

FiltaPod™

Floating Wetland Pods



STRENGTH & DURABILITY

FiltaPod is made of coir fibre and netting which is a natural renewable organic material. It demonstrates high mechanical strength and due to its high lignin content it resists biological degradation. It is not less sensitive to UV degradation due to leaching out of photo-sensitive materials during the production process. FiltaPod uses PVC floatation devices to provide buoyancy and structural strength to the units. They can be tethered together and anchored using chain or wire rope. Planting can be done on land and easily carried to the location by two people. Plants are held in place by the fibrous coir around the roots while the netting supports the stems of the plant. Coir is considered to be inert and does not have any impact on sensitive ecologies.

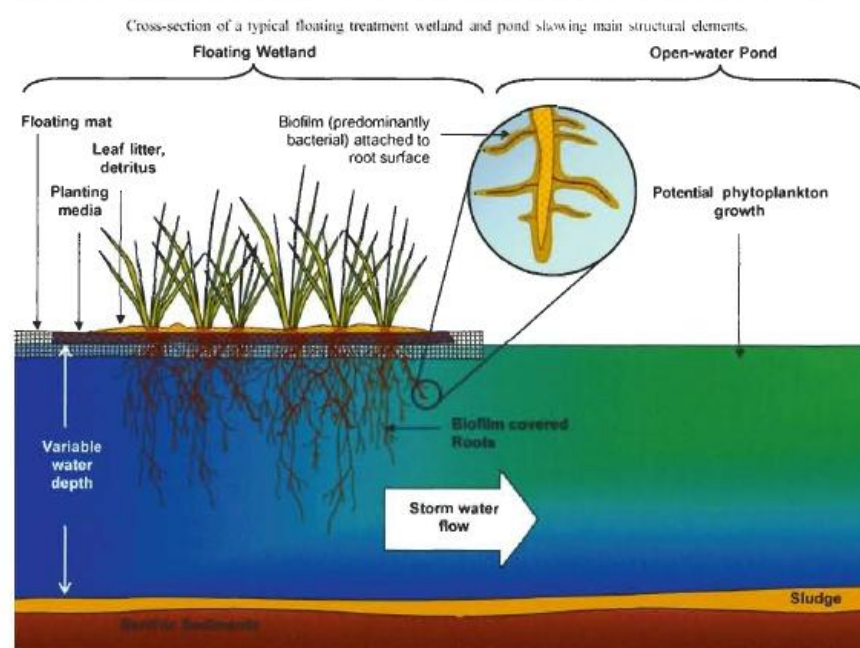


FiltaPod is floating host for the deployment of wetland plants on the surface of ponds and waterways. Wetlands have proven to be an effective and efficient method for the treatment of contaminated stormwater. These FiltaPod allow water flow to be through the root mass rather than the stems of sediment-rooted plants. This process significantly increases surface area contact with the contaminated water. Floating wetlands offer significant impact to rainfall-driven stormwater treatment applications as they are little-affected by fluctuations in water levels that may submerge and adversely stress bottom-rooted plants. The FiltaPod allows wetland designs to be incorporated into smaller areas such as drains. These can be an engineered system that allow for easy access for the removal of sediment and trash without damaging wetland ecosystems.



NATURE'S BIOFILTER

Floating wetland plants display over 100% increase in root development than the same plants rooted in gravel or sediment. This dramatically increases the surface area and reactivity to pollutants. Scientific research in Advanced Floating Biofiltration also known as Floating Treatment Wetlands (FTW) and Floating Reedbeds indicates the following is routinely achievable:
 TN Reduction 40-90%
 TP Reduction 50-95%
 TSS Reduction 50-100%
 Transparency 50- 252%
 Heavy Metals Reductions in Arsenic, Copper, Zinc, Manganese, Mercury methylation, particularly when metals are colloidal, colloiddally suspended. The fine roots capture nutrients and metals on the algal and bacterial biofilm, creating a thick mesh to capture all pollutants.



FLOATING TREATMENT WETLAND VS CONVENTIONAL STORMWATER PONDS

Floating treatment wetlands possess a number of important structural and functional differences to ponds and conventional sediment-rooted wetlands. Traditional wetlands are generally effective at removing suspended solids through sedimentation, although less effective at removing dissolved and colloidal pollutants. They provide ideal conditions for the growth of algae. Although providing beneficial functions, excessive algal growth can lead to a decline in water quality. Floating treatment wetland reduce light penetration in the water column and thus reduced algal growth. A significant problem encountered with stormwater treatment wetlands is the die-back of rooted vegetation if the water levels remain high for extended periods, or scouring channels develop during peak flows. To overcome the problem, wetlands often need to be relatively large to provide sufficient hydraulic buffering and maintain shallow water depths in the range of 0.3 - 0.5m. The ability of floating wetlands systems to instantaneously adjust to fluctuating water levels overcomes these issues.

