

Formula Sheet for IWMS CSWP Exam

$$ET_0 \times K_s = \text{Net ET}$$

Where K_s is a factor based on the plant type

$$\frac{IR_{net}}{IE} = \text{Gross Water Requirement}$$

Where:

IR_{net} = Net Water (irrigation) Requirement - Inches of ET_0 needed for the plants

IE = Irrigation Efficiency of the system (hardware and management)

$$SWB_{adj} = \frac{ET_0 \times C_{wb} \times A}{C_u} \quad \text{Equation 4-1}$$

Where:

- SWB_{adj} = Site Water Budget (adjusted) (CCF or Per 1000 gals.)
 - ET_0 = Reference Evapotranspiration (inches per year)
 - C_{wb} = Water Budget Adjustment Factor (decimal)
 - A = Total landscaped area of site (square feet or acres)
 - C_u = Conversion Factor
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$$\frac{K_s}{IE} = C_{wb} \quad \text{Equation 4-2}$$

where:

- C_{wb} = Water Budget Adjustment Factor
 - K_s = Species Factor
 - IE = System Efficiency
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	CCF	1000 gals.
Square Feet	1200	1604.3
Acres	0.0275	0.0368

	Estimated Ks	Estimated Irrigation Efficiency (IE)			
		0.70	0.75	0.80	0.85
All turf	0.75	1.07	1.00	0.94	0.88
Mostly Turf	0.70	1.00	0.93	0.88	0.82
Equal turf - shrub	0.65	0.93	0.87	0.81	0.76
Mostly Shrub	0.60	0.86	0.80	0.75	0.71
All shrub	0.50	0.71	0.67	0.63	0.59

1 cubic ft = 7.48 gal.

100 cubic feet = 748 gallons = 1 ccf = 1hcf

1 acre = 43560 sq. ft.

1 acre inch = 27154 gallons

To increase a percentage by a percentage, multiply the base percentage number by 1.xx (where xx is the percentage multiplier.)

For example, to increase 67% by 20%:

$$67\% \times 1.20 = 80\%$$
