

PLAN

Low level air inlet vent to be at least 3m lower than high vent - refer to vent notes.

100mm inlet @ 1:100 min. fall from septic tank.

AES system sand.

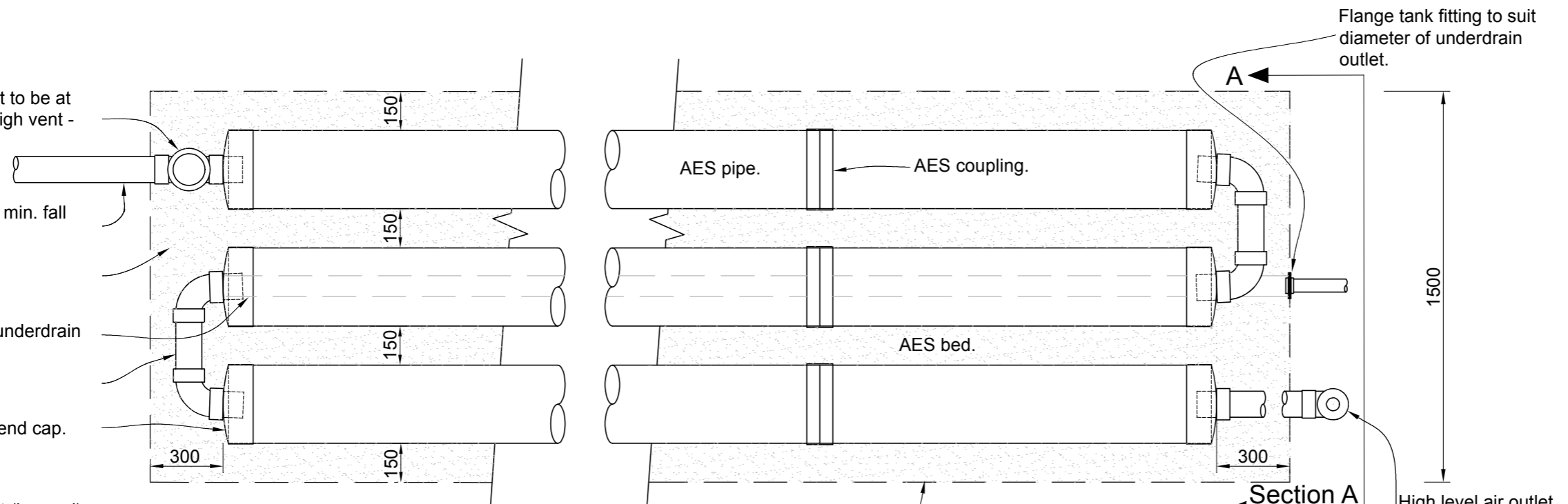
Underdrain - refer to underdrain notes.

Raised connector.

AES offset adaptor / end cap.

Low level air inlet vent (beyond) to be at least 3m lower than high vent - refer to vent notes.

Extend topsoil mound 1m past AES bed / extension excavation.



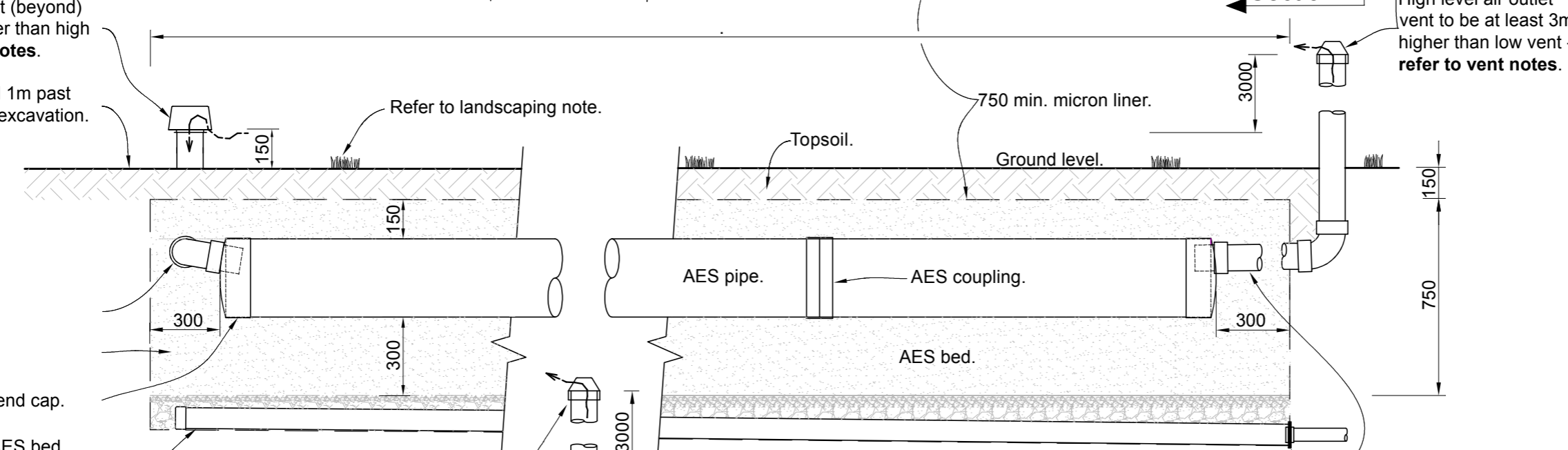
LONG SECTION

Raised connector.

AES system sand.

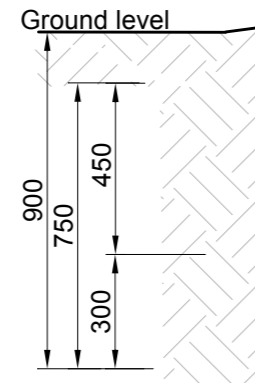
AES offset adapter / end cap.

1:100 fall to base of AES bed and underdrain - refer to underdrain notes.



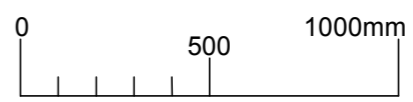
CROSS SECTION A:A

High level air outlet vent to be at least 3m higher than low vent - refer to vent notes.



- 150mm min. topsoil with ground mounded and extended 1m past AES bed / extension excavation.
- 20mm washed stones with liner folded above and below - allowing gas to escape.
- AES pipe with raised connector.
- AES system sand.
- Pea gravel.
- Drainage metal.
- Underdrain - refer to underdrain notes.
- 750 min. micron liner.
- Filter cloth or sand to protect liner from punctures.

Total no. AES pipes	
Total AES bed, incl. extension:	
Infiltration area	m ²
Width	m
Length	m



NOTES

- General**
- Advanced Enviro-Septic (AES) pipes, fittings and bed to be constructed/installed in accordance with the AES Installation Manual.
 - AES pipes and fittings are supplied by Environment Technology Ltd, Et.
 - All associated pipework to comply with NZ Building Code G13, Foul Water, Acceptable Solutions, relevant standards and local/regional council requirements.
 - Unless otherwise stated all dimensions are in millimetres and all dimensions are minimums except pipe diameters and fittings.

- Venting of AES Pipework to Maintain Aerobic Internal Conditions**
- The high level air exhaust vent to be 100, 80, or 65mm diameter DWV pipe, suitably supported on an adjacent building or post, to be 3m vertically elevated above the air entry vent. 2 x 50mm DWV pipe can be used in internal building framing. Support to be provided to 1 meter below the top of the DWV vent pipe.
 - The low level air entry vent to be 100mm DWV, positioned as close as practical to the AES bed and isolated with respect to air passage wherever practical from upstream influent pipework. Refer to the specific design of each project.
 - The location of air entry and exit vents can be remote from the AES bed with additional pipework to suit topography, building structures or landscaping. Air exit vents should be positioned considering potential downdrafts or adjacent disturbed air flows.

- AES Bed Construction**
- An areal extension to the AES bed may be required to suit the permeability of the receiving soil in passive installations. These extensions may be on any or all sides of the bed. Refer to the AES bed dimensions noted on the specific design. N/A or not applicable denotes an extension is not required in this design.
 - A minimum of 50mm of fall is required between the septic tank outlet invert and the invert of the inlet to the AES bed or distribution box.
 - Trees/large shrubs cannot be planted on the AES bed.
 - AES bed 'System Sand' specification is usually met with within the local concrete sand specification. Refer ET website www.et.nz/system-sand-suppliers/ for Et tested AES System Sand suppliers. Et offers cost free sand sieve analysis upon receipt of a two cupful size sample.

- Lined AES Beds and Underdrains**
- Designer to specify the proposed construction detail incorporating:
 - Specification of the lining membrane incorporating a minimum 25 year design life. Minimum standard of 750micron LDPE required.
 - Detail of protection of the membrane from perforation by the surrounding ground utilising a minimum of Bidim A14 non-woven filter cloth or equivalent.
 - Minimum 1:100 fall to collection pipe on bed base.
 - Minimum 50mm diameter collection pipe as DWV or PN10 and detail of collection perforations at 4 and 8 o'clock at 300mm centres as 10mm diameter holes or 100mm long horizontal 3mm wide saw cuts.
 - The collection pipe preferably enclosed in suitable larger diameter perforated 'draincoil'.
 - The up grade end of the collection pipe brought to the surface of the bed and capped with a suitable vent cap.
 - Detail of the flanged connection sealing the perforation of the lining membrane.
 - Pea metal drainage media from base of AES sand bed to collection pipework. If crushed pea metal drainage media used further A14 material placed over lining membrane to the edge of the collection bed.
 - If 'Draincoil' screening is not provided then nominal 20mm drainage metal surrounding the collection pipe.

Scale @A3	1:20
Scale @A4	1:40
Dwg: AES LB03	
Version: 01	


Environment Technology
 sustainable wastewater treatment
info@et.nz - www.et.nz

This generic drawing is the Copyright © of Environment Technology Ltd (Et). It is supplied by Et for use in New Zealand and may not address site specific aspects of an AES treatment system design. Use of this drawing as part of a design proposal must be in accordance with Et Copyright and conditions of use - available at <https://www.et.nz/disclaimer-and-copyright/>

Each designer using this drawing for a design for a particular site: (a) Shall be solely responsible for the wastewater treatment system design for that site having regard to all the circumstances applying at that site and; (b) By using this generic material, the designer guarantees that Et shall have no liability for plans submitted by that designer to clients, local authorities or any other person.