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Optimizing Phosphorus Load Removal with Algal Turf Scrubber® A Managed Aquatic Plant System

Construction is well under way on the Taylor Creek Algal Turf Scrubber® (ATSTM) nutrient recovery facility in Okeechobee County. Two years of successful pilot investigation of the ATSTM technology in the Lake Okeechobee watershed provided the basis for this project, which is being funded by the Florida Department of Agriculture and Consumer Services, the Department of Environmental Protection and the South Florida Water Management District. The new facility is designed to treat 15 million gallons of Taylor Creek water per day, and is expected to remove about two metric tons of phosphorus per year. Operation of the facility will begin in January 2007.



The Taylor Creek ATSTM facility consists of a 3.6-acre sloped surface, lined with plastic and a grid overlay, which acts as a substrate for algal growth. Water is pulsed over the surface in a thin sheet which gravity flows down the flowway. The algae take up phosphorus, nitrogen, and other nutrients as it grows. A unique feature of the technology is that algae is routinely harvested and processed into marketable compost. Regular recovery of the algae maximizes nutrient re-

moval and sustainability of the system. ATSTM is a compact system capable of removing sizeable phosphorus loads without requiring large tracts of increasingly valuable land.

HydroMentia, Inc., with corporate headquarters in Ocala, Florida, has developed the technology for large-scale stormwater application over the last 10 years, and has been contracted by the District to design, build, and operate the facility.