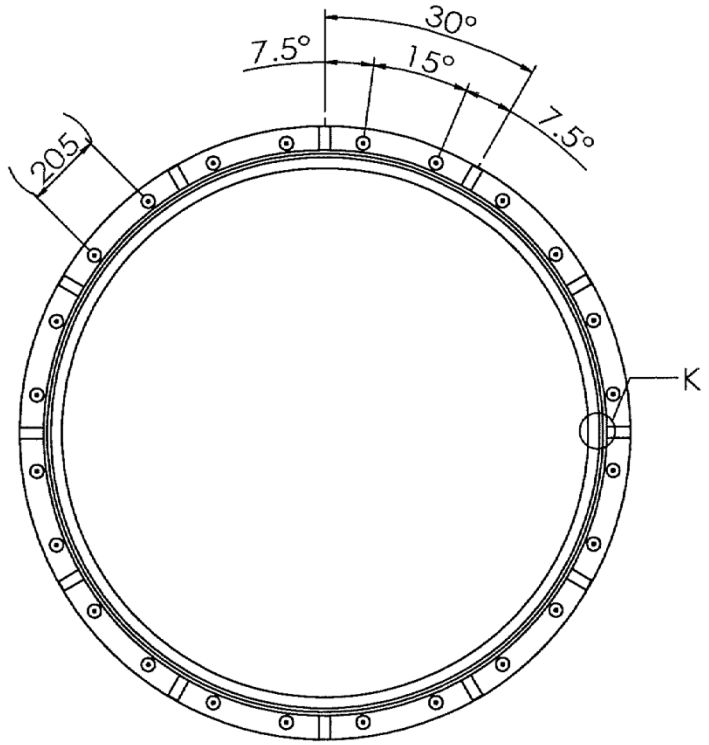
DATE	02.12.2016	MATERIAL	LLDPE				SHEET 1 OF 1
PRODUCT	4000LTR SEPTIC TANK	SURFACE FINISH					CHKD
PRODUCT CODE	-	WALL THICKNESS					APVD
DRAWING No	-	SCALE	Not To Scale	07	TK	22.02.2017	Installation instructions added
				REV	BY	DATE	DESCRIPTION

REVISIONS

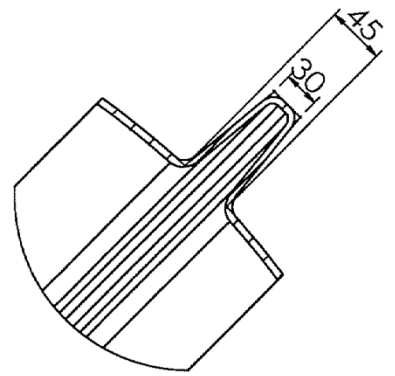
SHEET SIZE A3

coerco

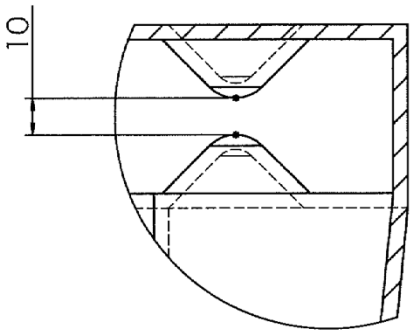




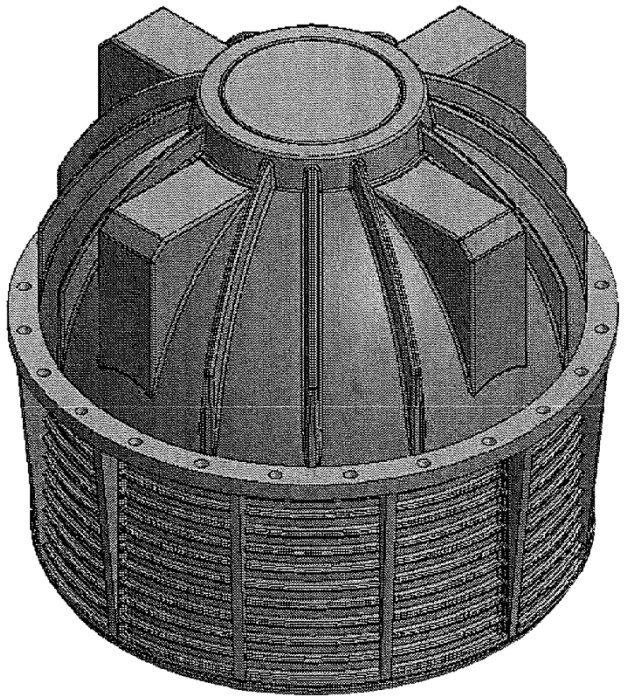
Section J-J



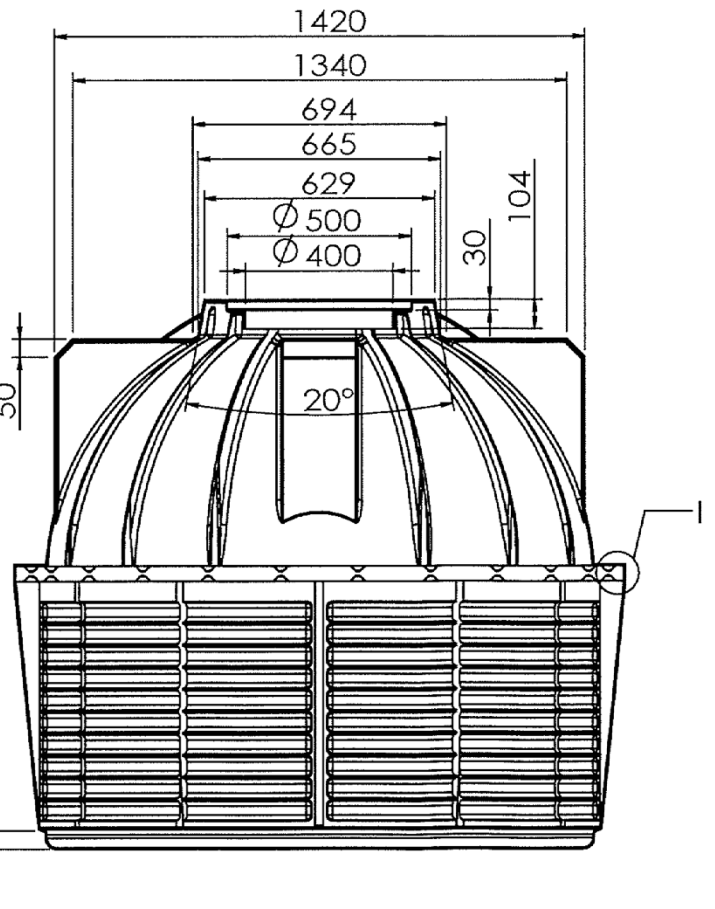
Section E-E



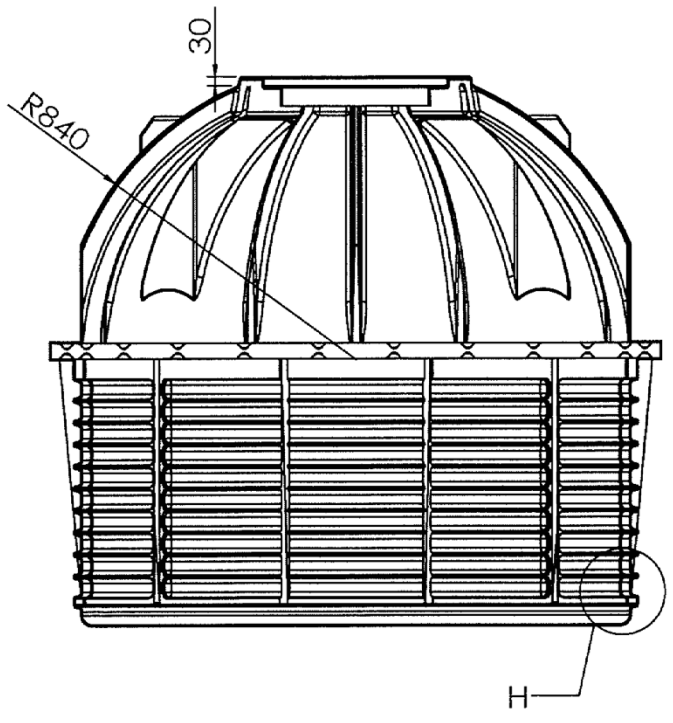
Detail I



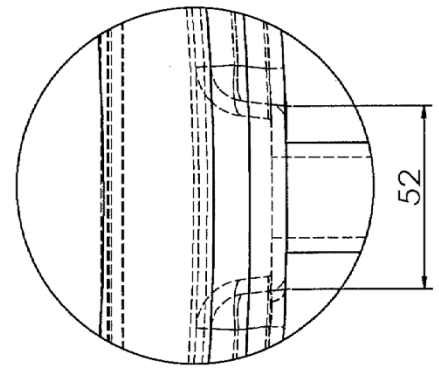
2200Ltr Septic Tank



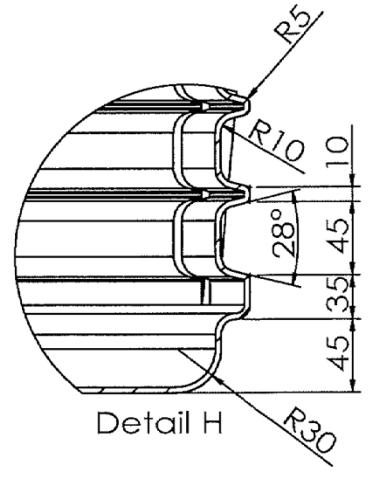
Section A-A



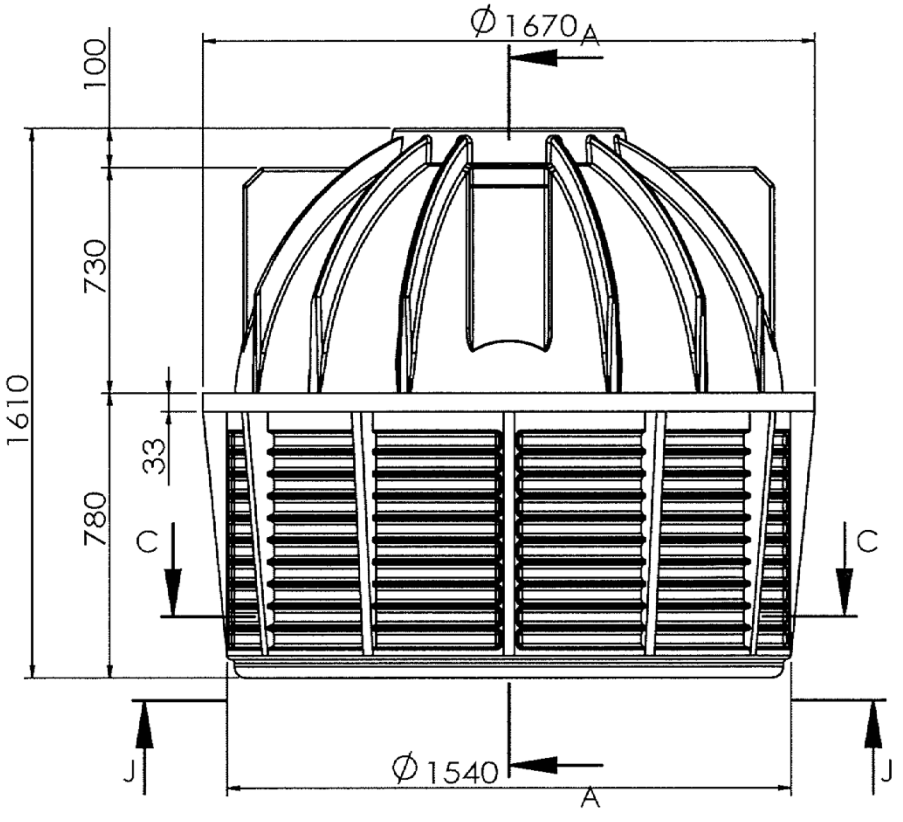
Section B-B



Detail K



Detail H



Section A-A

Section B-B

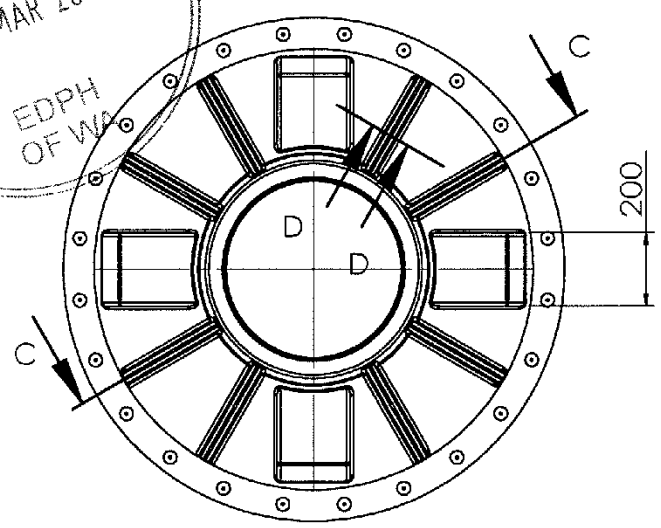
coerco
Engineered Poly Products

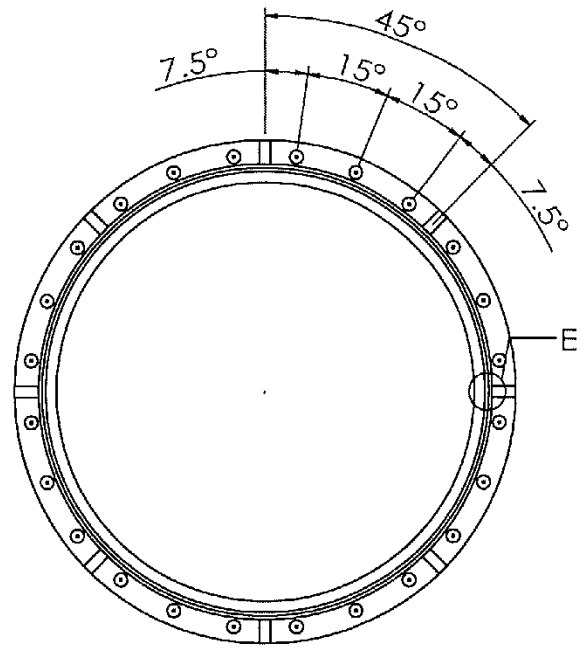
DATE	20.09.2016	MATERIAL	LLDPE02
PRODUCT	2200Ltr Septic Tank	SURFACE FINISH	-
PRODUCT CODE	SEP-2200	WALL THICKNESS	14mm Average
DRAWING No	SEP-2200-001	SCALE	Not To Scale

REVISIONS				
REV	BY	DATE	DESCRIPTION	
01	JW	30.09.2016	Changed the dimensions	
00	RW	20.09.2016	Initial Drawing Issued	

SHEET 1 OF 1
CHKD
APVD
SHEET SIZE A3

DEPARTMENT OF HEALTH
APPROVED
21 MAR 2017
EDPH
OF WA





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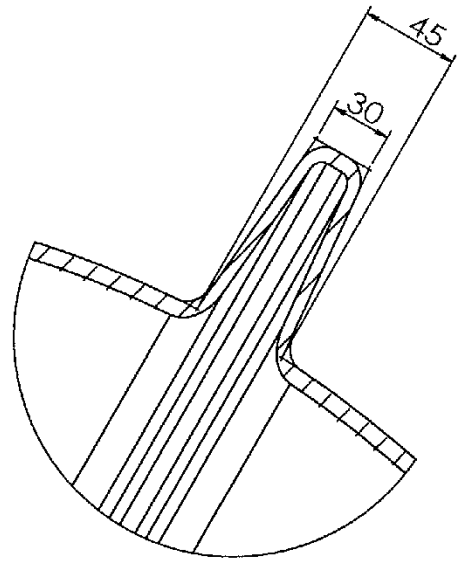

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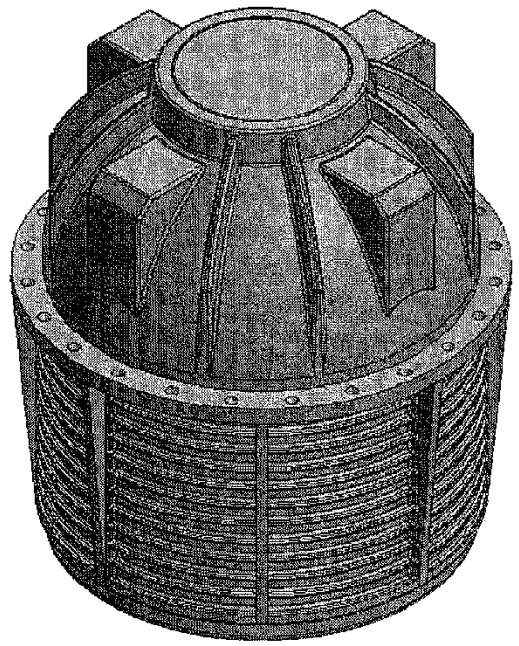
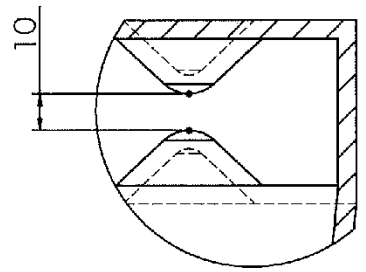
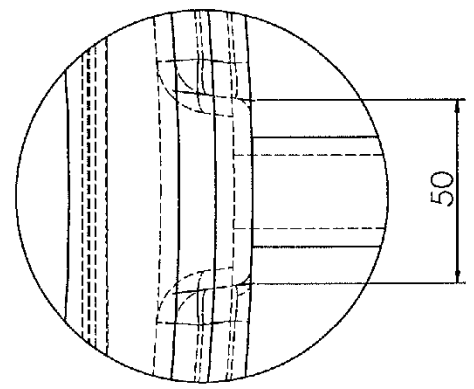


1450Ltr Septic Tank



Detail L



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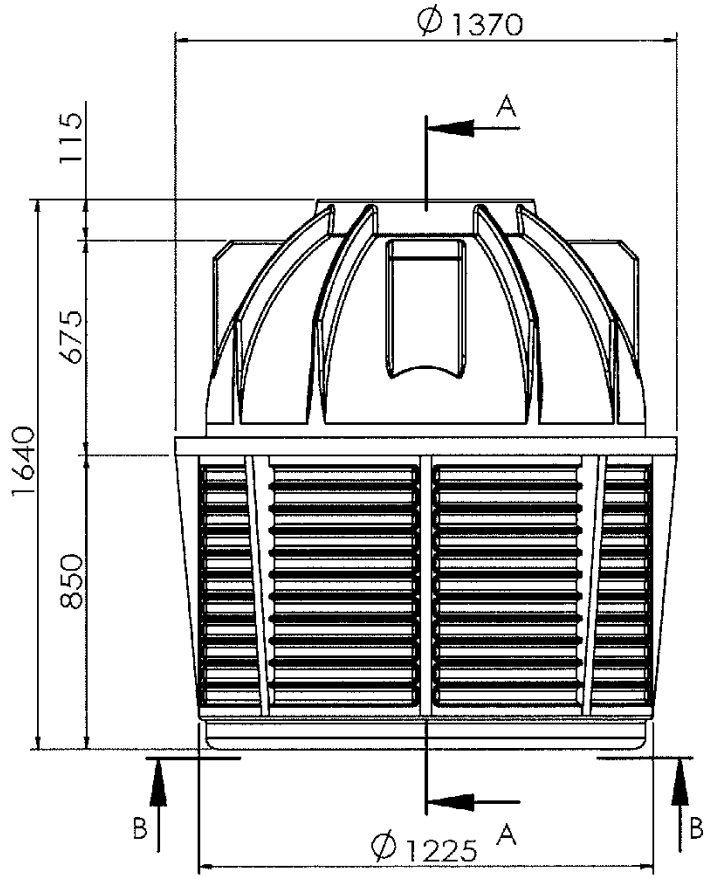
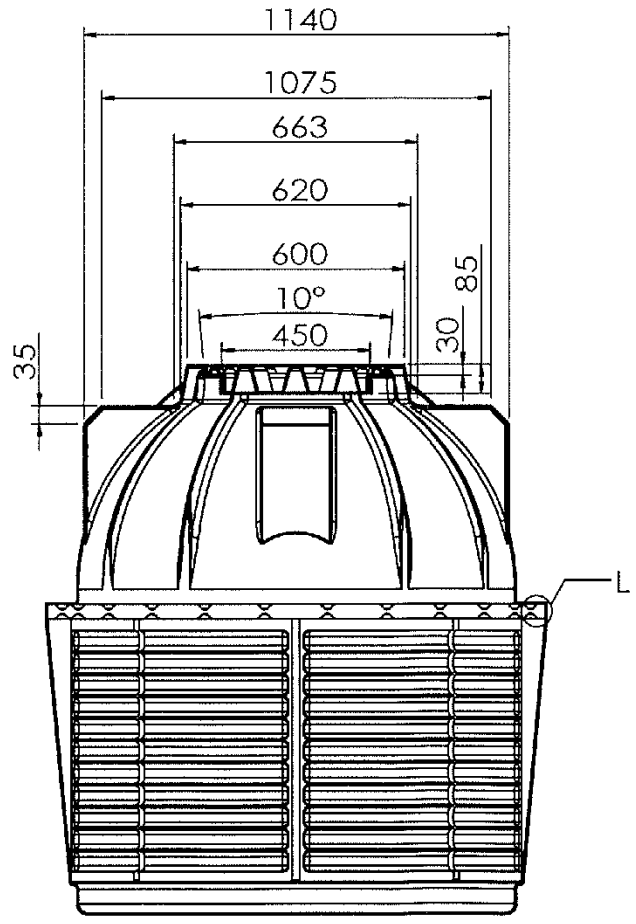
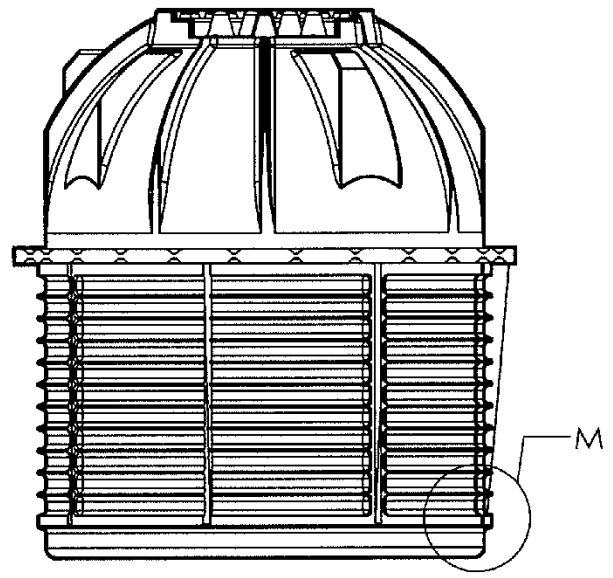
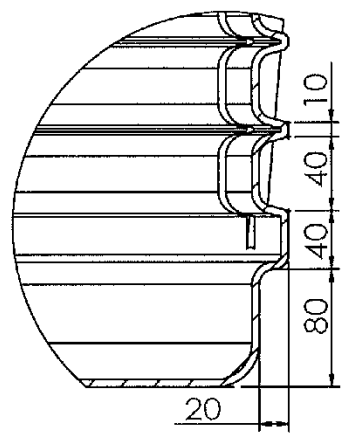




Section A-A



Section C-C



Detail M

coerco
Engineered Poly Products

DATE	02.08.2016	MATERIAL	LLDPE02
PRODUCT	1450Ltr Septic Tank	SURFACE FINISH	-
PRODUCT CODE	SEP-1450	WALL THICKNESS	-
DRAWING No	SEP-1450-001	SCALE	Not To Scale

REVISIONS

REV	BY	DATE	DESCRIPTION
04	JW	02.11.2016	Added 'kiss off' point(x24), vertical ribs(x8), Lid

SHEET 1 OF 1
CHKD
APVD
SHEET SIZE A3

Government of **Western Australia**
Department of **Health**

Our ref: F-AA-22100
Enquiries: Natalia Shishkina (9388 4940)

Mr Eric Weston
GLOBAL SYNTHETICS Pty Ltd
17 CHURCH ROAD
MADDINGTON WA 6109

Dear Mr Weston

APPROVAL FOR THE "PROTANK" MODULAR PLASTIC LEACH DRAIN SYSTEM IN WESTERN AUSTRALIA

I write in regard to your application to the Department of Health seeking approval for the "PROTANK" leach drain system.

I am pleased to advise that this product is approved for use in Western Australia under the brand: **"PROTANK"**

Your Company Registration Number is: **181**

Approval is granted in accordance with the drawings and documents listed below:

- Drawings: "PROTANK" Module Drawing-1: GSWA211112-1REVA
  "PROTANK" Module Drawing-2: GSWA080113.1RevA

- Documents: "PROTANK" assembly guidelines
  "PROTANK" technical specification for modules installation

This approval is subject to the following conditions:

1) All "PROTANK" leach drain systems shall be assembled and installed in accordance with the installation instructions specified by Global Synthetics Pty Ltd.

2) Each drain must be provided with two inspection openings 150mm in diameter (one at the start and one at the end of the length of drain).

3) It should be noted that due to the infiltrative area of the "ProTank" leach drain being approximately 19% less than the standard specified in Regulation 49 of the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974*, it will be required that "ProTank" leach drains be sized as indicated in the following table:

Environmental Health Directorate
Grace Vaughan House 227 Stubbs Terrace SHENTON PARK Western Australia 6008
PO Box 8172 PERTH BUSINESS CENTRE WA 6849
Telephone (08) 9388 4999 Facsimile (08) 9388 4955
www.health.wa.gov.au

FOR COMBINED SYSTEMS, OTHER THAN BLOCKS OF FLATS OR UNITS WITH MORE THAN 4 BEDROOMS

Number of Bedrooms	Soil Classification			
	Sand		Loams or gravels	
	Minimum infiltrative area (m^2)	ProTank leach drain (No. x length) (No. x modules)	Minimum infiltrative area (m^2)	ProTank leach drain (No. x length) (No. x modules)
2 or less	18.8	2 x 7.0m 2 x 10 modules	28.2	2 x 10.7m 2 x 15 modules
3	25.4	2 x 9.6m 2 x 14 modules	38.1	2 x 14.5m 2 x 21 modules
4 or more	27.6	2 x 10.4m 2 x 15 modules	41.5	2 x 15.8m 2 x 22 modules

NOTE: The ProTank leach drain has an infiltrative area of approximately 1.29 m^2 per metre of length, provided that effluent enters through the top of the drain. Each length of drain has an additional infiltrative area of 0.36 m^2 provided by the two end plates.

4) This approval and the conditions of approval may be varied or withdrawn at the discretion of the Executive Director, Public Health.

All local governments will be advised of this approval and shall be provided with full copies of the approval documentation, including drawings and specifications.

Should you have any questions regarding this approval, please contact the Water Unit of the Health Department WA on (08) 9388 4999.

Yours sincerely

Richard Theobald
MANAGER WATER UNIT
PUBLIC HEALTH AND CLINICAL SERVICES DIVISION
DEPARTMENT OF HEALTH WA

7 August 2013

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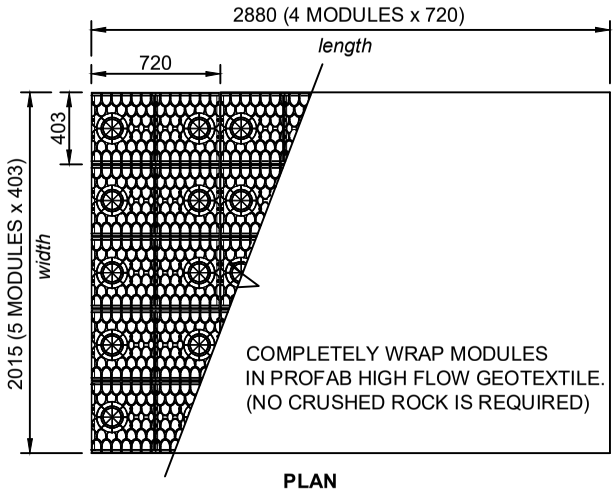
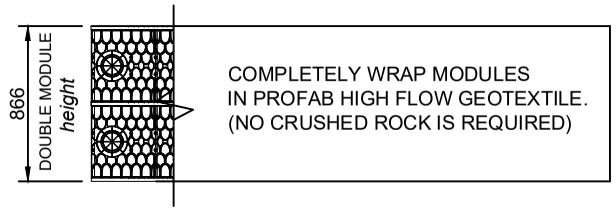
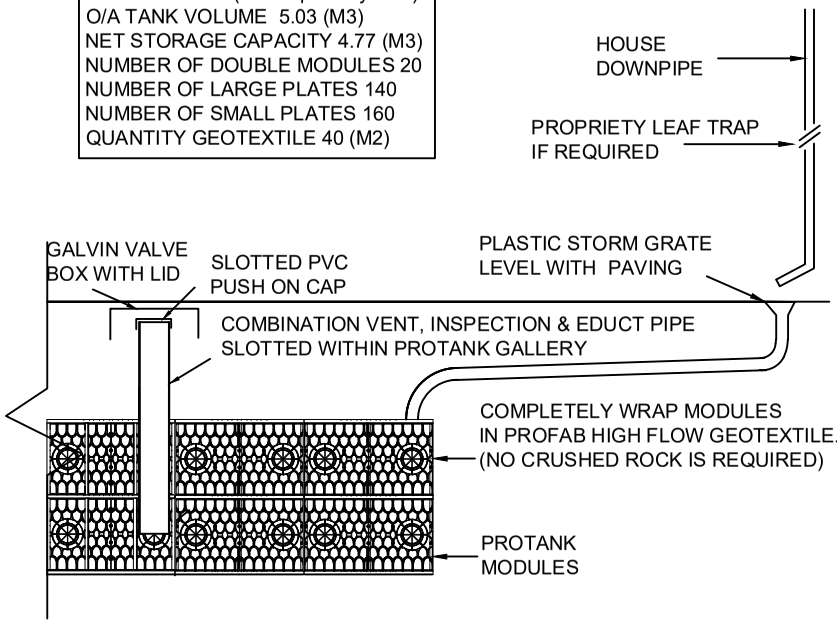


PLAN

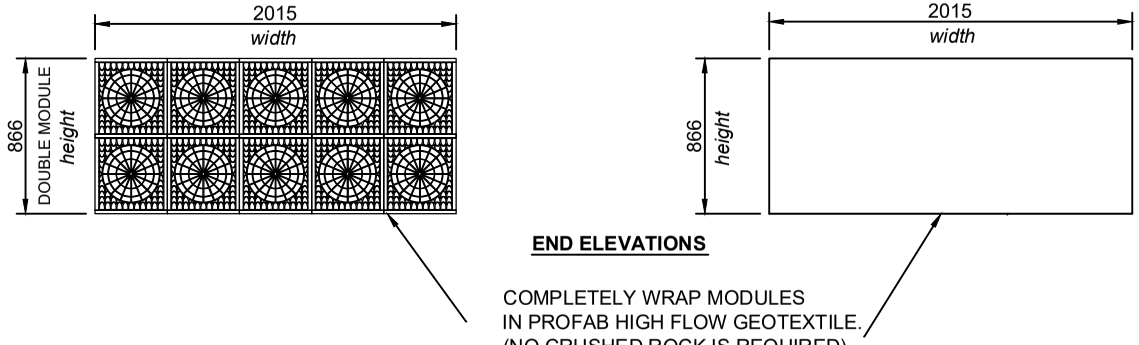


ELEVATION

TANK DETAILS (4 vert. plate system)
O/A TANK VOLUME 5.03 (M3)
NET STORAGE CAPACITY 4.77 (M3)
NUMBER OF DOUBLE MODULES 20
NUMBER OF LARGE PLATES 140
NUMBER OF SMALL PLATES 160
QUANTITY GEOTEXTILE 40 (M2)



TYPICAL CONNECTION & VENT DETAIL



END ELEVATIONS

NOTES:
- BASE OF EXCAVATION TO BE APPROX 1000 LARGER THAN TANK DIMENSION
- INSTALL ON A COMPACTED LEVEL BASE TO SATISFACTION OF ENGINEER.
- USE A FOUR PLATE SYSTEM FOR TRAFFICABLE LOCATIONS.
- PROVIDE 600MM MINIMUM COVER FOR TRAFFICABLE LOCATIONS.
- FOR NON TRAFFIC AREAS USE A THREE PLATE SYSTEM WITH MIN 300 COVER.
- COMPLETELY WRAP MODULES IN PROFAB HIGH FLOW GEOTEXTILE..
- BACKFILL WITH CLEAN FILL COMPACTED IN 300MM LAYERS.
- VENT/EDUCT/ACCESS POINTS SUIT 90mm, 100mm & 150MM PVC PIPE.
- INLET/OUTLET CONNECTION POINTS SUIT 150mm, 225mm & 300mm PVC PIPE.
- CONNECTIONS CAN BE INDIVIDUAL OR VIA A PIPE NETWORK.
- NO CRUSHED ROCK IS REQUIRED.
- NO RANDOM CUTTING FOR PIPE INLET/OUTLET IS REQUIRED.
- ADEQUATE VENTING IS ESSENTIAL.
- PROTANK & MONOWEAVE SUPPLIED BY GLOBAL SYNTHETICS.
- PIPE AND FITTINGS SUPPLIED BY OTHERS.

Global Synthetics

Global Synthetics Pty Ltd
ACN:120 519 520 ABN: 71 120 519 520
NSW 02 9725 4321
QLD 07 3865 7000
WA/SA/NT 08 9459 4300
VIC/TAS 03 9791 1772
Web: www.globalsynthetics.com.au

REVISION:

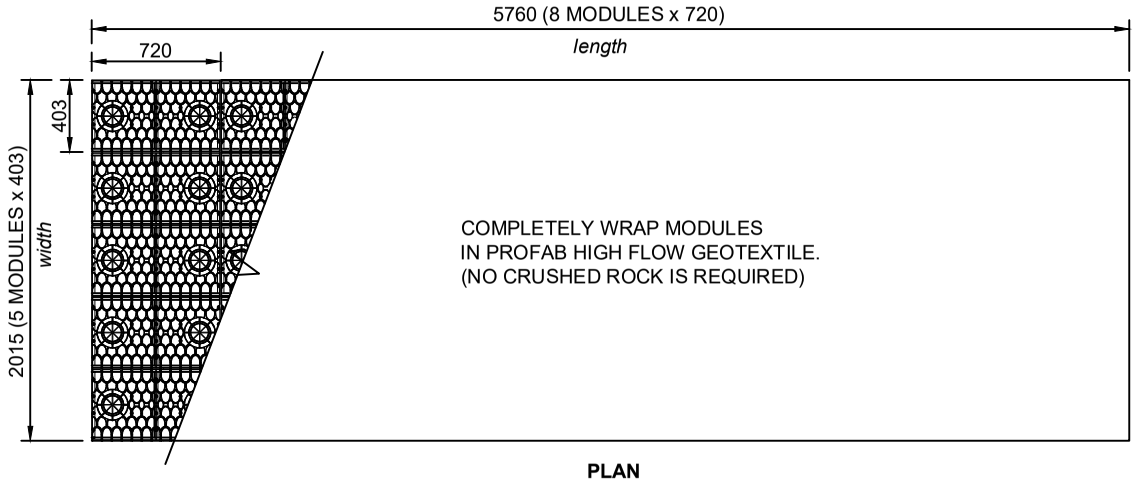
A:

DRAWING TITLE:
DOMESTIC INFILTRATION TANK USING GLOBAL SYNTHETICS PROTANK.
5 CUBIC METRE - 4 VERTICAL PLATE SYSTEM
TRAFFICABLE

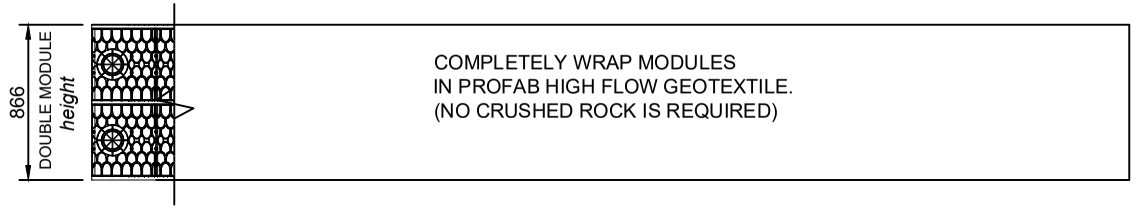
PROJECT:
STANDARD DRAWING

DRAWING NO:
GSWA030713.SHEET 6 REV A

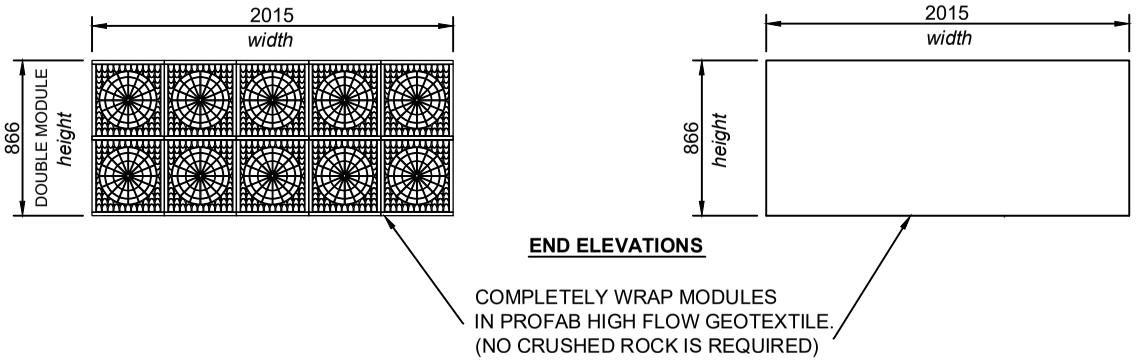
DRAWN BY: EPW
DATE: 08.07.2013
CHECKED BY:
DATE:
REVISED BY:
DATE:
DRAWING SIZE: A4
DO NOT SCALE DRAWING
ALL DIMENSIONS ARE IN mm



PLAN

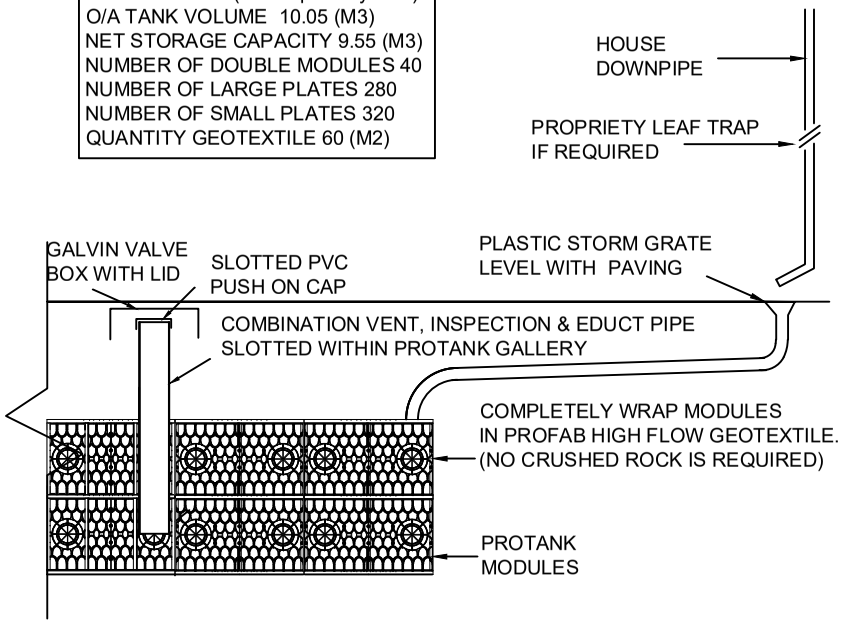


ELEVATION



END ELEVATIONS

TANK DETAILS (4 vert. plate system)
O/A TANK VOLUME 10.05 (M3)
NET STORAGE CAPACITY 9.55 (M3)
NUMBER OF DOUBLE MODULES 40
NUMBER OF LARGE PLATES 280
NUMBER OF SMALL PLATES 320
QUANTITY GEOTEXTILE 60 (M2)



TYPICAL CONNECTION & VENT DETAIL

NOTES:
- BASE OF EXCAVATION TO BE APPROX 1000 LARGER THAN TANK DIMENSION
- INSTALL ON A COMPACTED LEVEL BASE TO SATISFACTION OF ENGINEER.
- USE A FOUR PLATE SYSTEM FOR TRAFFICABLE LOCATIONS.
- PROVIDE 600MM MINIMUM COVER FOR TRAFFICABLE LOCATIONS.
- FOR NON TRAFFIC AREAS USE A THREE PLATE SYSTEM WITH MIN 300 COVER.
- COMPLETELY WRAP MODULES IN PROFAB HIGH FLOW GEOTEXTILE..
- BACKFILL WITH CLEAN FILL COMPACTED IN 300MM LAYERS.
- VENT/EDUCT/ACCESS POINTS SUIT 90mm, 100mm & 150MM PVC PIPE.
- INLET/OUTLET CONNECTION POINTS SUIT 150mm, 225mm & 300mm PVC PIPE.
- CONNECTIONS CAN BE INDIVIDUAL OR VIA A PIPE NETWORK.
- NO CRUSHED ROCK IS REQUIRED.
- NO RANDOM CUTTING FOR PIPE INLET/OUTLET IS REQUIRED.
- ADEQUATE VENTING IS ESSENTIAL.
- PROTANK & MONOWEAVE SUPPLIED BY GLOBAL SYNTHETICS.
- PIPE AND FITTINGS SUPPLIED BY OTHERS.

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REVISION:

A:

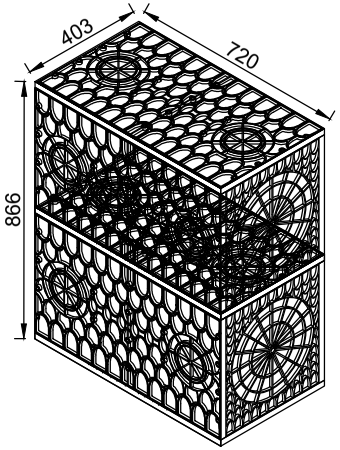
DRAWING TITLE:
DOMESTIC INFILTRATION TANK USING GLOBAL SYNTHETICS PROTANK.
10 CUBIC METRE - 4 VERTICAL PLATE SYSTEM
TRAFFICABLE

PROJECT:
STANDARD DRAWING

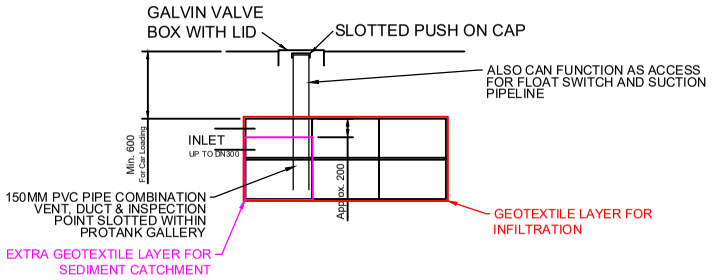
DRAWING NO:
GSWA030713.SHEET2 REV A

DRAWN BY: EPW
DATE: 08.07.2013
CHECKED BY:
DATE:
REVISED BY:
DATE:
DRAWING SIZE: A4
DO NOT SCALE DRAWING
ALL DIMENSIONS ARE IN mm

ProTank®
32X34 Modules 260m³



PROTANK
DOUBLE MODULE



TYPICAL SIDE ELEVATION

NOTES:
- BASE OF EXCAVATION TO BE APPROX 1000 LARGER THAN TANK DIMENSION
- INSTALL ON A COMPACTED LEVEL BASE TO SATISFACTION OF ENGINEER.
- USE A FOUR VERTICAL PLATE SYSTEM FOR TRAFFICABLE LOCATIONS.
- A THREE PLATE SYSTEM MAY BE USED FOR NON-TRAFFICALE LOCATIONS.
- PROVIDE 600MM MINIMUM COMPACTED FILL COVER FOR TRAFFICABLE LOCATIONS AND 300MM MINIMUM FOR NON TRAFFICABLE LOCATIONS.
- COMPLETELY WRAP MODULES IN PROFAB MONOWEAVE GEOTEXTILE..
- BACKFILL WITH CLEAN FILL, COMPACTED AS DIRECTED BY THE ENGINEER.
- VENT/EDUCT/ACCESS POINTS SUIT 90mm, 100mm & 150MM PVC PIPE.
- INLET/OUTLET CONNECTION POINTS SUIT 150mm, 225mm & 300mm PVC PIPE.
- NO CRUSHED ROCK IS REQUIRED.
- NO RANDOM CUTTING FOR PIPE INLET/OUTLET IS REQUIRED.
- ADEQUATE VENTING IS ESSENTIAL.

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REVISION:
A:

DRAWING TITLE:
Global Synthetics PROTANK® Solution for Storm Water Infiltration

PROJECT:
Caversham South PS

DRAWING NO:
GSWA181008 SHEET 1

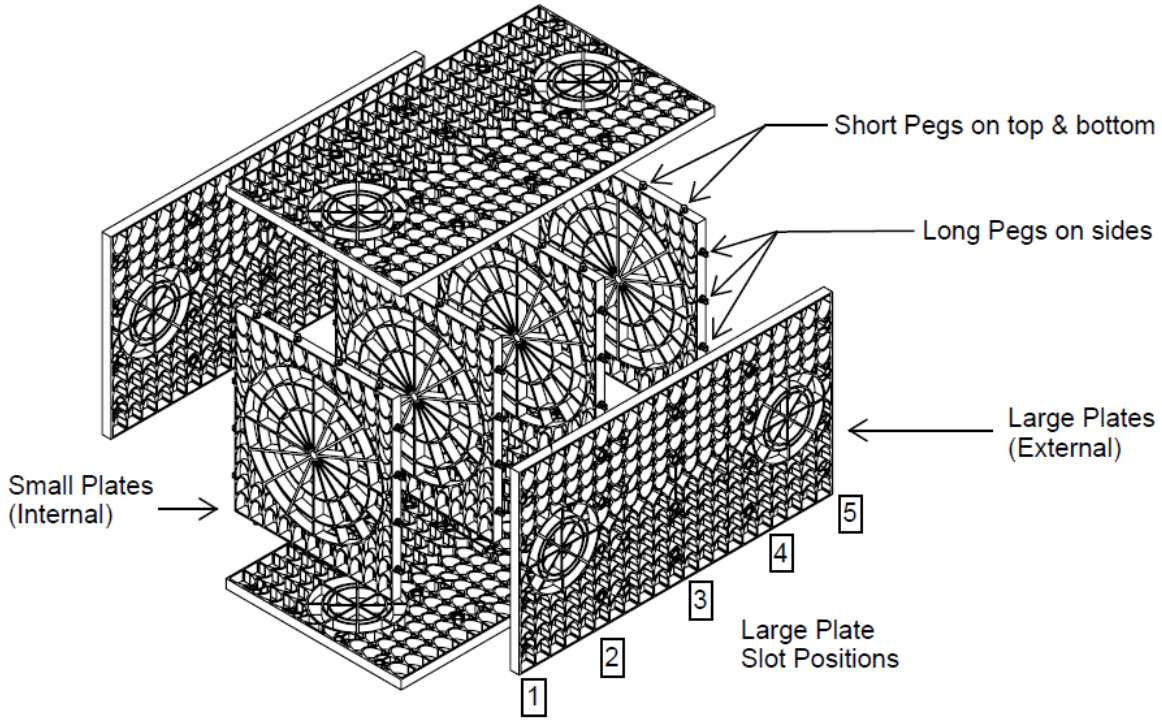
DRAWN BY:	DATE:	DRAWING SIZE:
BU	08.10.2018	A4
CHECKED BY:	DATE:	DO NOT SCALE DRAWING
REVISED BY:	DATE:	ALL DIMENSIONS IN mm

Global Synthetics
Australian Company – Global Expertise

Global Synthetics is an Australian owned, independent manufacturer and distributor of Geosynthetics in the Environmental, Landscaping, Stormwater Management and Engineering Industries in the Australasia and Pacific region.

PROTANK ASSEMBLY GUIDELINES

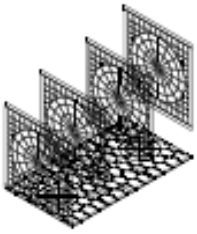
Assembly and Installation shall be in accordance with the project plans and these guidelines or as directed by the Project Engineer. Shown below is a four small-plate ("Heavy Duty" configuration) assembly:



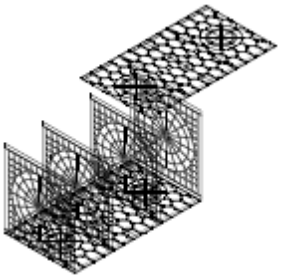
Final Dimensions of Assembled ProTank Modules			
	Length	**Width**	**Height**
Single	720mm	403mm	443mm
Double	720mm	403mm	866mm
Triple	720mm	403mm	1,289mm
Quad	720mm	403mm	1,712mm
Penta*	720mm	403mm	2,135mm

* Penta height only with Heavy Duty and Ultra Duty configurations

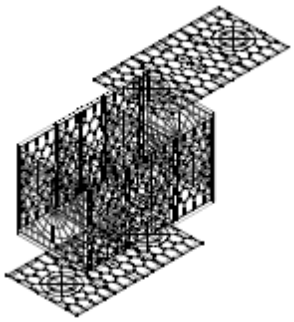
STEP 1: Lay one ProTank Large Plate on a flat surface and insert four ProTank Small Plates in slot positions 1, 2, 4 & 5. Strike into place using a light rubber mallet; avoid striking the pegs with the mallet. The Small Plates should be oriented such that their short pegs are facing vertically.



STEP 2: Now align a second Large Plate against the top row of upstanding short pegs and strike into place as with step one.



STEP 3: Place a third Large Plate onto a flat surface. Flip the ProTank Module through 90 degrees and position over third Large Plate. Make sure all long pegs are aligned when positioning.



STEP 4: Fit the fourth ProTank Large Plate against the top row of upstanding long pegs. Strike both third and fourth Large Plates into place using the light rubber mallet. Flip the ProTank module through 90 degrees again such that it is in correct orientation for installation (i.e. short pegs aligned vertically).

NOTE: When assembling double, triple, quad or penta height ProTank Modules, the top ProTank Large Plate (from step 4 above) becomes the base Large Plate of the ProTank Module above it (i.e. one ProTank Large Plate is saved for every Module increment in height).

PROTANK INSTALLATION GUIDELINES

Excavation
Excavation shall be deep enough to provide adequate cover to the assembled ProTank Modules. If natural material is unsuitable as a base for assembly of ProTank Modules, additional depth of excavation is to be allowed to permit a 100mm-200mm of clean fill to be placed on the base of the excavation Base of excavation shall be approximately 1000mm wider than the proposed modular structure perimeter footprint to permit reasonable access for installation and compaction.

Compaction
Base of excavation shall be smooth and compacted to 90% MDD or to the satisfaction of the Engineer. Backfill around the perimeter of the ProTank Modules shall be compacted in 300mm layers to 90% MDD or to the satisfaction of the Engineer. Backfill over the top of the ProTank Modules shall be compacted in 300mm layers to 90% MDD or to the satisfaction of the Engineer.

Delivery / Storage of ProTank Modules and Site Protection
Protect ProTank Modules from damage during delivery and storage at site. Lay down area should be level, clean and free of debris. Where ProTank Modules are to be stored on site for periods greater than one week, they shall be suitably covered with tarpaulins.

Backfilling
Backfilling around the ProTank Modules shall be with clean free draining material, free of foreign debris and placed in 300mm layers around the perimeter of the assembled ProTank Modules. Backfill over the assembled ProTank Modules shall be clean free draining material and placed in 300mm layers. A minimum backfill cover over the ProTank Modules of 300mm shall apply to pedestrian and non-traffic areas. A minimum backfill cover of 600mm shall apply to trafficable areas. The maximum depth of cover over ProTank Modules shall not exceed 2000mm.
Note: The determination of future allowable use for the area above the tank will also be influenced by the number of vertical plates used in the assembly of the ProTank Modules. Advice on allowable loads should be sought through the Project Engineer and in consultation with the Manufacturer. No machinery shall drive on top of tank until 600mm of compacted cover is achieved. Avoid driving heavy machinery over the completed tank.

Geotextile
The entire assembled structure of ProTank Modules shall be completely wrapped in geotextile. Where the assembled modules are to be used for infiltration, the modules shall be wrapped with Global Synthetics ProFab AS140 or *ProFab Monoweave130** Geotextile. Where lap joins in the geotextile are required, the adjoining geotextile shall be overlapped a minimum of 500mm. All overlap joins shall be taped or secured by other means to prevent the ingress of fill material.
***ProFab Monoweave130* is a woven geotextile composed of UV stabilised monofilament yarns. It is particularly suited to soils that are poorly graded, as well as soils are that are high in biological content. Monoewve130 exhibits clog resistant characteristics as opposed to standard non-woven geotextiles which are prone to clogging in soil environments mentioned above.**

Liner
Where the assembled ProTank Modules are to be used for storm water harvesting or attenuation or detention, a Global Synthetics 0.75mm LLDPE ProLiner shall be used to form an impermeable barrier for the containment of the storm water. The installation of the ProLiner shall be carried out with care to prevent any damage being caused to the liner. The ProLiner can be “sandwiched” between two layers of protective geotextile. The protective geotextile or “cushion” geotextile shall be Global Synthetics ProFab AS350D Needle Punched Geotextile.
Note: ProLiner is available in widths to 8m. Where ProTank structures require a wider section of liner, a prefabricated / welded liner may be required.

Bitumen Tape
Where the assembled ProTank Modules will be used for the containment of storm water and a Global Synthetics ProLiner is to be employed, sufficient Global Synthetics Bitumen Tape shall be on hand to carry out any on site repairs to the ProLiner.
Note: Bitumen Tape shall not be utilised to seam ProLiner panels.

Plastream
Plastream is a sub-soil large diameter slotted pipe for the collection of storm water pollutants and the distribution by infiltration of the collected storm water. Plastream is installed adjacent to the ProTank Modules. Plastream is installed on, and surrounded within, a bed of blue metal or crushed rock. The Plastream pipe and the surrounding blue metal or crushed rock is completely wrapped in Global Synthetics ProFab Monoweave130 Geotextile. Plastream is available in a range of pipe diameters however the usual size selected is 750mm.

ProTank Modules
ProTank Modules are to be installed with base dimensions of 403mm x 720mm. ProTank Modules are to be installed in the direction shown on the plans and to a straight alignment. All ProTank Modules are to be placed hard adjacent to each other preventing any gaps. Identify locations for inlet pipes, any outlet pipes, vent locations and/or inspection ports. All large ProTank Plates have pre-fabricated access ports for 90mm, 100mm and 150mm pipe connections. All small ProTank Plates have pre-fabricated access ports for 150mm, 225mm, and 300mm pipe connections. Using a “Keyhole Saw” or similar, remove the inner ProTank plate material to provide a pipe access of the required size. Ideally, inlet and outlet pipe connections shall penetrate the ProTank Module through an outer and inner vertical plate. Inspection and duct / vent pipe connections using slotted pipe (within the tank) shall penetrate into the lowest ProTank Module to reach near the bottom of the proposed tank. The pipe access ports are best facilitated during ProTank Module assembly. Record the locations of the proposed pipe connections. Once the ProTank Modules have been wrapped in geotextile and/or liner, make a small vertical and horizontal slit in the wrap materials at the locations of the proposed pipe connections. Pass the pipe connections through the wrap materials and into the ProTank Modules. Completely seal the pipe penetrations with tape and/or geotextile to prevent the ingress of fill material.

Landscaping
Ensure the required cover is maintained above the ProTank Modular Tank. Ground covers or paving materials may be placed over the underground tank. The placing of large shrubs or trees over or close to the underground tank must be avoided.

Additional Information
Additional information on module properties may be gained by referring to relevant module data sheet.

-End of Assembly & Installation Guidelines-

MAINTENANCE INSTRUCTIONS

As the tank is plastic, no additional external loads should be placed on top of the tank, after installation, without a structural assessment.

Periodical testing of the sludge level on the bottom of the tank should be carried out annually. This can be done by carefully dipping through the inspection openings or the manhole cover.

As a guide the sludge can be 350mm deep before pumping out of the system is recommended.

TROUBLESHOOTING

Septic tank exhibits strong smell

- Check sludge level (see above)
- Check condition of leach drain (drain is saturated, not allowing the effluent to disperse)
- Add Bio Magic or similar product to assist the with the bacteriolytic process

Inside fixtures not draining properly

- System may require pump out
- Leach drain could be full