

TREATMENT PLANT APPROVAL 01/2020 – Amendment 1

Plumbing and Drainage Act 2018

- 1. The Advanced Enviro-septic (AES 38) ("the System") described in the Specifications and Drawings in the attached Schedule and manufactured by Presby Environmental Inc. Whitefield, New Hampshire ("the manufacturer") and supplied by Chankar Environmental Pty Ltd (ACN 148 175 455) ("the supplier") was approved in Queensland and subsequently issued with a Treatment Plant Approval 01/2020, under the *Plumbing and Drainage Act 2018 (PDA)*. This approval continues in force until 01 January 2024.
- 2. The delegate for the Chief Executive advised on 20 January 2023 that changes to Treatment Plant Approval 01/2020 are approved, with the amended Treatment Plant Approval referred to as "Treatment Plant Approval 01/2020 Amendment 1".
- 3. The following information is included below:
 - (a) The changes approved by the delegate for the Chief Executive on 20 January 2023:
 - (b) A full copy of TPA 01/2020 Amendment 1, which incorporates the changes; and
 - (c) A copy of the superseded TPA 01/2020.

Changes approved on 20 January 2023:

- 4. Condition 10 of the current approval states: 'A septic tank conforming to AS/NZ 1546.1 and sized in accordance with AS/NZ 1547 for the influent hydraulic load from the dwelling is a component of the system. Waste from the septic tank is to be diverted to the AES piping system prior to the system sand and basal area. The septic tank that feeds into the system must be regularly monitored and maintained (including desludging) in accordance with AS/NZ 1547 to ensure optimum operation of the system.'
 - a) Condition 10 is amended to state:

A septic tank conforming to AS/NZ 1546.1 and sized in accordance with AS/NZ 1547 for treatment of all daily flows of domestic wastewater from the premises is a component of the system. Effluent from the septic tank is to be diverted to the AES piping system prior to the system sand and basal area. The septic tank that feeds into the system must be regularly monitored and maintained (including de-sludging) in accordance with AS/NZ 1547 to ensure optimum operation of the system.

Where gravity cannot be achieved to transfer effluent from septic tank to the AES treatment pipes, a pump well is to be used and sized as per AS/NZS1547:2012 and maintain at least 24-hour emergency storage volume above the high-water level alarm sensor.

The pump is to be a submersible type with high level alarm as specified in both AS1546.3:2017 and AS/NZS1547:2012. The pump shall be a Davey D25VA or equivalent with a design flow of 40 L/min at a minimum 6m head. Should site conditions require higher head, then the appropriate pump model to achieve this shall be selected.

In each situation the design of the AES system must conform with the manufacturers design recommendations set out in the AES Calculator & Design and Installation Manual.'

b) A new Condition 22 is included, which is as follows:

'Where there is any inconsistency between the content of this approval and the Plumbing and Drainage Act 2018 (including any associated regulation and/or codes), the provisions of the Plumbing and Drainage Act 2018 will apply and must be adhered to.'

- c) The Schedule, now referred to as "Amendment 1 Attachment 1" of Treatment Plant Approval 01/2020 Amendment 1, is amended to include new Figure/s 1 and 2 as part of the attachment list.
- d) A copy of Treatment Plant Approval 01/2020 is included as "Amendment 1 Attachment 2" of Treatment Plant Approval 01/2020 Amendment 1.

Anastasia Tritchler

A/Executive Director Building Policy

Department of Energy and Public Works

Date approved: 20 January 2023

Level 15 53 Albert Street Brisbane GPO Box 2457, Brisbane Qld 4001

Website www.hpw.qld.gov.au

ABN 61 331 950 314



TREATMENT PLANT APPROVAL 01/2020 - Amendment 1

Plumbing and Drainage Act 2018

Approval

- 1. The Advanced Enviro-septic (AES 38) ("the System") described in the Specifications and Drawings in the attached Schedule and manufactured by Presby Environmental Inc. Whitefield, New Hampshire ("the manufacturer") and supplied by Chankar Environmental Pty Ltd (ACN 148 175 455) ("the supplier") has been assessed in accordance with the Queensland Plumbing and Wastewater Code (QPW Code) dated 15th January 2013.
- 2. Approval is granted for a secondary quality wastewater treatment system, subject to compliance by the manufacturer/supplier with the requirements of the *Plumbing and Drainage Act 2018*, and the conditions of approval detailed below.
- 3. This approval, the conditions of approval and the Schedule comprise the entire Treatment Plant Approval document.
- 4. Any modification by the manufacturer/supplier to the design, drawings or specifications scheduled to this approval must be approved by the Chief Executive.

Conditions of approval

- 5. The manufacture, installation, operation, service and maintenance of the systems must be inconformity with the conditions of this Treatment Plant Approval.
- 6. The secondary quality wastewater treatment system, which is an example of the approved systems, may only be used on premises that generate per day:
 - a) a maximum hydraulic loading of 38L per lineal metre length of AES piping system
 - b) a maximum organic loading of 300mg/L BOD5
 - c) a maximum total suspended solids of 300mg/L.
 - 7. The system must continue to meet the requirements of secondary quality wastewater treatment system, producing the following effluent quality
 - a) 90% of the samples taken must have a BOD₅ less than or equal to 20 g/m³ with no sample greater than 30 g/m³.
 - b) 90% of the samples taken must have total suspended solids less than or equal to 30g/m³ with no sample greater than 45g/m³.
 - 8. Each system must be serviced in accordance with the details supplied in the owner's operation and maintenance manual.
 - 9. The system design is based upon secondary quality effluent design loading rate as defined in AS/NZ1547 using the AES Design Calculator prepared by a qualified designer. System designs must be verified and signed by the supplier before being submitted to the Local Government.



10. A septic tank conforming to AS/NZ 1546.1 and sized in accordance with AS/NZ 1547 for treatment of all daily flows of domestic wastewater from the premises is a component of the system. Effluent from the septic tank is to be diverted to the AES piping system prior to the system sand and basal area. The septic tank that feeds into the system must be regularly monitored and maintained (including de-sludging) in accordance with AS/NZ 1547 to ensure optimum operation of the system.

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In each situation the design of the AES system must conform with the manufacturers design recommendations set out in the AES Calculator & Design and Installation Manual.

- 11. When granting a compliance permit, the local government must satisfy itself that the designer's choice of the system configuration is optimal for the proposed use and site conditions and that the effluent can be retained within the land application area.
- 12. Each application for a compliance permit to install a system must also be accompanied by a copy of a completed Advanced Enviro-Septic Design Calculator Report endorsed by the supplier, showing the footprint/basal area of the proposed system and number of pipe modules for the site.
- 13. An inspection/sampling point must be installed permanently in the sand immediately below the half-way point of the AES piping system. Where a system is installed in a sloping basal area an additional inspection/sampling point must be installed at the lowest point of the system extension.
- 14. Routine maintenance of the system at set intervals, other than septic tank sludge levels, is not stipulated by the manufacturer/supplier. However, routine monitoring may be required by the Local Government. In the event of failure of the system's land application area an AES authorised person may need to follow the rejuvenation procedures set out in the manufacturer/supplier's Design and Installation Manual.
- 15. Where a system installed at a site, has been found not to operate satisfactorily during its service life, and as a result requires modification to achieve the required performance requirements, in particular, water quality limits, the installed system is to be modified accordingly. Any modifications including any of the supplier's rejuvenation procedure outcomes must be recorded on the service report.
- 16. Permitted use of the effluent is for sub-surface absorption only.



17. Each system must be supplied with —

(a) a copy of this Treatment Plant Approval document;

(b) details of the system;

- (c) instructions for authorised persons for its installation;
- (d) a copy of the owner's manual to be given to the owner at the time of installation; and
- (e) detailed instructions for authorised service personal for its operation and maintenance.
- 18. At each anniversary of the Treatment Plant Approval date, the supplier must submit to the Chief Executive a list of all systems installed in Queensland during the previous 12 months. Where the Chief Executive is notified of any system failures the Chief Executive may randomly select a number of installed systems for audit. The Chief Executive will notify the supplier's nominated NATA accredited laboratory which systems are to be audited for BOD5 and TSS. The sampling and testing of the selected systems, if required, is to be done at the supplier's expense. The following results must be reported to the Chief Executive;
 - (a) Address of premises;
 - (b) Date inspected and sampled;
 - (c) Sample identification number;
 - (d) BOD5 for influent and effluent; and
 - (e) TSS for influent and effluent.
- 19. The Chief Executive may, by written notice, cancel this approval if the manufacturer/supplier fails
 - a)to comply with one or more of the conditions of approval; or
 - b) within 30 days, to remedy a breach, for which a written notice been given by the Chief Executive.
- 20. This approval may only be assigned with the prior written consent of the Chief Executive.
- 21. This approval expires on 1 January 2024 unless cancelled earlier in accordance with paragraph 19 above.
- 22. Where there is any inconsistency between the content of this approval and the *Plumbing and Drainage Act 2018* (including any associated regulation and/or codes), the provisions of the *Plumbing and Drainage Act 2018* will apply and must be adhered to.

Anastasia Tritchler

A/Executive Director

Building Policy

Department of Energy and Public Works

Date approved: 20 January 2023

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Website www.hpw.qld.gov.au

ABN 61 331 950 314

TREATMENT PLANT APPROVAL No. 01/2020 - Amendment 1

Plumbing and Drainage Act 2018

SCHEDULE

Amendment 1 - Attachment 1

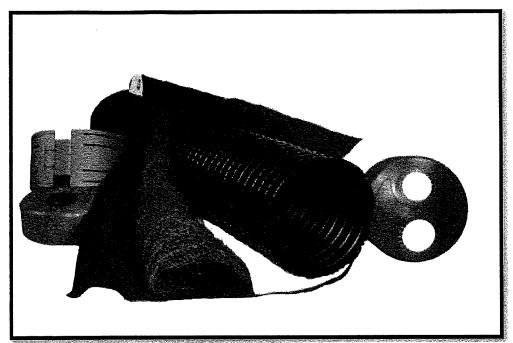
Specifications, Drawings and Sample AES Calculator & Design and Installation Manual for the:

Advanced Enviro-Septic (AES 38)

APPLICATION FOR PRODUCT ACCREDITATION (Onsite Wastewater Treatment System)

ADVANCED ENVIRO-SEPTIC (AES-38) SYSTEM COMPONENTS

Advanced Enviro-Septic[™] is an effective, passive onsite wastewater treatment system for residential, commercial and community use. Each AES-38 unit is a 3 meter long engineered pipe with outer layers of randomly placed fibres, bio accelerator and non-woven geotextile fabric. The geotextile fabric is sewn together to hold the pipe, fibres and the bio accelerator for easy handling.



Main components of AES-38 system include;

- 1. AES Pipe unit (3 meter long pipe) incorporates corrugation, perforated holes and internal skimmer taps
- 2. AES Couplings patented connecter to join the AES pipe units as per the design requirements.
- 3. AES Offset Adaptor 308mm diameter cap that has 1 x 92mm pre cut hole 9 (open to suit 100mm PVC pipe). This 92mm hole is for connection to the septic tank outlet and for raised connection between rows of AES-38 pipes. Required number of offset adaptor depends on the resign requirements.
- 4. Oxygen Demand Vent 100mm vent cowl with mosquito proof screen.

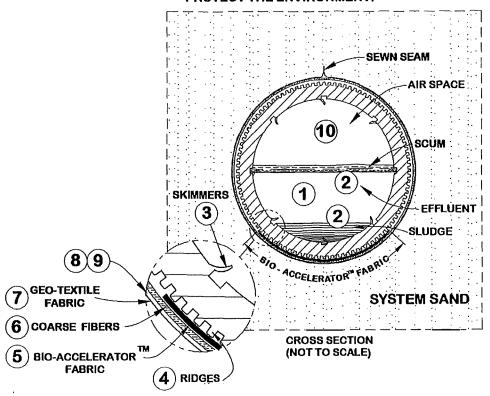
AES-38 System Organic Loading and Wastewater Parameters

Model No.	AES-38
INFLUENT	
Hydraulic Load	114 litres per 3 metre long unit
BOD₅	160-300 mg/L
TSS	110-300 mg/L
FOG	50 mg/L (maximum)
PH	6-9
TEMP	5-30 degree celsius
EFFLUENT	
BOD ₅	≤ 20mg/L
TSS	≤ 20mg/L

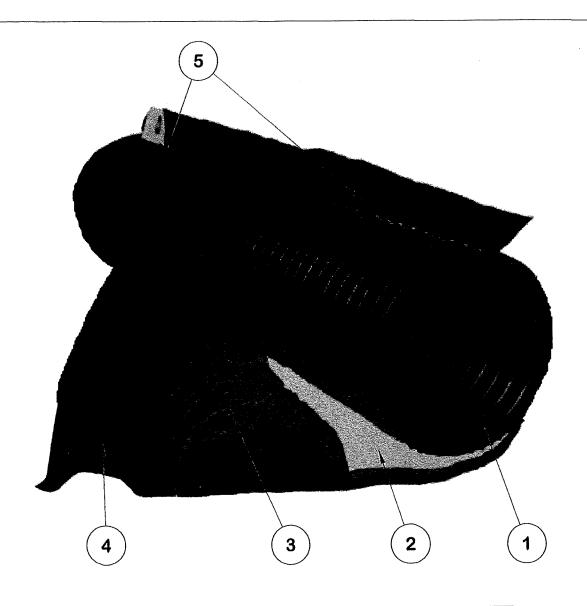
^{*} Wastewater that enters the AES system must be Primary Treated.

ADVANCED ENVIRO-SEPTIC™ WASTEWATER TREATMENT SYSTEM

TEN STEPS OF WASTEWATER TREATMENT: ADVANCED ENVIRO-SEPTIC™TREATS EFFLUENT MORE EFFICIENTLY TO PROVIDE LONGER SYSTEM LIFE AND TO PROTECT THE ENVIRONMENT.



- STAGE 1: WARM EFFLUENT ENTERS THE PIPE AND IS COOLED TO GROUND TEMPERATURE,
- STAGE 2: SUSPENDED SOLIDS SEPARATE FROM THE COOLED LIQUID EFFLUENT.
- STAGE 3: SKIMMERS FURTHER CAPTURE GREASE AND SUSPENDED SOLIDS FROM THE EXITING EFFLUENT.
- STAGE 4: PIPE RIDGES ALLOW THE EFFLUENT TO FLOW UNINTERRUPTED AROUND THE CIRCUMFERENCE OF THE PIPE AND AID IN COOLING.
- STAGE 5: BIO-ACCELERATORTM FABRIC SCREENS ADDITIONAL SOLIDS FROM THE EFFLUENT AND DEVELOPS A BIOMAT WHICH PROVIDES TREATMENT AND ENSURES ACCELERATED BIOMAT DEVELOPMENT.
- STAGE 6: A MAT OF COARSE RANDOM FIBERS SEPARATES MORE SUSPENDED SOLIDS FROM THE EFFLUENT.
- STAGE 7: EFFLUENT PASSES INTO THE GEO-TEXTILE FABRICS AND GROWS A PROTECTED BACTERIAL SURFACE.
- STAGE 8: SAND WICKS LIQUID FROM THE GEO-TEXTILE FABRICS AND ENABLES AIR TO TRANSFER TO THE BACTERIAL SURFACE.
- STAGE 9: THE FABRICS AND FIBERS PROVIDE A LARGE BACTERIAL SURFACE TO BREAK DOWN SOLIDS.
- STAGE 10: AN AMPLE AIR SUPPLY AND FLUCTUATING LIQUID LEVELS INCREASE BACTERIAL EFFICIENCY.



ITEM#	DESCRIPTION
1	PLASTIC PIPE
2	BIO-ACCELERATOR FABRIC (BOTTOM THIRD OF PIPE)
3	RANDOMLY ORIENTED PLASTIC FIBER
4	GEO-TEXTILE FABRIC
5	SEWN SEAM (ALWAYS ORIENTED UP)

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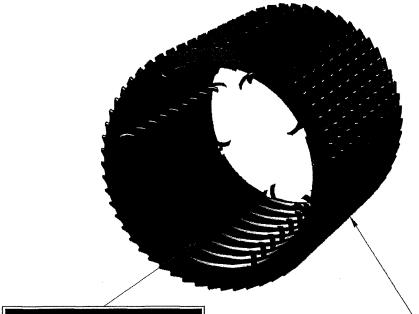
143 Airport Road Whitefield, NH 03598 800-473-5298

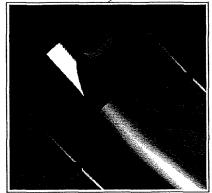
The Next Generation of Wastewater Technology

PART NAME:

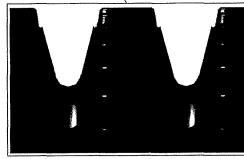
ADVANCED ENVIRO-SEPTIC PIPE

DRAWN BY: PEI DATE: SCALE: SHEET: 1 OF 5

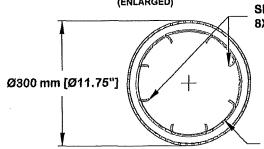




SKIMMER DETAIL
(ENLARGED)



RIDGE & CORREGATION DETAIL



SKIMMERS 8X EVERY 36.5mm

Ø240 mm [Ø9-7/16"]



Material: HDPE Plastic

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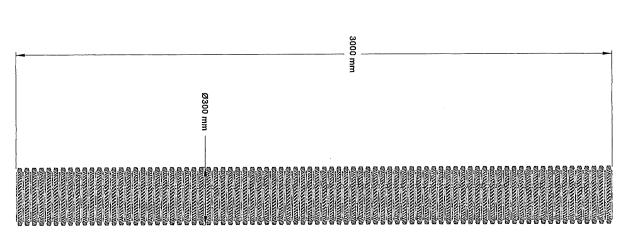
143 Airport Road Whitefield, NH 03598 800-473-5298

The Next Generation of Wastewater Technology

PART NAME

ADVANCED ENVIRO-SEPTIC PIPE

DRAWN BY: PEI PED 26, 2013 SCALE: SHEET: NONE 2 OF 5



SCALE: 6 mm = 125 mm

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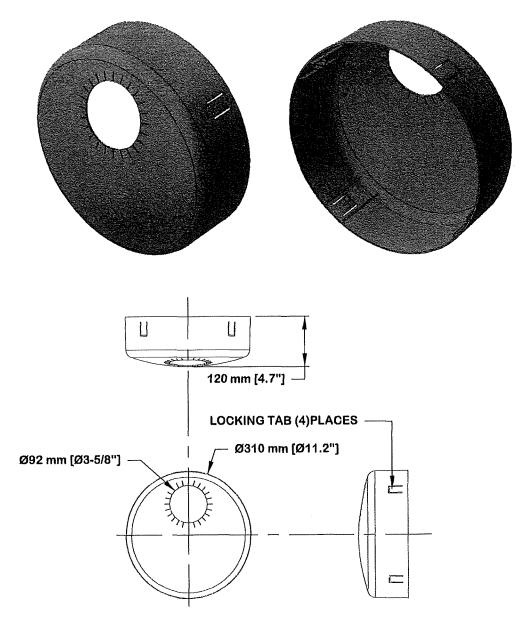
Presby Environmental, Inc. 143 Airport Road Whitefield, NH 03598

800-473-5298

The Next Generation of Wastewater Technology

ADVANCED ENVIRO-SEPTIC PIPE

DATE: Feb 26, 2013 SCALE: SHEET: 3 OF 5 DRAWN BY:



MATERIAL: PLASTIC

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Presby Environmental, Inc. 143 Airport Road

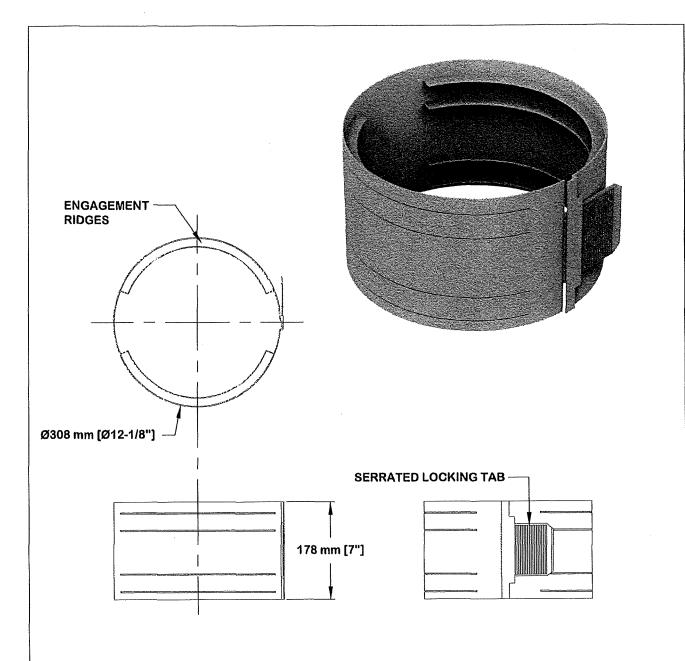
Whitefield, NH 03598 800-473-5298

The Next Generation of Wastewater Technology

PART NAME:

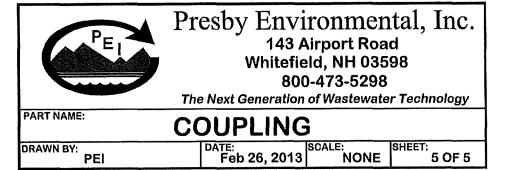
OFFSET ADAPTER

DRAWN BY: PEI DATE: SHEET: 4 OF 5



MATERIAL: PLASTIC

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Advanced Enviro-septic Design Calculator V8.3 "Always the BEST Option" until site and soil conditions rule it out. Must have Lot or Street number, Address and Post Code Address Client Name Client details and Contact Phone Number Designers Ph QBSA Lic Number Designed By Name Plumb / Drainer Lic Lic Plumber Must have plumber details before we deliver product, etc.. Plumber Ph Number Number AES Certif Number Council Area This Calculator is a guide only, receiving soil classification, surface water, water tables and all other site constraints addressed by the design. IMPORTANT NOTES Is this a new home installation Y or N >> CHECK THE CONDITION & CAPACITY OF THE EXISTING SEPTIC TANK AS PART OF Number of person THIS DESIGN. Remove outlet filters, If you DO NOT REMOVE the filter you will need to instal a 100mm, HIGH and LOW VENTS on the AES system. Daily Design Flow Allowance Litre/Person/Day >> The maximum ith of a single AES pipe run is 30 meters Number of rows required to suit site constrants Infiltration surface Soil Category as established by site and soil evaluation. CATEGORY >> Catagory may require design considerations. Ref AS1547 >> Soil conditioning may be necessary. Ref AS1547 & Comments. Design Loading Rate based on site & soil evaluation DLR (mm/day) Bore log depth below system Basel area >> Min depth below basel area is 600 mm to establish water table or restrictive layer >> Consideration required for Sloping sites. Ref AS1547. refer comment. Enter System footprint Slope in % for standard AES systems to calculate extension A House Vent & LOW VENT required on this system Is this design a gravity system with no outlet filter? Y or N PLEASE CHECK YOU HAVE FALL FROM TANK TO AES SYSTEM PIPES COMMENTS :- " The outcome must be important to everyone. Ripping of receiving surface is required in clay soil structures in Cat 4,5,6. In addition refer to AS 1547. Always excava rean rip arallel to the site slope/AES pipe. Specialist soils advice and special design techniques will be required for clay dominated soil having dispersive or shrink well shaviour. Refer AS1547 Designers need to be familiar with special requirements of Local Authorities. IE - Minimun falls from Septic tank wests to Land application areas. etc Plumbers are reminded that good construction techniques as per AS1547 are especilly important in the sol types. Refer AS1547 & AES installation Instructions Total System load - litres / day I/d **AES System** System Extension Min Length of AES pipe rows to Lth m: (L) Width m:(W) Number of FULL AES Ph Iths Sand Depth: Total Capacity of AES System ... pe in Litres ltr. Area m2 DO YOU WISH TO USE CUT LENGTHS OF PIPE IN THIS DESIGN? (ENTER Y) IF YOU WISH TO USE A TRENCH EXTENSION DESIGN OPTION ENTER "Y" Enter Custom Width m > AES INFILTRATION FOOT PRINT AREA - L=Q/(DLR x W) Width Minimum AES foot print required . for this Basic Serial design is m2 total AES System Bill of Material AES 3 mtr Lths required AES-PIPE AESC Couplings required AESC AESO Offset adaptors AESO AES Oxgen demand vent AESODV AES-IPB AES 90mm Inspection port base **AES Speed Flow Equaliser** AES Equ TOTAL SYSTEM SAND REQUIRED (Guide Only) m3

> The AES Calculator is a design aid to allow checking of the AES components and configuration and is a guide only. Site and soil conditions referencing the AS 1547 standard are calculated and designed by a Quailified Designer.

PLEASE email your AES CALC and Drawings to DESIGNREVIEW@ENVIRO-SEPTIC.COM.AU

- > Chankar Environmental has no responsibility for the soil evaluation, loading calculations or DLR entered by the designer for this calculator.
- > AES pipes can be cut to lenght on site. They are supplied in 3 meter Iths only.

AES-Design-V8.3-Calculator-Slope-Trench-cut pipe Copy Right - Chankar Environmental pty ltd 2014

Designreview@enviro-septic.com.au

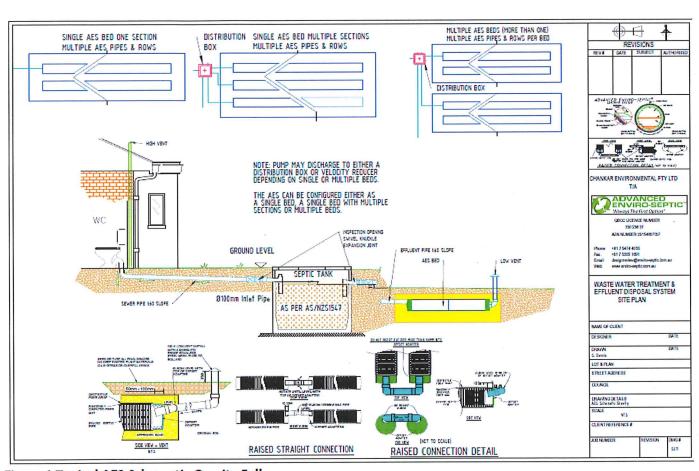


Figure 1 Typical AES Schematic Gravity Fall

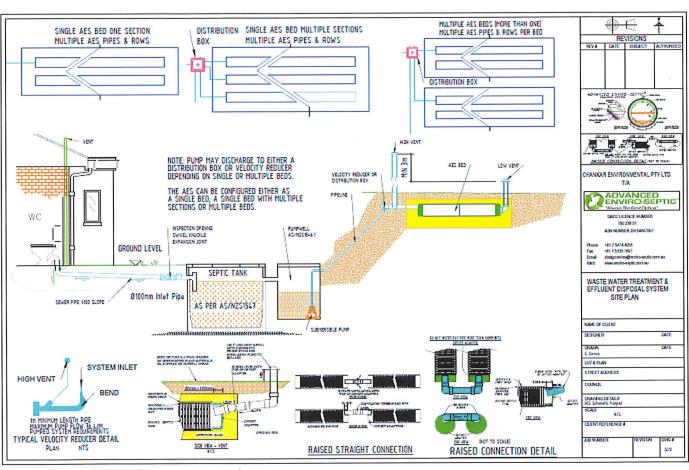


Figure 2 Typical AES Schematic Pumped

TREATMENT PLANT APPROVAL No. 01/2020 - Amendment 1

Plumbing and Drainage Act 2018

Amendment 1 - Attachment 2

Approval 01/2020 as at 03 March 2020 (for historical reference only)



TREATMENT PLANT APPROVAL 01/2020

Plumbing and Drainage Act 2018

Approval

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Lindsay Walker

Director
Plumbing, Drainage and Special Projects
Building Legislation and Policy
Date approved: 03 March 2020

Level 7, 63 George Street Brisbane GPO Box 2457, Brisbane Qld 4001

Telephone +61 7 3008 2557 Facsimile +61 7 3237 1248 Website www.hpw.qld.gov.au

ABN 61 331 950 314

Treatment Plant Approval
Approved by: Lindsay Walker
Delegated Authority
Department of Housing & Public Works



TREATMENT PLANT APPROVAL No. 01/2020

Plumbing and Drainage Act 2018

SCHEDULE

Attachment 1

Specifications, Drawings and Sample AES Design Calculator Report for the

Advanced Enviro-Septic (AES 38)





APPLICATION FOR PRODUCT ACCREDITATION (Onsite Wastewater Treatment System)

ADVANCED ENVIRO-SEPTIC (AES-38) SYSTEM COMPONENTS

Advanced Enviro-Septic[™] is an effective, passive onsite wastewater treatment system for residential, commercial and community use. Each AES-38 unit is a 3 meter long engineered pipe with outer layers of randomly placed fibres, bio accelerator and non-woven geotextile fabric. The geotextile fabric is sewn together to hold the pipe, fibres and the bio accelerator for easy handling.



Main components of AES-38 system include;

- 1. AES Pipe unit (3 meter long pipe) incorporates corrugation, perforated holes and internal skimmer taps
- 2. AES Couplings patented connecter to join the AES pipe units as per the design requirements.
- 3. AES Offset Adaptor 308mm diameter cap that has 1 x 92mm pre cut hole 9 (open to suit 100mm PVC pipe). This 92mm hole is for connection to the septic tank outlet and for raised connection between rows of AES-38 pipes. Required number of offset adaptor depends on the resign requirements.
- 4. Oxygen Demand Vent 100mm vent cowl with mosquito proof screen.



AES-38 System Organic Loading and Wastewater Parameters

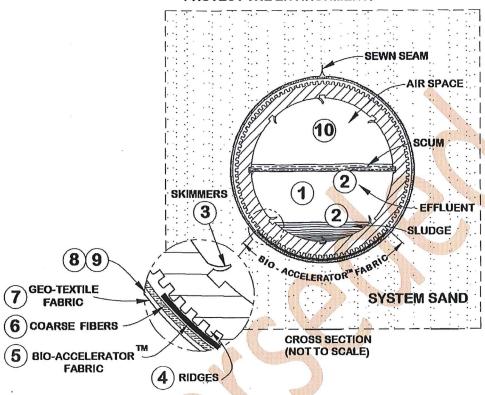
Model No.	AES-38
INFLUENT	
Hydraulic Load	114 litres per 3 metre long unit
BOD ₅	160-300 mg/L
TSS	110-300 mg/L
FOG	50 mg/L (maximum)
PH	6-9
TEMP	5-30 degree celsius
EFFLUENT	
BOD ₅	≤ 20mg/L
TSS	≤ 20mg/L

^{*} Wastewater that enters the AES system must be Primary Treated.



ADVANCED ENVIRO-SEPTIC™ WASTEWATER TREATMENT SYSTEM

TEN STEPS OF WASTEWATER TREATMENT: ADVANCED ENVIRO-SEPTIC™TREATS EFFLUENT MORE EFFICIENTLY TO PROVIDE LONGER SYSTEM LIFE AND TO PROTECT THE ENVIRONMENT.



- STAGE 1: WARM EFFLUENT ENTERS THE PIPE AND IS COOLED TO GROUND TEMPERATURE.
- STAGE 2: SUSPENDED SOLIDS SEPARATE FROM THE COOLED LIQUID EFFLUENT.
- STAGE 3: SKIMMERS FURTHER CAPTURE GREASE AND SUSPENDED SOLIDS FROM THE EXITING EFFLUENT.
- STAGE 4: PIPE RIDGES ALLOW THE EFFLUENT TO FLOW UNINTERRUPTED AROUND THE
- CIRCUMFERENCE OF THE PIPE AND AID IN COOLING.

 STAGE 5: BIO-ACCELERATOR™ FABRIC SCREENS ADDITIONAL SOLIDS FROM THE EFFLUENT AND DEVELOPS A BIOMAT WHICH PROVIDES TREATMENT AND ENSURES ACCELERATED BIOMAT DEVELOPMENT.
- STAGE 6: A MAT OF COARSE RANDOM FIBERS SEPARATES MORE SUSPENDED SOLIDS FROM THE EFFLUENT.
- STAGE 7: EFFLUENT PASSES INTO THE GEO-TEXTILE FABRICS AND GROWS A PROTECTED BACTERIAL SURFACE.
- STAGE 8: SAND WICKS LIQUID FROM THE GEO-TEXTILE FABRICS AND ENABLES AIR TO TRANSFER TO THE BACTERIAL SURFACE.
- STAGE 9: THE FABRICS AND FIBERS PROVIDE A LARGE BACTERIAL SURFACE TO BREAK DOWN SOLIDS.
- STAGE 10: AN AMPLE AIR SUPPLY AND FLUCTUATING LIQUID LEVELS INCREASE BACTERIAL EFFICIENCY.



ITEM#	DESCRIPTION				
10	PLASTIC PIPE				
2	BIO-ACCELERATOR FABRIC (BOTTOM THIRD OF PIPE)				
3	RANDOMLY ORIENTED PLASTIC FIBER				
4	GEO-TEXTILE FABRIC				
5	SEWN SEAM (ALWAYS ORIENTED UP)				

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Presby Environmental, Inc.

143 Airport Road Whitefield, NH 03598 800-473-5298

The Next Generation of Wastewater Technology

PART NAME:

ADVANCED ENVIRO-SEPTIC PIPE

DRAWN BY:

PEI

DATE: Feb 26, 2013

SCALE: NONE

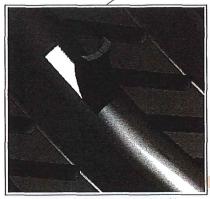
SHEET

Treatmen Phant Approval

Approved by: Lindsay Walker
Delegated Authority
Department of Housing & Public Works







RIDGE & CORREGATION DETAIL

SKIMMER DETAIL
(ENLARGED)

Ø300 mm [Ø11.75"]

SKIMMERS **8X EVERY 36.5mm**



Ø240 mm [Ø9-7/16"]

Material: HDPE Plastic

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The Next Generation of Wastewater Technology

PART NAME:

ADVANCED ENVIRO-SEPTIC PIPE

DRAWN BY:

PEI

Feb 26, 2013

NONE

2 OF 5

proval

Approved by: Lindsay Walker **Delegated Authority** Department of Housing & Public Works



SCALE: 6 mm = 125 mm

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ADVANCED ENVIRO-SEPTIC PIPE

DRAWN BY: PEI

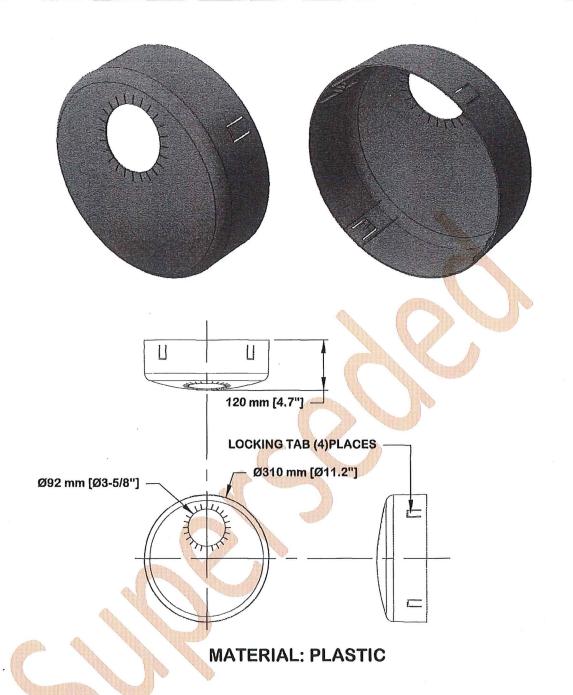
DATE: Feb 26, 2013

SCALE: NONE

SHEET: 3 OF 5

Department of Housing & Public Works **Delegated Authority** Approved by: Lindsay Walker Feb 26, 2013 SHEET: 3 OF 5 Treatment Plant Approval





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The Next Generation of Wastewater Technology

PART NAME:

OFFSET ADAPTER

DRAWN BY:

PEI

DATE: Feb 26, 2013

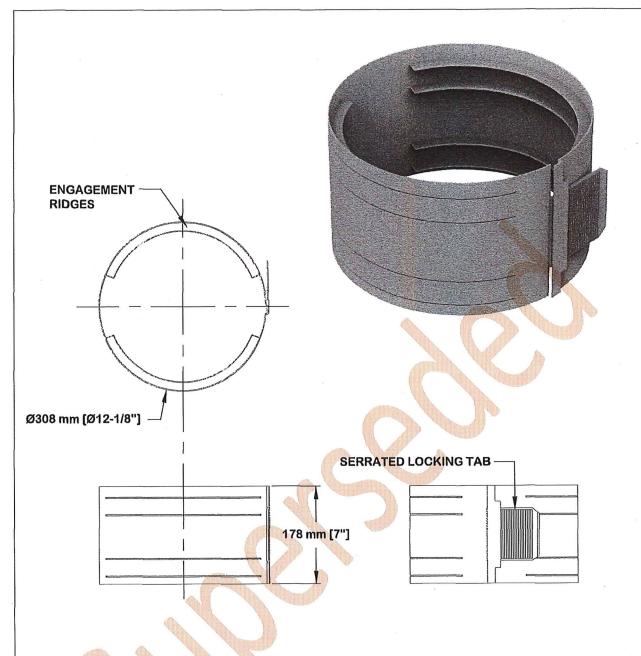
SCALE: NONE

4 OF 5

nt Plant Approval

Approved by: Lindsay Walker
Delegated Authority
Department of Housing & Public Works





MATERIAL: PLASTIC

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Presby Environmental, Inc. 143 Airport Road

143 Airport Road Whitefield, NH 03598 800-473-5298

The Next Generation of Wastewater Technology

PART NAME:

COUPLING

DRAWN BY:

DATE: Feb 26, 2013

SCALE: NONE

Approved OF: Endsay Walker

Delegated Authority
Department of Housing & Public Works





Advanced Enviro-septic Design Calculator V8.3

"Always the BEST Option" until site and soil conditions rule it out.

Site Address	Must have Lot or Street number, Address and Post Code					
Client Name	ent Name Client details and Contact Phone Number					
Designed By	/ Name	Designers Ph Number		QBSA Lic Number		
Lic Plumber Name	Must have plumber details before we deliver product, etc	Plumber Ph Number		. Plumb / Drainer Lic Number		
Council Area		AES Certif Number		Date		

This Calculator is a guide only, receiving soil classification, surface water, water tables and all other site constraints addressed by the design.								
System Designers site and soil calculation data entry	IMPORTANT NOTES							
is this a new home installation Y or N	>> CHECK THE CONDITION & CAPACITY OF THE EXISTING SEPTIC TANK AS PART OF							
Number of person	THIS DESIGN. Remove outlet filters, if you DO NOT REMOVE the filter you							
Daily Design Flow Allowance Litre/Person/Day	will need to instal a 100mm, HIGH and LOW VENTS on the AES system.							
Number of rows required to suit site constrants	>> The maximum ith of a single AES pipe run is 30 meters							
Infiltration surface Soil Category as established by site and soil evaluation. CATEGORY	>> Catagory may require design considerations, Ref AS1547							
Design Loading Rate based on site & soil evaluation DLR (mm/day)	>> Soil conditioning may be necessary. Ref AS1547 & Comments.							
Bore log depth below system Basel area	>> Min depth below basel area is 600 mm to establish water table or restrictive layer							
Enter System footprint Slope in % for standard AES systems to calculate extension	>> Consideration required for Sloping sites. Ref AS1547. refer comment.							
is this design a gravity system with no outlet filter? Y or N	>> A House Vent & LOW YENT required on this system							
PLEASE CHECK YOU HAVE FALL FROM TANK TO AES SYSTEM PIPES								

- Ripping of receiving surface is required in clay soil structures in Cat 4,5,6. In addition refer to AS 1547. Always excave ean to arallel to the site slope/AES pipe.
- Specialist soils advice and special design techniques will be required for clay dominated soil having dispersive or shrink well haviour. Refer AS1 547
- Designers need to be familiar with special requirements of Local Authorities. IE Minimun falls from Septic tank ov lets to Land application areas. etc

Plumbers are reminded that good construction techniques as per AS1547 are especilly important in the solutions. Refer AS1547 & AES installation instructions

AES System Calculator Outcomes					AES dimensions	
Total System load - litres / day	1	I/d			AES System	System Extension
Min Length of AES pipe rows to to load g	•	lm		Lth m: (L)		
Number of FULL AES Physingth, per row	All library	Iths		Width m:(W)		
Total Capacity of AES System Litres		ltr.		Sand Depth:		
				Area m2	8	
DO YOU WISH TO USE CUT LENGTHS OF PIPE IN THIS DESIGN? (ENTER Y)						
IF YOU WISH TO USE A TRENCH EXTENSION DESIGN OPTION ENTER "Y"			Enter Custom Width m >			
AES INFILTRATION FOOT PRINT AREA - L = Q/(DLR x W)	Length		Width	Mini	mum AES foot print re	quired .
for this Basic Serial design is		x		-	m	2 total

1			
Code	AES System Bill of Materials.		Chankar Environmental Use Only
AES-PIPE	AES 3 mtr Lths required	Iths	
AESC	AESC Couplings required		
AESO	AESO Offset adaptors		
AESODV	AES Oxgen demand vent		
AES-IPB	AES 90mm Inspection port base		
AES Equ	AES Speed Flow Equaliser		
	TOTAL SYSTEM SAND REQUIRED (Guide Only)	m3	
	PLEASE email your AES CALC and Drawings to		
	DESIGNREVIEW@ENVIRO-SEPTIC.COM.AU		Designreview@enviro-septic.com.au

> The AES Calculator is a design aid to allow checking of the AES components and configuration and is a guide only. Site and soil conditions referencing the AS 1547 standard are calculated and designed by a Quailified Designer.

- > Chankar Environmental has no responsibility for the soil evaluation, loading calculations or DLR entered by the designer for this calculator.
- > AES pipes can be cut to lenght on site. They are supplied in 3 meter Iths only.

AES-Design-V8.3-Calculator-Slope-Trench-cut pipe Copy Right - Chankar Environmental pty ltd 2014

Treatment Plant Approval Approved by: Lindsay Walker **Delegated Authority** Department of Housing & Public Works

