

FLOTFLUX WATERCOURSE IMPROVEMENT PROCESS

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Coagulation/Flocculation and Settlement are physical/chemical segregation methods typically used in Water Treatment Plants. More recently, Dissolved Air Flotation has been much in use due to its better performance. The FLOTFLUX® process applies sequentially the Coagulation/Flocculation technique, involving injection of coagulants and/or polymers, and Dissolved Air Flotation technique, involving injection of micropulverized blend of water/air directly onto river and urban canal beds to improve water quality. FLOTFLUX® is Brazilian technology, unheard of on worldwide scale. FLOTFLUX® has been proving highly flexible in clearing of water that is affected by household and industrial effluents. In addition to the physical/chemical segregation techniques, the process includes sludge removal by dragging and, depending on the use of resulting water, post-treatment effluent disinfection. FLOTFLUX® significantly reduces water quality parameters, such as OBD, OCD, coliforms, phosphate, oil and grease, suspended solids, turbidity and color. The process incorporates rate of flow as a variable by adapting to several situations and different water flows, as in the case of the metropolitan area of São Paulo and other highly populated areas, such as Rio de Janeiro – RJ, Belo Horizonte – MG, and Joinville – SC. Furthermore, FLOTFLUX® process has been applied to guarantee the recovery or designing of public balnearies, included in the Degraded Areas Recovery Programs context, which is socially beneficial, as in PISCINÃO® da Praia Ramos and PISCINÃO® da Praia das Pedrinhas, in Rio de Janeiro. The FLOTFLUX® process is also applied as a complement for the sewage treatment done by RAFA (UASB – Upflow Anaerobic Sludge Blanket), as in RAFA/FLOTFLUX® Flotation Plant in Cachoeira do Martins, Uberlândia, in Minas Gerais, to treat 3.9 m³/s. Examples are Pilot Plants of the São Paulo Orchard Project 1 and 2 on Pinheiros River, for 0,5 l/s and 5 l/s, respectively; Flotation and Floating Material Removal Plants of Aclimação Park and Ibirapuera Park in São Paulo, for 50 l/s and 150 l/s; Effluent Treatment Plant of Lagoa da Pampulha, Belo Horizonte - MG, to treat 750 l/s; Flotation and Floating Material Removal System to improve Rio Pinheiros Waters, in São Paulo, treating on the first stage 10 m³/s; Flotation and Floating Material Removal System to improve Rio Cachoeira Waters, Joinville, in Santa Catarina, with five plants of 50 l/s to 200 l/s flow capacity, under implementation; Flotation Plant of Ribeirão Ibirité, Minas Gerais, with 1,000 l/s capacity.