

# CONSTRUCTED WETLANDS



WASTEWATER TREATMENT  
WITH THE POWER OF NATURE


[www.beets.ae](http://www.beets.ae)

# ABOUT BEETS

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BEETS – Emirates Environment Technologies & Services is an Emirati environmental solutions company focused on delivering sustainable engineering, wastewater management, remediation, and environmental infrastructure solutions across the UAE and wider region.

Our mission is to combine innovative environmental technologies with practical engineering expertise to support industries, communities, and governments in achieving long-term sustainability goals.



We work alongside businesses to deliver practical, scalable environmental solutions that create real, measurable impact.

# NATURE PROVIDES THE MOST SUSTAINABLE SOLUTIONS

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**Constructed wetlands** are advanced natural water treatment systems designed to remove contaminants through biological, physical, and chemical processes occurring between water, vegetation, microorganisms, soil, and engineered media.

At BEETS – Emirates Environment Technologies & Services, we utilize the power of nature and sustainable engineering to deliver environmentally responsible wastewater treatment solutions with low operational costs, minimal energy consumption, and long-term environmental value.

Our constructed wetland systems are designed to support a wide range of industrial, municipal, and environmental applications across the UAE and wider region. Through innovative engineering, sustainable practices, and operational expertise, BEETS provides tailored wetland treatment solutions that align with modern environmental standards and circular economy initiatives.

From concept design and feasibility studies to construction, commissioning, and long-term operation, our team delivers integrated solutions that combine environmental performance with operational efficiency.



# WHY CHOOSE US

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## Applications

- Municipal & domestic sewage treatment
- Industrial wastewater treatment
- Produced water treatment
- Stormwater management
- Agricultural wastewater treatment
- Sludge dewatering systems
- Groundwater remediation
- Landfill leachate treatment
- Mine drainage treatment

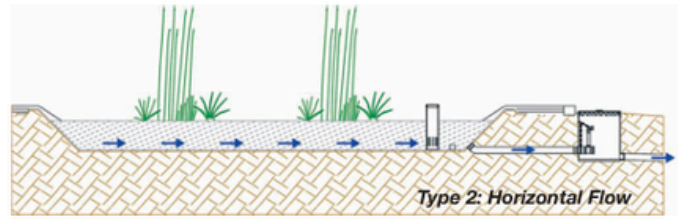
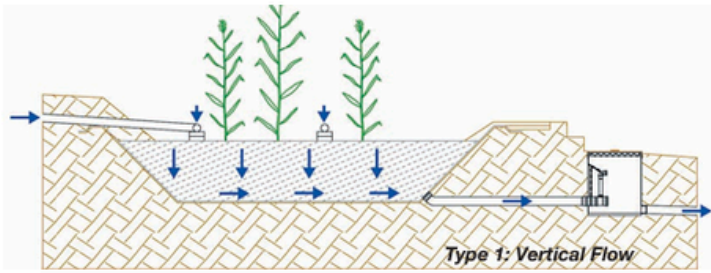
## Benefits

- Lower capital and operational expenditure
- Sustainable and environmentally friendly solution
- Minimal chemical usage
- Low energy consumption
- Reduced sludge production
- Simple operation and maintenance
- Long operational lifespan
- Treated water suitable for reuse applications
- Natural integration into surrounding landscapes
- Supports biodiversity and habitat creation
- Flexible and scalable system design



**Constructed wetlands treat wastewater using natural processes like plants, soil, and microbes, making them a low-energy, cost-efficient, and sustainable solution for water management.**

From initial assessment and engineering to implementation and ongoing maintenance-at BEETS, our focus is on creating solutions that are practical, compliant, and scalable.



# The BEETS Constructed Wetland Treatment System

BEETS constructed wetland systems integrate multiple treatment technologies to provide customized solutions based on site conditions, wastewater characteristics, and treatment objectives.

Our engineered wetland systems can operate independently or as hybrid treatment systems to achieve enhanced treatment efficiency and sustainability.

## **Type 1 – Vertical Flow Wetlands**

Vertical flow systems are highly effective for municipal and domestic sewage treatment applications, providing strong oxygen transfer and efficient organic pollutant removal.

## **Type 2 – Horizontal Subsurface Flow Wetlands**

Horizontal flow systems are commonly used alongside pretreatment units or combined with vertical flow systems to create hybrid treatment solutions that deliver high-quality effluent while minimizing sludge generation.

## **Type 3 – Surface Flow Wetlands**

Surface flow wetlands are ideal for large-scale applications including:

- Produced water treatment
- Industrial polishing systems
- Agricultural runoff treatment
- Stormwater management
- Environmental restoration projects

# Sludge Treatment Wetlands

Conventional wastewater treatment plants often face significant operational challenges related to sludge handling and disposal.

BEETS sludge treatment wetlands provide a sustainable and cost-effective solution for on-site sludge dewatering, stabilization, and mineralization. These systems reduce dependency on expensive mechanical sludge handling technologies while transforming sludge into reusable biosolid material suitable for beneficial reuse applications.

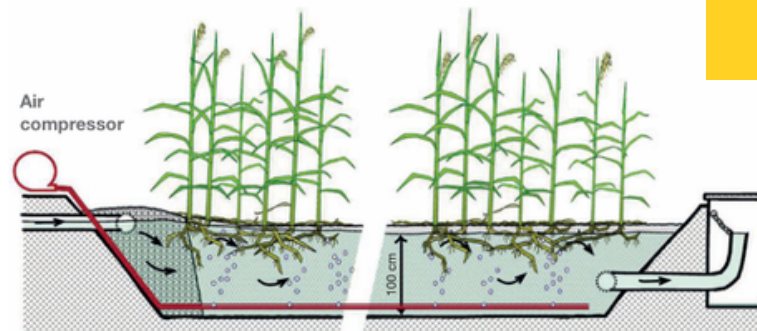
## Aerated Wetlands

Aerated wetlands represent an advanced enhancement of traditional constructed wetland technology.

By introducing controlled aeration, oxygen availability within the treatment system is significantly improved, enhancing the removal of organic and inorganic contaminants while reducing system footprint requirements.

BEETS aerated wetland systems provide:

- Higher treatment efficiency
- Reduced land requirements
- Lower operational costs compared to conventional systems
- Energy-efficient treatment performance
- Environmentally sustainable wastewater solutions



## Large-Scale Wetland Treatment Solutions

Constructed wetlands are increasingly being adopted worldwide as sustainable alternatives for industrial and produced water treatment applications.

At BEETS, we recognize the growing importance of nature-based infrastructure solutions in supporting environmental sustainability, water reuse, and long-term ecological resilience. Our expertise enables us to deliver scalable treatment systems designed for demanding environmental and industrial conditions throughout the region.

These systems not only treat wastewater effectively but also contribute to habitat creation, biodiversity enhancement, and environmental restoration.

# SERVICES WE PROVIDE

BEETS delivers fully integrated environmental and wastewater treatment solutions tailored to each client's operational and environmental requirements.



Environmental Consulting



Feasibility Studies



Laboratory & Pilot-scale Testing



Engineering & Design



Procurement Support



Construction & Installation



Plant Propagation & Wetland Planting



Operations & Maintenance



Project Management



Research & Development



Technical Support & Training

An aerial photograph of a dense green forest. The top half of the image shows a bright blue sky, while the bottom half shows the forest canopy. A thin yellow vertical line runs through the center of the image, passing through the text.

For us, environmental responsibility is not a checkbox, it's a commitment to protecting people, preserving resources, and shaping **a more sustainable future for the GCC region & globally!**

# CERTIFIED BY



# BEETS-EMIRATES ENVIRONMENT TECHNOLOGIES & SERVICES

## Contact Us



BEETS-Emirates Environment Technologies & Services LLC. Office 801, Salam H.Q. Building, Sheikh Zayed Bin Sultan Street (Salam Street) P.O. Box 51451, Abu Dhabi, United Arab Emirates



+971 2 6430075



mail@beets.ae



www.beets.ae

