

# Appendix O

## Quality of Effluent Suitable for Application to Surface Irrigation

### Scope

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This appendix sets out methodology for determining whether the effluents discharged from small septic tanks or aeration systems are suitable for application to surface irrigation systems.

### Procedure

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The procedure shall be as follows:

- The system shall be commissioned in accordance with the manufacturer's instructions and operated under stable conditions for not less than two months with an average daily load per bedroom of:
  - Volume, 300 L;
  - Five-day biochemical oxygen demand (BOD<sub>5</sub>), 120 g;
  - Suspended solids, 120 g;
  - Total nitrogen, 30 g; and
  - Total phosphorous, 5 g.
- The effluent samples shall be taken from the outlet of the disinfection chamber, or other location approved by the Council.
- The effluent storage chamber shall be emptied and allowed to refill before taking the first sample each day.
- Testing shall be undertaken on four consecutive days.
- Five samples shall be taken at 30 minute intervals during the test period when the plant is under a maximum flow of 120 L/bedroom for any 2 hour period.
- At the completion of this 2 hour period on each day, the flow shall be increased to the maximum flow for a 30 minute period of 300 L and the effluent from the disinfection chamber shall be tested for free residual chlorine. At the completion of testing on each day, the flow shall be adjusted so that the flow to the plant during each 24 hour period is 300 L/bedroom.
- Samples shall be taken in the presence of a representative of the Council or the approved testing agency accredited by the Joint Accreditation System of Australia and New Zealand (JAS - ANZ).
- The samples shall be tested by a registered laboratory for the parameters set out in Quality of Effluent below:

## Quality of Effluent

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Effluent that is suitable for application to a surface irrigation system shall comply with the following criteria:

- 90% of the samples shall have a BOD<sub>5</sub> less than or equal to 20 mg/L with no samples greater than 30 mg/L.
- 90% of the samples shall have total suspended solids less than or equal to 30 mg/L with no sample greater than 45 mg/L.
- 90% of the measurements of dissolved oxygen in the aerobic chamber shall be equal to or greater than 2 mg/L.
- The samples taken on each day shall have a thermotolerant coliform count (determined by either multiple tube dilution or membrane filter technique) not exceeding a median value of 10 organisms per 100 mL with four out of five samples containing less than 20 organisms per 100 mL.
- The free residual chlorine concentrations shall be greater than or equal to 0.5 mg/L in all four samples under the maximum 30 minute flow.