

# A.G.A. Group

## Reedbed Wastewater Treatment Systems

### From Concept to Completion:

Wetland ecosystems specially designed and engineered to treat wastewater and sewage.

Self contained or combination systems can be used for commercial, agricultural and domestic applications:

- Airports
- Agricultural holdings
- Camp sites
- Fish farms
- Caravan parks
- Food processing plants
- Hotels.
- Fisheries
- Industrial units
- Motorway services areas
- Isolated communities
- Water supply reservoirs



### Reedbeds offer natural, low cost, wastewater treatment.

Wetland ecosystems can be used to treat organic and liquid waste. The needs of the client however, need to be carefully considered before any design is recommended.

The A.G.A. Group can undertake the whole range of the pre-build work that ensures long term success of the system. We can carry out feasibility studies, budget costing and concept design. Our installation service will conform to all regulatory demands and work with best practice construction methods.

A.G.A. design, build and plant reedbed water treatment systems for domestic sewage and industrial effluent.

Where required we can obtain from the relevant authorities, the necessary consent for reedbed construction and the discharge of treated water.

Treated effluent flowing from correctly constructed reedbeds will reach Environment Agency standards for discharge into most watercourses.

### How reedbeds water treatment systems work.

Reedbeds have the ability to filter and process nutrient rich waste by biological action through both vertical and horizontal flow systems.

Emphasis, on which of the main elements successful reedbeds treatments rely, will depend on the type of effluent to be treated. Wetland plants, usually *Phragmites australis* (Common Reed) introduce atmospheric oxygen into the water creating conditions for aerobic activity. Initial outfall can pass over various base materials, providing conditions for anaerobic reactions. Together an enormous diversity of microbial species are supported. These bacteria and fungi digest and degrade (as their food source) a wide range of organic waste.

Common Reeds also take up large amounts of nutrients (as natural fertiliser) for their growth and reproduction, and will absorb significant quantities of trace elements removed through their matrix of root fibre hairs.

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### Pre-vegetated plant pallets

Our vegetated pallets are, more often than not, the initial reed supporting vehicle used in waste water treatment systems, they are also used for the creation of habitat, the stabilisation of wetlands and waterside banks.

As the UK's largest producer of *Phragmites australis* (Common Reed) the A.G.A. Group are able to offer year round supplies for year round installation.

Our RT300 root trainer system introduces the plants root structure directly to the very bottom of the coir pallet enabling them to penetrate below the coir faster than pot grown reeds.

**Root trainer planted coir pallets start work almost immediately after installation.**



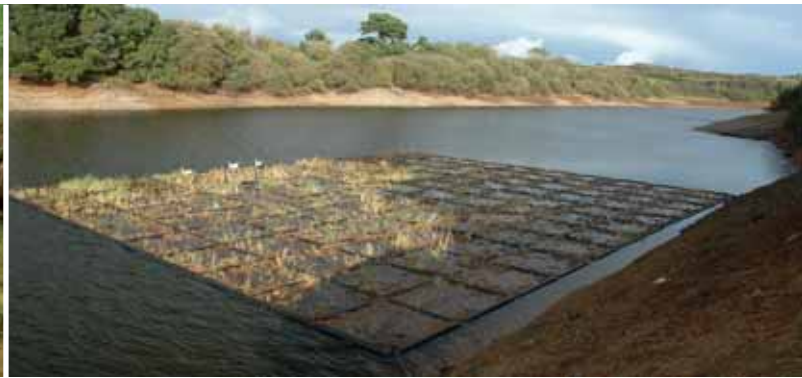
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CONCEPT TO COMPLETION



# The A.G.A. Group

The A.G.A. Group is a multi-disciplined team offering a complete and integrated service undertaking the construction of reedbeds of any size, large or small for whatever purpose. The Group is the largest grower of *Phragmites australis* (Common Reed) and producer / installer of pre-vegetated coir rolls and pallets in the UK



## Reed-beds also used to:

- polish treated water prior to discharge into a watercourse.
- create habitat and provide biodiversity.
- stabilise wetlands, waterside banks and marshland.
- provide areas of harvestable reed for thatching.
- remove nutrients to control algae, improving palatable supplies.

We are the leading specialist in ecological reedbed systems. Whatever function they need to serve, consult us in the initial planning stages, we will offer the most prudent cost effective solution.

## Joint partnership ventures and turnkey projects.

For over 25 years our group has had the most successful record of working with, and for, clients throughout the UK.

A.G.A. has close associations with the Environment Agency, Local Authorities, British Airport Authority, Water Companies, English Nature, The National Trust, Main Contractors and private clients.

THE A.G.A. GROUPS installation teams operate solely within the field of aquatic and bioengineering. We operate a policy of 'Best Practice' and are bound by the Code of Conduct of both the Institute of Fisheries Management and the Institute of Biology.

The A.G.A. Group is Quality assured to: ISO9001 : 2008 and ISO14001 : 2004

Registered: Achilles Utilities Vendor Database No. 705965

For more information please contact us.

We can quote you for supply of materials and their installation or for turnkey projects.

A.G.A. Group

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