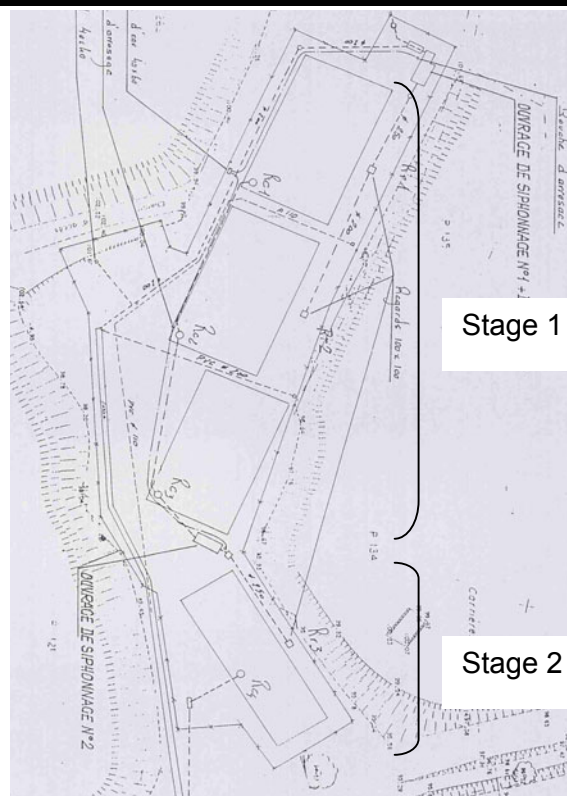


**- 9th International Conference on Wetland Systems -
- 29th of September 2004 -**



Reed bed filter



PHRAGMIFILTRE® PLANT OF ROUSSILLON

1250 PE

Owner: Municipality of Roussillon
 Consultant Engineers: Burgéap
 Design: SINT
 Year of construction and investment costs: 1998 - 203 373 € plus Tax
 Contractors: Piétri/Epur Nature

Treatment system:

The reed bed filter treatment plant is designed for an average wastewater flow of 250m³/day and an organic load corresponding to 1250 p.e. in the summer peak season. In winter, the organic load is thought to be equivalent to only 800 p.e..

After screening, water is sent by a siphon to the first stage of filters, which consists of 3 beds fed in parallel. The siphon has an effective average flow of 200m³/h.

The water is collected at the bottom of the 1st stage filters and then passes through a second siphon feeding to one of the 2 beds of the second stage. Feeding of these beds is changed once a week. The outflow goes into a stream.

	Stage 1	Stage 2
Percolation	Vertical	Vertical
Feeding	Siphon	Siphon
Sizing	3 beds of 350 m ²	2 beds of 250 m ²

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Performance of Roussillon Reed bed filter treatment plant:

	Number of analyses	Inflow			Outflow			Discharge Limits	Removal %
		Average	Min.	MAX.	Average	Min.	MAX.		
COD (mg O ₂ /L)	10	921	573	1677	40	20	71	125	95.7
BOD ₅ (mgO ₂ /L)	10	504	262	1102	6	1	19	25	98.7
TSS (mg/L)	10	402	198	1072	7	0	17	35	98.3
TKN (mgN/L)	7	74	25	119	5	2	11		92.7

Results from 24h composite samples related to the flow (inflow-outflow measurements), between 1998 and 2004.

3 measurements were taken at the outlet of the 1st stage filters under the same conditions. The concentrations measured were as follows:

	Inflow (m ³ .d ⁻¹)	COD (mg O ₂ /L)	BOD ₅ (mgO ₂ /L)	TSS (mg/L)	TKN (mgN/L)
February 2001	55	137	21	45	21
August 2001	153	129	21	35	55
January 2004	67	71	13	4	16

