

Water Balance Analysis Workshop Session – Worked Example

Size of area for each month								
1	2	3	4	5	6	7	8	9
Month	Pan Evaporation	Evapotranspiration	Rainfall	Retained Rainfall	DLR	Disposal Rate	Applied Effluent	Size of area
	E	ET	R	Rr	per month	per month	per month	(8)/(7)
		ET = 0.75E		Rr = 0.75R		(3)-(5)+(6)		
	mm	mm	mm	mm	mm	mm	L	m ²
Jan	195.3	146.5	93.3	70.0	155	231.5	18600	80.3
Feb	151.2	113.4	99.6	74.7	140	178.7	16800	94.0
Mar	136.4	102.3	92.1	69.1	155	188.2	18600	98.8
Apr	99.0	74.3	70.3	52.7	150	171.5	18000	104.9
May	65.1	48.8	58.8	44.1	155	159.7	18600	116.5
Jun	54.0	40.5	56.4	42.3	150	148.2	18000	121.5
Jul	62.0	46.5	35.9	26.9	155	174.6	18600	106.5
Aug	96.1	72.1	45.8	34.4	155	192.7	18600	96.5
Sep	129.0	96.8	40.2	30.2	150	216.6	18000	83.1
Oct	167.4	125.6	64.1	48.1	155	232.5	18600	80.0
Nov	177.0	132.8	76.1	57.1	150	225.7	18000	79.8
Dec	217.0	162.8	71.7	53.8	155	264.0	18600	70.5
First trial area = average monthly area m²								94.4
Depth of stored effluent								
1	2	3	4	5	6	7	8	9
Month	First trial area	Application rate	Disposal Rate		Increase in depth of stored effluent	Depth of effluent for month	Increase in depth of effluent	Computed depth of effluent
		(8)/2	(7)	(3)-(4)	(5)/n (void space ratio)	(X - 1)	+ (6)	month X
	m ²	mm	mm	mm	mm	mm	mm	mm
Jan	94.4	197.1	231.5	-34.4	-114.7	0.0	-114.7	0.0
Feb		178.0	178.7	-0.7	-2.2	0.0	-2.2	0.0
Mar		197.1	188.2	8.9	29.6	0.0	29.6	29.6
Apr		190.7	171.5	19.2	64.1	29.6	64.1	93.6
May		197.1	159.7	37.4	124.6	93.6	124.6	218.2
Jun		190.7	148.2	42.5	141.8	218.2	141.8	360.0
Jul		197.1	174.6	22.5	75.1	360.0	75.1	435.1
Aug		197.1	192.7	4.4	14.6	435.1	14.6	449.7
Sep		190.7	216.6	-25.9	-86.2	449.7	-86.2	363.5
Oct		197.1	232.5	-35.4	-117.9	363.5	-117.9	245.6
Nov		190.7	225.7	-34.9	-116.4	245.6	-116.4	129.2
Dec		197.1	264.0	-66.9	-222.9	129.2	-222.9	0.0