

Application: Certificate of Accreditation

Sewage Management Facility

Secondary Treatment System – Sand Filter

This Certificate of Accreditation is issued by the Secretary of the NSW Ministry of Health pursuant to Section 41(1) Local Government (General) Regulation 2021.

System: AES-38-SPD Lined Sand Filter - 8Ep

Manufacturer: Chankar Environmental Pty Ltd T/A Advanced Enviro-Septic

Of: 4/100 Rene Street, Noosaville, Queensland, 4566

The AES-38-SPD Lined Sand Filter as described in Schedule 1, has been accredited as a Sewage Management Facility for use in single domestic premises in NSW. This accreditation is subject to the conditions of accreditation and permitted uses specified in Schedule 2. The AES-38-SPD Lined Sand Filter has been independently certified as being manufactured to Australian / New Zealand Standard "AS/NZS1546.3:2017 On-site domestic wastewater treatment units – Part 3: Secondary treatment systems".



Director, Environmental Health
For Secretary (Delegation PH335)

Issued: 18, 09, 24

Certificate Number: STS-ASF004

Expires 31 December 2029

Schedule 1: Specification / Description of the AES-38-SPD Lined Sand Filter Secondary Treatment System

Name and Model of STS: AES-38-SPD Lined Sand Filter

The AES-38-SPD Lined Sand Filter is designed to treat sewage from a residential dwelling occupied by a maximum of 8 persons. The AES-38-SPD Lined Sand Filter initially comprises a 3100L baffled primary treatment vessel (septic tank) which must be separately accredited by NSW Health.

The emergency storage capacity of 1000L is achieved by spare capacity above the normal operating level of the effluent pump out chamber.

The secondary treatment system is a single pass sand filter which receives primary treated effluent from the septic tank to a lined bed of total dimensions of 6.15m x 3.15m (18.5m²) containing a depth of 750mm depth of AES specified sand. The sand overlays a layer of 10-20mm coarse aggregate material for treated effluent collection and drainage to the chlorinator and sump.

The AES sand specification is contained in "Section O - System Sand" in the AES "Basic Design and Installation Manual."

Within the sand bed are the AES specifically designed pipes which provide a significant initial treatment capability to the primary treated effluent. A detailed "Description of the Advanced Enviro-Septic System and Technology" is available from Advanced Enviro-Septic. It should be noted that only the lined and not the unlined model is accredited by NSW Ministry of Health.

The sump pump return and chlorinator may be configured alternatively depending on site conditions. The AES-38-SPD Lined Sand Filter uses a Norweco LF1000 disinfection applicator which can store up to 20 Trichloroisocyanuric acid tablets and which needs to be serviced at 6 monthly intervals.

A high water level alarm is fitted to the sump pump return after the chlorinator in accordance with AS1546.3:2017.

Schedule 2: Conditions of Accreditation

1. General

- 1.1 Prior to installation the owner/occupier of the premises shall make an application, in accordance with section 26 of the *Local Government (General) Regulation 2021*, to the local authority for approval to install and operate the AES-38-SPD Lined Sand Filter as a Sewage Management Facility in accordance with Section 68, Part C of the *Local Government Act 1993*.
- 1.2 The local authority shall apply those Conditions of Accreditation, appropriate to the owner / occupier, to any approval to operate the AES-38-SPD Lined Sand Filter issued under section 45(4), *Local Government (General) Regulation 2021*.
- 1.3 In accordance with section 36 of the *Local Government (General) Regulation 2021*, the AES-38-SPD Lined Sand Filter shall have an expected service life of 5 years in the case of mechanical and electrical components and 15 years in the case of other components.
- 1.4 The owner / occupier shall ensure that the AES-38-SPD Lined Sand Filter is installed or constructed:
 - in accordance with the accredited specifications of the type tested unit and in accordance with good trade practice, and
 - to allow ease of access for maintenance, and
 - regarding the health and safety of users, operators and persons maintaining the facility, and
 - to make appropriate provision for access to, and removal of, contents in a safe and sanitary manner, and
 - must, if it is intended to be a permanent fixture, be anchored to prevent movement.
- 1.5 The manufacturer / supplier shall ensure that the AES-38-SPD Lined Sand Filter is supplied, constructed, and installed in accordance with the design (including the disinfection unit) as submitted and accredited by the NSW Ministry of Health. The AES-38-SPD Lined Sand Filter shall not be modified or altered except that alternate individual mechanical and electrical components such as pumps, PLCs, etc, may be substituted provided that the component meets the accredited design specification.
- 1.6 Any permanent modification or variations to the accredited design of the AES-38-SPD Lined Sand Filter shall be submitted for separate consideration and variation of the Certificate of Accreditation by the NSW Ministry of Health. Modifications will be considered in accordance with section 2.3.13 of AS1546.3:2017.
- 1.7 Each AES-38-SPD Lined Sand Filter shall be permanently and legibly marked by the manufacturer in accordance with section 3 of AS1546.3:2017.
- 1.8 The manufacturer shall supply with each AES-38-SPD Lined Sand Filter an owner's manual, which sets out the care, operation, maintenance, and on-going management requirements of the system. The owner's manual prepared by the manufacturer shall specifically contain a plan for the on-going management of the AES-38-SPD Lined Sand Filter. The plan shall include details of:
 - the treatment process,
 - procedures to be followed in the event of a system failure,
 - emergency contact numbers,
 - maintenance requirements,
 - inspection and sampling procedures to be followed as part of any on-going monitoring program developed by the local authority.

1.9 The manufacturer shall provide the following information to each local authority where it is intended to install an AES-38-SPD Lined Sand Filter in their area once Ministry Accreditation has been obtained:

- Statement of warranty
- Statement of service life
- Quality Assurance Certification
- Installation Manual
- Service Manual
- Owner's Manual
- Manufacturer's Service Report Form
- Engineering Drawings
- Specifications
- A4 Plans
- Certificate of Accreditation documentation from NSW Health.

The manufacturer need not provide the above information to the local council where the information or document is contained on the manufacturer's web site.

2. Installation and Commissioning

2.1 The owner / occupier shall have the AES-38-SPD Lined Sand Filter inspected and checked by the manufacturer or the manufacturer's agent. The manufacturer or the agent is to certify that the system has been installed and commissioned in accordance with its design, conditions of accreditation and any additional requirements of the local authority.

2.2 The owner / occupier shall ensure that all electrical work is carried out on the AES-38-SPD Lined Sand Filter by a licensed electrician and in accordance with the relevant provisions of AS/NZS 3000.

2.3 The owner / occupier shall not commission the AES-38-SPD Lined Sand Filter unless the land application system has been completed.

3. Maintenance

3.1 The owner / occupier of the premises shall enter into a minimum 12-month contract or agreement with a service agent and ensure that the AES-38-SPD Lined Sand Filter is serviced:

- in accordance with the manufacturer's / supplier's service manual and using the manufacturer's / supplier's service sheet; and
- by a service agent who
 - has completed a course on the servicing and maintenance of STS; and has some supervised servicing experience or extensive un-supervised experience;
 - is employed or authorised by the manufacturer / supplier of the AES-38-SPD Lined Sand Filter;
 - uses replacement parts which meet the minimum specification of the AES-38-SPD Lined Sand Filter;
 - has advised of their name, contact details and credentials to the local authority;
 - submits a completed NSW Health "Local Council Service Report" **preferably using a local authority sponsored electronic reporting platform** (suggested template attached) to the local authority immediately after every service;
 - shall report to the local authority any instances where the owner / occupier refuses to authorise repairs, replacement of parts or maintenance; and
 - does not perform electrical work or enter confined spaces unless trained and is suitably qualified to do so.

3.2 The owner/occupier shall not service the AES-38-SPD Lined Sand Filter unless they are an authorised agent of the manufacturer.

3.3 The AES-38-SPD Lined Sand Filter once installed and commissioned shall be serviced at twelve (12) monthly intervals.

3.4 The manufacturer / supplier of the AES-38-SPD Lined Sand Filter shall place on its web site a copy of the service manual, service sheet or form and specifications for the AES-38-SPD Lined Sand Filter to facilitate servicing, maintenance, and repairs. Commercial-in-confidence documents may be provided directly to the service agent without uploading to the web site.

3.5 Each twelve service shall, as a minimum where provided, include a check on all mechanical, electrical, and functioning parts of the system including (if installed):

- The chlorinator and replenishment of the disinfectant,
- Pump and air blower,
- The alarm system,
- Slime growth on the filter media,
- Operation of the sludge return system,
- The effluent irrigation area,
- On-site testing for free residual chlorine, pH, and dissolved oxygen at the appropriate check points.

4. Verification

4.1 Effluent from the AES-38-SPD Lined Sand Filter taken in any random grab sample shall comply with the following standard:

- BOD⁵ less than 30 mg/L
- TSS less than 45 mg/L
- E. coli less than 100 cfu/100 ml
- Free residual chlorine greater than 0.2 and less than 2.0 mg/L

5. Permitted uses

5.1 The effluent is suitable for re-use for garden purposes by way of any of the forms of irrigation as described in AS/NZS 1547:2012:

- above ground spray irrigation; and/or
- surface drip irrigation covered by mulch; and/or
- sub-surface drip irrigation installed at around 100 mm depth; and or
- any form of sub-soil application.

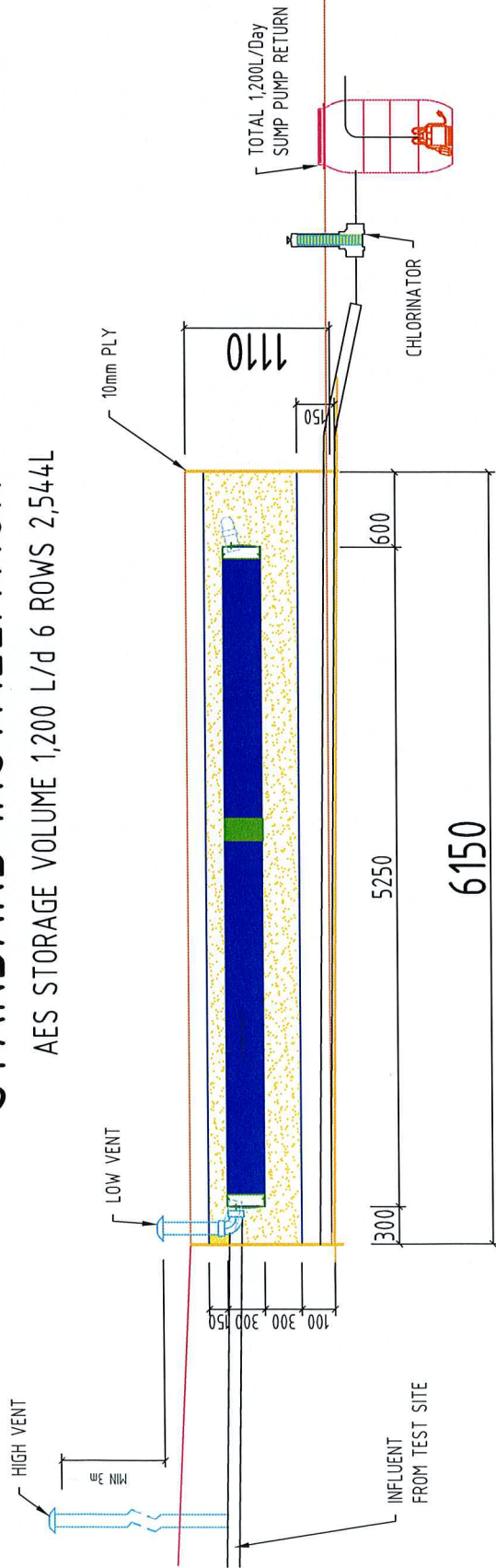
Each of the forms of irrigation or application is subject to the approval of the local authority.

Local Council STS (DGTS) Service Report: February 2018			
Owner's Name:		Local Council:	
Installation Address:			
System Brand & Model:		<input type="checkbox"/> Domestic	<input type="checkbox"/> Commercial
Date of this service: / /		Date of last Service: / /	Next service due: / /
Has the STS/DGTS been serviced in accordance with the manufacturer's / supplier's requirements and using the service sheet? <input type="checkbox"/> Yes <input type="checkbox"/> No If "No" why not?			
STS/DGTS functioning correctly? <input type="checkbox"/> Yes <input type="checkbox"/> No If "No" why not?			
According to sludge-judge or other methodology is de-sludging needed? <input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes" what action is recommended?			
Offensive odours?		<input type="checkbox"/> Yes <input type="checkbox"/> No	If "Yes" what action is recommended?
Alarms tested and functional? recommended?		<input type="checkbox"/> Yes <input type="checkbox"/> No	If not "functional" what action is
Final Effluent Quality			
Tested?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Disinfected?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Chlorine tablets remaining?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Quality?		<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Unsatisfactory
On what evidence is this judgement made?		If "Unsatisfactory" what action was recommended?	
Land Application Area			
Surface ponding?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Run off?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Excess plant growth?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Effluent leaving premises.		<input type="checkbox"/> Yes	<input type="checkbox"/> No
High risk areas contaminated? *		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Operating satisfactorily? was recommended?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
* Patio, play areas, BBQ, etc If "Not operating satisfactorily" what action			
Overall Condition of STS?		<input type="checkbox"/> Excellent	<input type="checkbox"/> Good
		<input type="checkbox"/> Fair	<input type="checkbox"/> Poor
Comments / Action Recommended / Repairs Needed / Repairs Performed:			
Has the owner / occupier taken recommended actions? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Service Agent:		Contact Details:	
Signature:		Date:	

Source: Adapted from "Checklist 4.2: Operational AWTS inspection report for use by service providers and Council inspectors" in *Designing and Installing On-Site Wastewater Systems*, Sydney Catchment Authority, May 2012

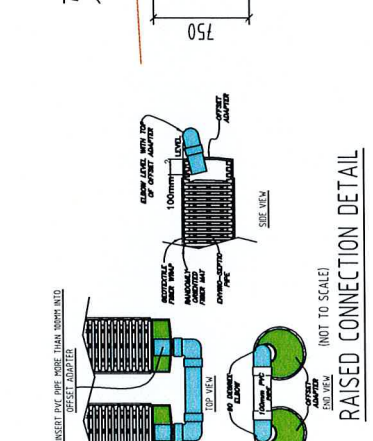
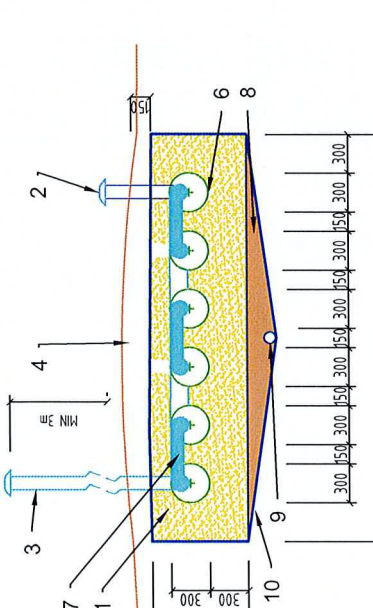
STANDARD INSTALLATION

AES STORAGE VOLUME 1,200 L/d 6 ROWS 2,544L



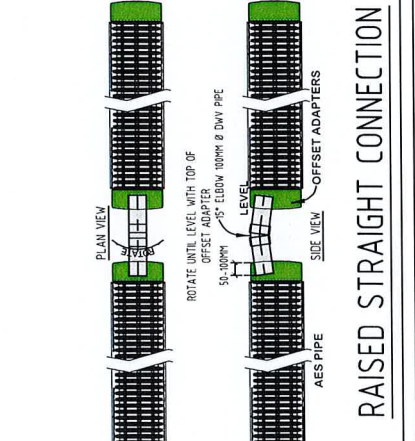
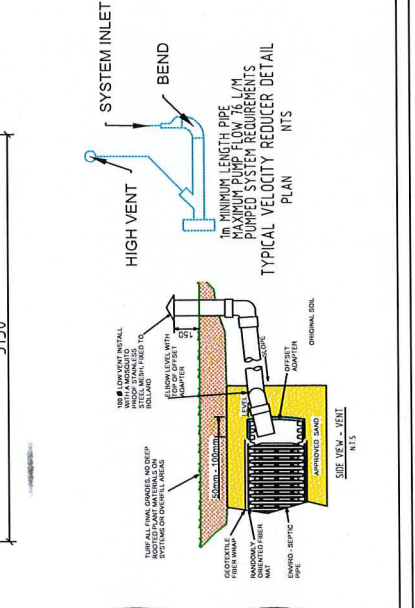
SPD SECTION VIEW

ITEM	DETAILS
1	APPROVED SAND
2	LOW VENT
3	HIGH VENT MIN 3m HIGHER THAN LOW VENT (IF PUMPED) ELSE GRAVITY, HOUSE VENT MIN 2x50mm DIAM OR 1x80MM DIAM TOP SOIL/GRASS. MOUNDED OVER AES BED
4	AES PIPE
6	RAISED CONNECTOR
8	10-20mm DRAINAGE AGGREGATE
9	90mm Ø SLOTTED COLLECTION PIPE REFER TO LINED AES BED NOTES
10	200mm MIN HEAVY DUTY LOPE LINER REFER TO LINED AES BED NOTES
11	10mm MARINE PLY



LINED AES BED NOTES

- LINING MEMBRANE TO HAVE 25 YEAR MINIMUM DESIGN LIFE
- MINIMUM 200 MICRON HEAVY DUTY LOPE.
- LINING TO COVER ENTIRE BED INCLUDING TOP SURFACE
- COLLECTION PIPE 90mm Ø DWV SLOTTED
- FLANGE TANK FITTING TO SUITE DIAMETER OF SLOTTED DRAINAGE PIPE



		REVISIONS DATE SUBJECT AUTHORISED	
REV #	DATE	SUBJECT	AUTHORISED

ADVANCED ENVIRO-SEPTIC
 ALWAYS THE FIRST OPTION™
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 Email: designreview@enviro-septic.com.au
 Web: www.enviro-septic.com.au

NAME OF CLIENT	DATE
DESIGNER	20/2/2023
DRAWN	DATE
S. Dennis	30/1/2024
LOT & PLAN	
STREET ADDRESS	
COUNCIL	
DRAWING DETAILS	
AES HA-HOODRF V18 1,200 L/d Standard Installation	
SCALE	VARIOUS
CLIENT REFERENCE #	
JOB NUMBER	REVISION
	DWG #
	SPD OR V18

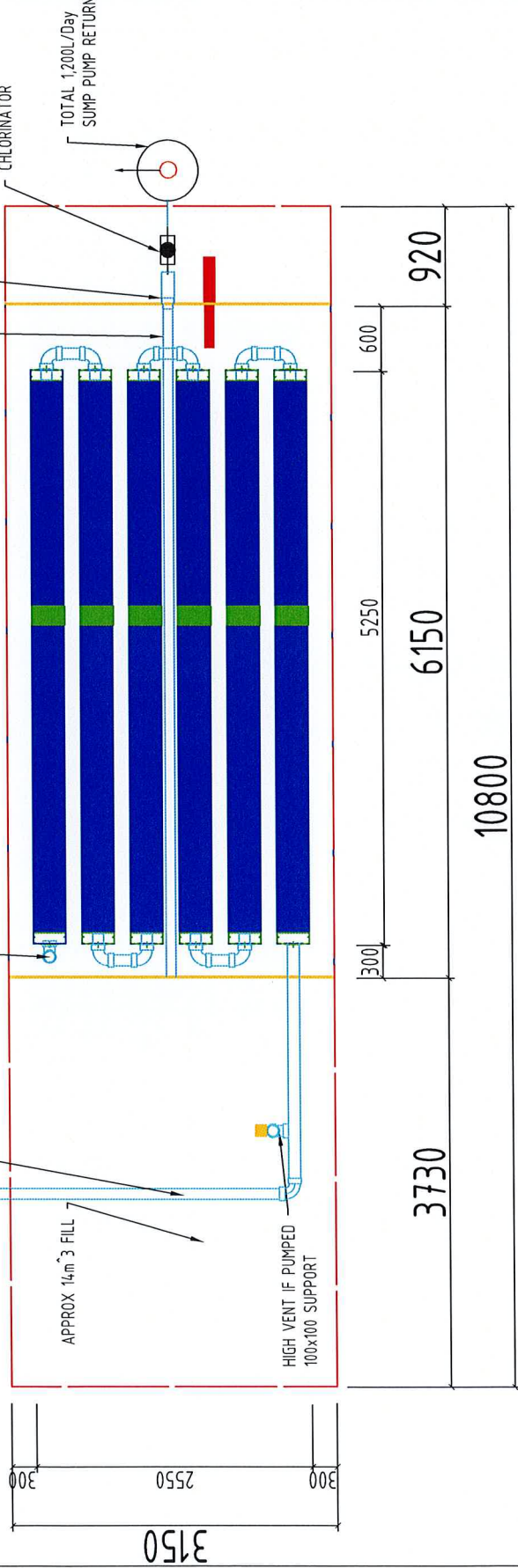
ACCREDITED

18 SEP 2024

NSW MINISTRY OF HEALTH

STANDARD INSTALLATION
 DAILY FLOW 1,200L/Day
 APPROX AES 6.15m x 3.15m 19.3m²
 OVERALL TESTING AREA APPROX 32m²
 LOADING RATE 38 L/m

ACCREDITED
 18 SEP 2024
 NSW MINISTRY OF HEALTH



		REVISIONS REV # DATE SUBJECT AUTHORISED	
ADVANCED ENVIRO-SEPTIC "Always The First Option" QBCC LICENCE NUMBER 150 238 31 ABN NUMBER 29154897097 Phone: +617 5474 4055 Fax: +617 5335 1691 Email: designreview@enviro-septic.com.au Web: www.enviro-septic.com.au			
CHANKAR ENVIRONMENTAL PTY LTD T/A ADVANCED ENVIRO-SEPTIC "Always The First Option" QBCC LICENCE NUMBER 150 238 31 ABN NUMBER 29154897097			
WASTE WATER TREATMENT & EFFLUENT DISPOSAL SYSTEM SITE PLAN			
NAME OF CLIENT		DESIGNER	DATE
		S. Dennis	20/2/2023
		DRAWN	DATE
		S. Dennis	30/1/2024
STREET ADDRESS		LOT & PLAN	
COUNCIL		DRAWING DETAILS	
		AES HA-H000RF TESTING V18 1200 L/d Standard Installation	
CLIENT REFERENCE #		SCALE	
		VARIOUS	
JOB NUMBER	REVISION	DWG #	
		SPD 6R V18	