AS 1546.3:2017 Compliance Testing of on-site Domestic Secondary Treatment Systems

Fluid Environmental owns and operates the only on-site wastewater systems testing and research facility in the Southern Hemisphere accredited to conduct AS 1546.3:2017 performance testing of domestic secondary treatment

The state-of-the-art STS performance testing facility was constructed by Fluid Environmental at SA Water's Hahndorf wastewater treatment plant in South Australia and has continuous access to raw sewage flows for 24/7 compliance testing as per the requirements of AS 1546.3:2017.

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Fluid Environmental uses a fully-automated SCADA software system to control sewage dosing and influent plus effluent sampling. Samples are analysed by NATA-accredited laboratory service providers.

Project notes

Fluid Environmental's AS 1546.3:2017 testing facility is currently the only facility of its kind operating anywhere in the Southern Hemisphere following the 2025 closure of the Jimboomba site in QLD. The Hahndorf facility is located in Australian climate zone 6, offering STS providers the capacity for cool climate winter testing to verify low temperature performance - something which the climate zone 2 Jimboomba facility was not able to achieve.

The facility has a 40m long concrete bunker with nominal depth of 2m, allowing STS systems to be installed and backfilled to normal operating depths to simulate fully in-ground operating conditions during testing.

STS units are supplied with coarse macerated raw sewage from a 5,000 L balance tank which receives unscreened raw sewage from the Hahndorf wastewater treatment plant's sewer rising main at the head of the plant.

Sewage dosing to each STS and influent plus effluent sampling are fully automated and SCADA controlled in line with the prescribed testing protocols of AS 1546.3:2017, with refrigerated composite and grab sampling as per AS 1546.3:2017.

Refrigerated autosamplers are housed in five control sheds adjacent to the STS bunker, enabling fully automated influent and effluent sampling across up to 11 parallel STS units under test at any given time.

The facility has an onsite weather station and is covered 24 hours by full-span CCTV cameras, with data recorded and stored in the onsite facility control centre.

Since 2019, Fluid Environmental has tested more than two dozen existing or new STS systems against Australian Standard AS 1546.3:2017 including aerated wastewater systems (AWTS), reed beds, aerobic sand filters, passive treatment systems and other novel and experimental wastewater treatment systems in line with our Clients' needs.

Fluid Environmental offer our clients unmatched expertise in wastewater treatment and have unique insights into what makes on-site wastewater systems work effectively across a variety of treatment technologies. We routinely undertake Research & Development work for clients wishing to improve the efficacy of their STS while testing with us at Hahndorf.

Snapshot

Clients	Ri-Industries; Eljen Pacific; Global Roto-Moulding; Biomax; Filtrex; Hydroscape; Valley Septics; Ecosafe; Coerco; Ozzikleen; FujiClean Australia; Super Treat Systems; & others
Location	Hahndorf, South Australia
Job category	Compliance testing

Adelaide (Head Office)
T: (08) 8313 6706
E: info@fluidenviro.au

Melbourne
T: 0434 047 717

Perth
T: 0407 086 456

Fluid Environmental Pty Ltd | ACN 681 454 231
Building WT51 Gate 2c Hartley Grove URRBRAE SA 5064 | Post: PO Box 206, HIGHGATE SA 5063
Fluid Environmental Pty Ltd formerly a division of Arris Pty Ltd