



**“ZSL Whipsnade Zoo install
a Second Bio-Bubble”**

ZSL order a second Bio-Bubble as part of their ongoing Waste Water Treatment improvements at Whipsnade Zoo

Our association with ZSL started in 2018 having designed, installed, commissioned and operated a smaller Bio-Bubble for the Zoo's more remote Outlook Café, this Bio-Bubble replaced an old septic tank arrangement that did not have the capacity for an expanded footfall at the Outlook Post.

The design for the current project was to replace the existing 1950's trickling filter that served all the Zoo's main facilities buildings which had become 'not fit' for purpose with an ever-increasing visitor count. Final Effluent quality improvements were required by the Environment Agency and the Zoo's needs to reduce the consequential increase in tanker movements from site. The new treatment plant will dramatically cut the overall nutrient levels to the local stream and lakes leading to a significant reduction in Algal blooms going forward. Wildlife associated with clean water will be able to flourish with the resulting improvements.

To help ZSL, a charitable organization, the design is modular permitting easy expansion of the treatment capacity as the projected visitor numbers increase in the coming years. An additional feature of this bespoke design are large storage tanks for the raw waste which will permit the 'dumping' of high-volume saline waste from the sea lion pool; this waste was previously emptied by tanker is now blended with waste from the toilet block and restaurant, processing it over an extended period. Large reductions in tanker movements site wide mean operational funds can be redirected to other important ZSL work.

Just like the first Whipsnade Bio-Bubble, the plants performance will be monitored remotely by our process engineers via a broad band link as part of a Service Level Agreement, with reporting data of performance saved as part of the Environmental Management Plan to demonstrate compliance with the Zoo's Environmental Permit conditions. Having these records to hand demonstrates private operators can manage their Permit obligations and will prove especially useful at the time of an Environment Agency audit.

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