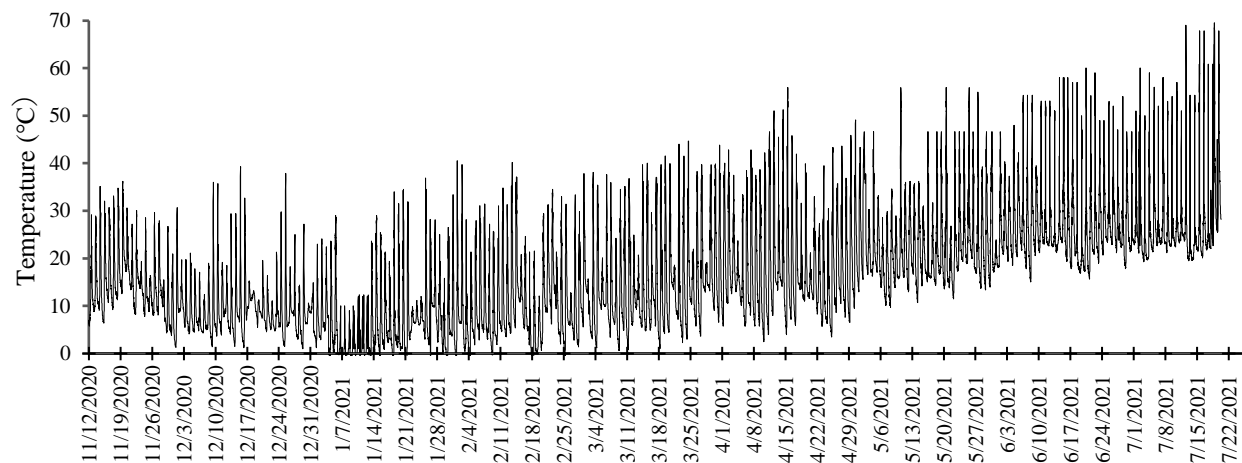
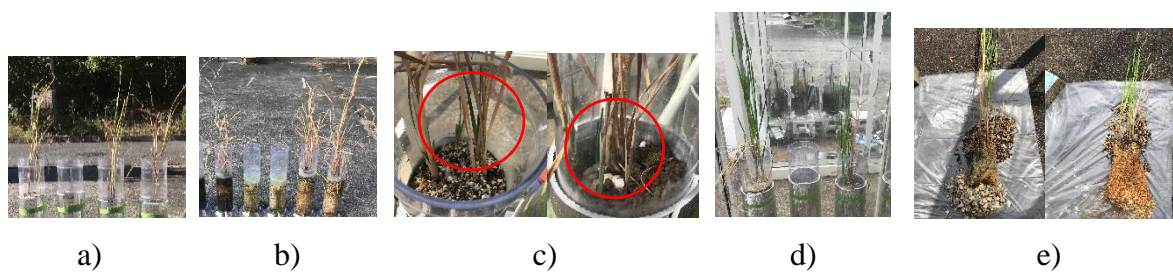


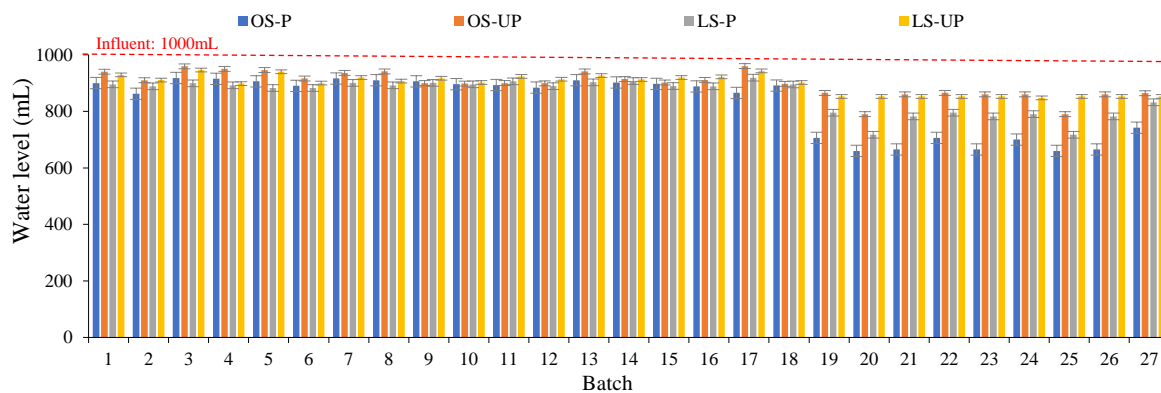
## SUPPLEMENTARY MATERIALS



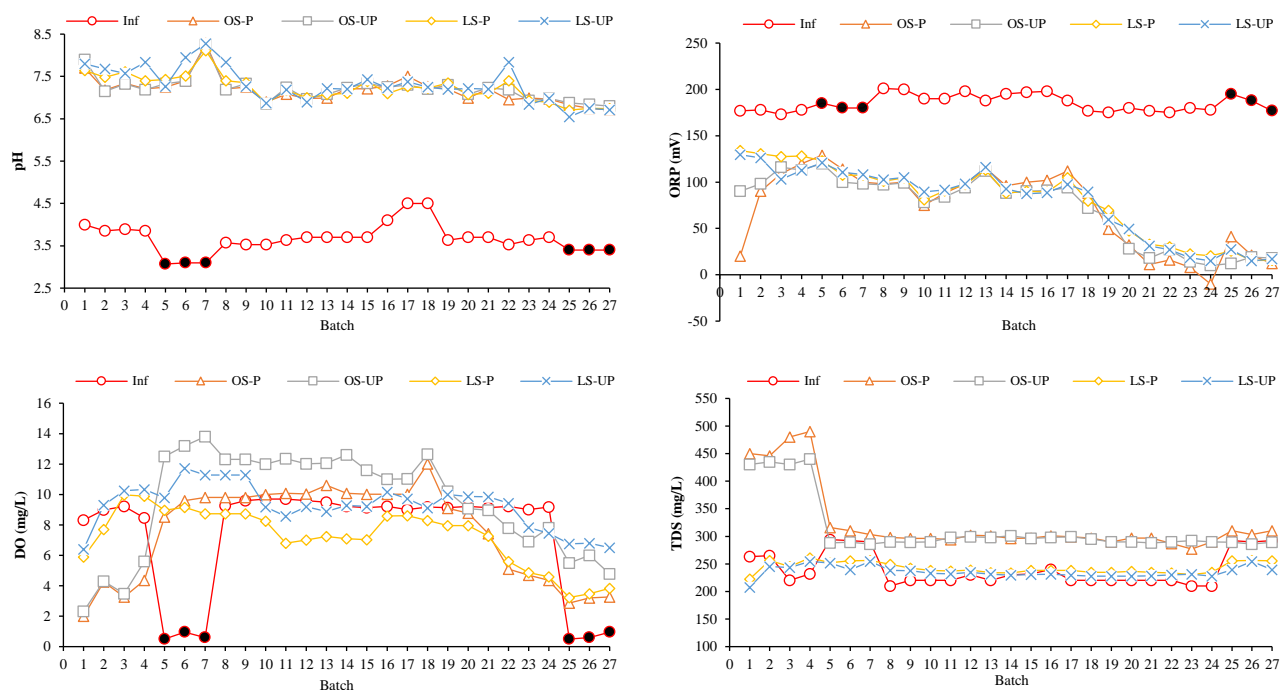
**Figure S1.** Air temperatures in a greenhouse placed with CWs during 7-month AMD treatment.



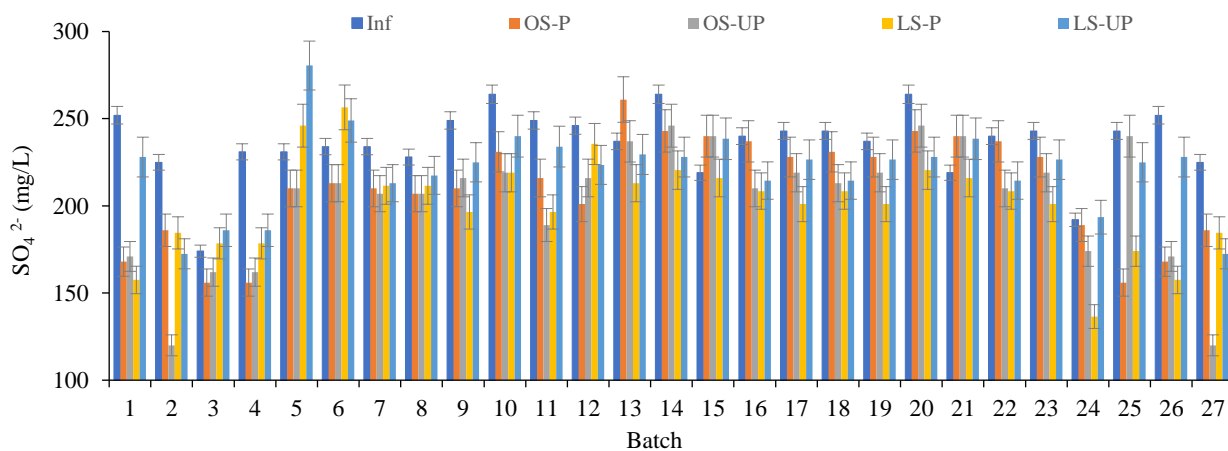
**Figure S2.** Cattail in CWs. Withered aboveground in autumn (a) and winter (b). Young shoots in spring (c). Matured (d) and harvesting biomass (e).



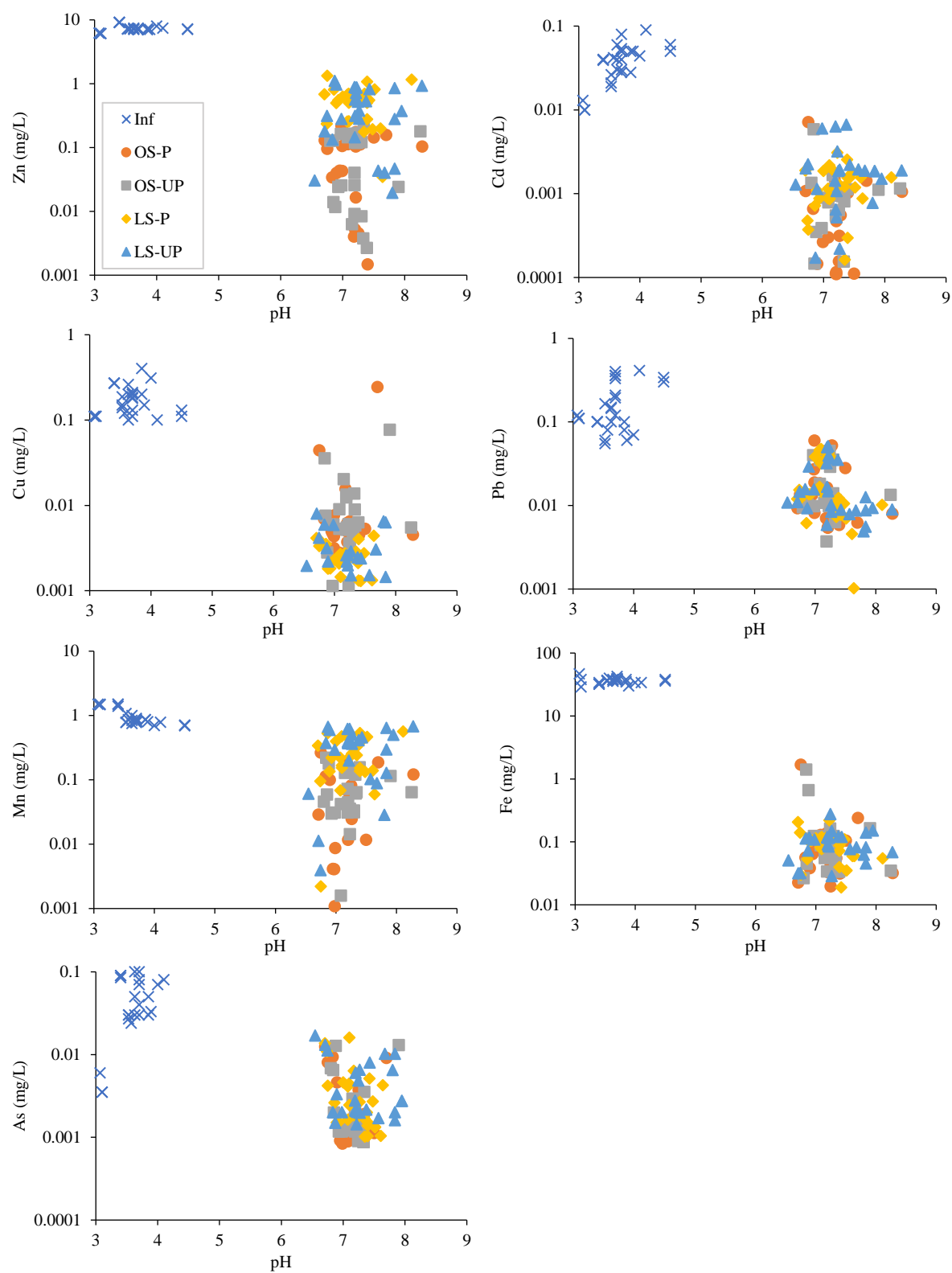
**Figure S3.** Inlet and outlet water volume for oyster shell (OS)/limestone (LS)-based unplanted (P)/planted (P) CWs during 7-month AMD treatment in sequencing GA batch mode.



**Figure S4.** pH, ORP, DO, and TDS concentrations in influent and effluent for oyster shell (OS)/limestone (LS)-based unplanted (P)/planted (P) CWs during 7-month AMD treatment in sequencing batch mode.



**Figure S5.** Sulfate concentration in influent and effluent for oyster shell (OS)/limestone (LS)-based unplanted (P)/planted (P) CWs during 7-month AMD treatment in sequencing batch mode.



**Figure S6.** Relation between pH and metal concentrations in effluents for oyster shell (OS)/limestone (LS)-based unplanted (P)/planted (P) CWs during 7-month AMD treatment.

**Table S1.**

Distribution of heavy metals (mg) in each part in oyster shell (OS)/limestone (LS)-based unplanted (P)/planted (P) CWs after 7-month AMD treatment

		Effluent	Substrate	Cattail	Other
As (mg)	OS-P	0.07	1.30	0.24	0.06
	OS-UP	0.07	1.48		0.12
	LS-P	0.10	1.32	0.22	0.03
	LS-UP	0.12	1.48		0.07
Zn (mg)	OS-P	2.35	142.00	48.72	4.54
	OS-UP	2.12	189.00		6.48
	LS-P	15.17	136.40	45.00	1.03
	LS-UP	12.50	183.20		1.90
Cd (mg)	OS-P	0.02	0.76	0.30	0.01
	OS-UP	0.02	1.03		0.04
	LS-P	0.04	0.72	0.33	0.01
	LS-UP	0.05	1.00		0.04
Cu (mg)	OS-P	0.40	2.20	2.17	0.13
	OS-UP	0.27	4.60		0.04
	LS-P	0.06	2.76	2.03	0.06
	LS-UP	0.07	4.44		0.40
Pb (mg)	OS-P	0.47	3.70	0.44	0.01
	OS-UP	0.47	4.11		0.04
	LS-P	0.49	3.66	0.40	0.08
	LS-UP	0.48	3.96		0.18
Mn (mg)	OS-P	1.70	19.40	4.74	0.34
	OS-UP	1.86	23.70		0.62
	LS-P	7.33	14.00	4.83	0.02
	LS-UP	9.56	16.20		0.42
Fe (mg)	OS-P	3.81	745.00	230.40	6.83
	OS-UP	4.21	968.40		13.44
	LS-P	2.59	678.20	286.94	18.31
	LS-UP	2.70	979.00		4.35

**Table S2.**

Heavy metal concentrations in substrates and cattails in oyster shell (OS)/limestone (LS)-based unplanted (P)/planted (P) CWs before and after 7-month AMD treatment

	Substrate						Cattail					
	Oyster shell-based CW			Limestone-based CW			Control		Oyster shell-based CW		Limestone-based CW	
	Control	OS-P	OS-UP	Control	LS-P	LS-UP	Above-ground	Below-ground	Above-ground	Below-ground	Above-ground	Below-ground
As (mg/kg)	0.21	0.86	0.95	0.24	0.57	0.61	3.01	5.36	3.50	6.38	3.65	6.21
Zn (mg/kg)	150.00	221.00	244.50	23.20	57.30	69.00	102.20	158.00	247.60	463.40	178.50	456.90
Cd (mg/kg)	0.02	0.40	0.54	0.02	0.20	0.27	2.01	4.12	2.09	5.80	2.11	6.01
Cu (mg/kg)	14.00	15.10	16.30	2.09	2.78	3.20	86.23	104.80	87.10	106.70	87.20	106.20
Pb (mg/kg)	2.60	4.46	4.66	2.70	3.62	3.69	3.01	12.00	5.10	13.60	3.98	13.40
Mn (mg/kg)	87.00	96.70	98.85	25.40	28.90	29.45	236.20	211.50	238.00	214.60	240.20	217.90
Fe (mg/kg)	566.00	938.50	1050.20	346.50	516.05	591.25	734.00	5787.87	798.20	6887.10	801.20	7241.10