

On-site Effluent Treatment National Testing Programme (OSET NTP)

PERFORMANCE CERTIFICATE EXTENSION 2016 Hynds Advanced Lifestyle On-site Domestic Wastewater Treatment System, OSET NTP Trial 4, 2008/2009

System Tested

Hynds Advanced Lifestyle submerged fixed film media treatment unit. Rated design capacity 1,800 litres/day. Total liquid volume 7,420 litres (primary treatment 3,120 litres; secondary treatment aeration and clarification 3,540 litres, pumpout chamber 760 litres). Emergency storage 1,200 litres. No tertiary treatment (such as UV disinfection) is incorporated.

Test Flow Rate

The **Hynds Advanced Lifestyle** was tested at 1,000 litres/day (equivalent to servicing a 3-bedroom 5 person household) over an 8 month (35 week) period November 2008 to July 2009 followed by a 1 month (4 week) high load effects test involving 5 days at 2,000 litres per day followed by 1,000 litres/day over the following 3 weeks.

Testing and Evaluation Procedure

A total of 16 treated effluent samples of organic matter (BOD₅), suspended solids (TSS), total nitrogen (TN), ammonia nitrogen (NH₄-N), total phosphorus (TP) and faecal coliforms (FC) at generally six day intervals during weeks 23 through 35 were benchmarked and rated on their median values. In addition, the energy used by the treatment system was assessed on the mean of consumption levels over the 16 sample days, weeks 23 to 35.

Benchmark Ratings

The **Hynds Advanced Lifestyle** system achieved the following effluent quality ratings:

Indicator Parameters	Median	Std Dev.	Rating	Rating System				
				A+	A	B	C	D
BOD (g/m³)	4.9	2.3	A+	<5	<10	<20	<30	≥30
TSS (g/m³)	9.85	3.76	A	<5	<10	<20	<30	≥30
Total nitrogen TN (g/m³)	14.3	2.6	A	<5	<15	<25	<30	≥30
Ammonia Nitrogen NH₄-N (g/m³)	0.2	1.4	A+	<1	<5	<10	<20	≥20
Total phosphorus TP (g/m³)	4.3	0.3	B	<1	<2	<5	<7	≥7
Faecal Coliforms FC (cfu/100mL)	68,000	45,681	C	<10	<200	<10,000	<100,000	≥100,000
Energy (kWh/d) (mean)	1.8	-	B	0	<1	<2	<5	≥5

Performance Certificate Extension

Hynds Pipe Systems Ltd (the manufacturer) have provided a signed and legally witnessed statement that there have been no changes whatsoever from the plant tested in 2009 to that manufactured and marketed in 2016. No changes have occurred to all tank volumes, submerged media (type and quantity), blower and aeration capacity, sludge return and all plant process timer settings. Hence the plants performance results and Benchmark Ratings above, as tested in 2009, can be expected to remain unchanged in 2016 and the previous Performance Certificate can be extended for a period of 3 years from its previous expiry date.

This Performance Certificate and associated Benchmark Ratings is specific to the **Hynds Advanced Lifestyle** model as specified above when operated at a flow rate of 1,000 litres/day, and is **valid to 31 August 2018**. For the full OSET NTP report on the performance of the **Hynds Advanced Lifestyle** system contact Hynds Environmental of Auckland.

Authorised By:

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25 August 2016