OSET-NTP NZ Test Results
AES exceeds secondary levels by 10x

<table>
<thead>
<tr>
<th>Effluent Type</th>
<th>Raw Effluent</th>
<th>Primary (Septic Tank)</th>
<th>Secondary</th>
<th>Advanced Secondary</th>
<th>AES Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOE mg/L</td>
<td>250-350</td>
<td>≤20</td>
<td>≤10</td>
<td>≤2</td>
<td>&lt; 2</td>
</tr>
<tr>
<td>TSS mg/L</td>
<td>300-400</td>
<td>≤30</td>
<td>≤10</td>
<td>≤3</td>
<td>2</td>
</tr>
<tr>
<td>Faecal Coliforms (GUT100ml)</td>
<td>&gt;10³</td>
<td>&gt;100,000</td>
<td>≤100,000</td>
<td>≤100,000</td>
<td>220</td>
</tr>
</tbody>
</table>

* AES system tested at OSET-NTP Rotorua 2016-17

Next Steps

Property Owners
Contact us on 03 707 7979 to find a wastewater designer near you. You will need a site assessment and design for your specific site, to include with your building consent application:
AES wastewater systems can save you $$$

Wastewater Designers and Installers
Complete our free online training course at www.et.nz. We provide full support, design advice and review of AES designs.

Effluent Treatment Quality Assurance

AES systems have been tested at research facilities around the world with consistently excellent results. In New Zealand an AES-38 standard system tested in 2016-17 achieved the following results:

- BOE <2mg/L
- TSS <3mg/L
- Faecal Coliforms <250 CFU/100ml

This is 10x better than the standard required for secondary treatment. Discharge of the treated effluent into the soil can be sustained indefinitely, giving an expected lifetime of more than 50 years based on USA installation performance history.

In 2017-18 an AES-38R system tested in OSET-NTP Trial 13 achieved an additional A grade - TN <8mg/L - for nitrogen reduction, using one small pump to recirculate the treated effluent back through the septic tank.

Where are AES systems used?

- Residential Dwellings
- Holiday Homes
- Farm Houses
- Campgrounds
- Community Buildings
- Small-medium sized towns

1. Used water from the house goes into a standard locally-sourced septic tank for primary treatment. This usually includes black and grey water. Solids settle in the septic tank, and first level treatment by anaerobic organisms takes place.
2. After primary treatment, wastewater then enters the AES bed for passive aerobic treatment involving biofilm growth. Natural air circulation through low and high vents increases aerobic microbial efficiency. The locally-sourced AES system sand provides final treatment. The combination of biofilm growth and AES system sand disperses the advanced secondary treated effluent evenly along the base of the AES bed.
3. After this advanced secondary level of treatment, effluent can sustainably infiltrate into the underlying soil, safely recharging water resources - protecting your environment.

Environment Technology is the NZ-wide distributor of AES components and associated drainage products. View videos and more info at www.et.nz or contact us:

Web: www.et.nz
Call in: 105 Pencott St, Nelson
Talk to us: 03 970 7979
0800 WASTE H20 / 0800 927 834
Email: info@et.nz

AES tested at OSET-NTP, Rotorua NZ AS/NZS 1547:2008 On-site domestic wastewater treatment units

AES System Advantages

- No six-monthly maintenance means huge savings over the lifetime of your AES system
- No power required for a standard AES system so not only cost savings but no noisy pumps activating that will eventually fail and need replacing
- No aerator, blower or filters that can fail or need servicing and replacing
- As AES operates passively, no alarms to sound in the middle of the night in a standard system
- Compact - AES beds can be installed under lawns, landscaping or even under your driveway
- No homeowner intervention needed
- Reliable with intermittent use. Biofilm quickly re-activates when required. Ideal for holiday homes and baches
- AES treated effluent can be used for subsurface irrigation, wetlands landscaping or orchards
- Especially appropriate in sensitive areas due to:
  - High quality output
  - No risk of performance failure from lack of servicing
  - Ability to adjust to large variations in flow without intervention

"We are absolutely thrilled with our AES system - probably one of the best purchases I've ever made."

Craig Watson, Kapiti, AES system owner

AES is adaptable to all site conditions

Raised bed on very permeable soil, groundwater at 400mm, beach nearby

High Groundwater
AES systems can be installed in raised beds.

Heavy Clay Soils
Sand bed extensions can provide a larger dispersive area.

AES pipes can be installed in a lined bed and the treated effluent then siphon or pumped to irrigate dripper lines. Siphon dosing maintains the AES system as totally passive and requires a 10m vertical fall to the dripper field.

Small Section
On a small section an AES system could occupy less than 20% of lawn area or be installed under a driveway.

Sloping Sections
AES beds can be installed horizontally along the contour, or stepping down a slope.

Nitrogen Nutrient Reduction Areas
The AES-38R system tested at OSET-NTP Trial 13 achieved TN<8mg/L. This easily meets the requirements of TN<15mg/L for areas such as the Rotorua and Taupo lake catchments.

www.et.nz