



Bio-Bubble SBR
< 0.7 mg/l Total
organic nitrogen is a
typical analysis
result

The Challenge

The adverse effects of excess nutrients entering protected waters have resulted in obstacles being placed in the way of housing developments whilst trying to meet nutrient neutrality.

Local Authorities, The Environment Agency and Natural England have developed nutrient mitigation strategies in order to facilitate planning applications for both small and large planning developments.

Advanced Aeration's Bio-Bubble process IS the solution, offering unrivalled opportunities to achieve final effluent Nitrogen results of <0.7mg/l to reduce mitigation in an environmentally responsible and cost-effective way.

The real-world nutrient reduction performance evidence has been accepted by Natural England for the use of a Total Nitrogen reduction level of 88.5%, now the new calculator is in use we are using a conservative reduction figure of <5mg/l. The original approval consisted of submitting 2 years real life certified lab results.

**Bio-Bubble system is acknowledged by Natural England to reduce
Total Nitrogen by a minimum of 88.5% / <5 mg/l***

Bio-Bubble Key Benefits

- Industry-leading levels of Total Nitrogen removal – approved by Natural England to a minimum of <math><2\text{ mg/l}</math> reduction
- Ability to reduce Total Nitrogen (in the same tanks so avoiding significant costs)
- Pure biological treatment with no chemicals
- Effective all year round, capable of feast or famine situations
- Lower capital expenditure
- Lower operating costs
- Smaller footprint – cost saving
- Modular & scalable – above or below ground options
- High quality effluent capable of re-use without tertiary treatment
- Virtually odourless
- No corrosive by-products requiring further treatment
- Fully automated
- Remote monitoring & alarm notification system
- Reducing costs long term



Leading Specialists in Waste Water Treatment

*NE mg/l confirmation pending

A Completely Biological System

Bio-Bubble offer a reliable and robust solution to nutrient removal using purely biological treatment, with no requirement for additional chemical dosing. Bio-Bubble use natural bacteria and other microbes to consume or absorb harmful nutrients present in sewage. Some systems use additional chemicals to reduce the nutrients which can be as damaging to the environment as the nutrients themselves, not to mention the associated costs. [As a completely biological solution Bio-Bubble offers superior results in a much more environmentally sustainable way.](#)

A number of cost benefits include modular construction that is highly resistant to shock loads, a smaller footprint and consumes less energy than many other systems. This reduces the cost long term and ensures value for money for the customer.

Bio-Bubble is effective all year round, with lower capital expenditure and lower operating costs. It uses time instead of physical space to separate the process steps, and also includes unique advanced engineering and control to enable it to guarantee biological nutrient removal in conditions where more traditional plants may struggle.



Treated effluent sample (below)

Activated sludge
virtually odourless
an excellent fertiliser

=

Significant reduction
in tanker costs



**FOR FURTHER INFORMATION
PLEASE CONTACT US**



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**ADVANCED
AERATION**

