

APPENDIX D

SAMPLE CALCULATION/ESTIMATED TOTAL WATER USE (by Hydrozone)

Using the following formula from Appendix C: 7

- ETWU = $(ET_o) \times (PF) \times (LA) \times (.62) / (748) / (IE)$
- ETWU = Estimated Water Use (hundred cubic feet)
- ET_o = Reference Evapotranspiration (inches)
[for period of estimate]
- PF = Plant Factor (K_c)
- LA = Landscaped Area (in square feet)
- .62 = Conversion Factor (to gallons per square foot)
- 748 = Conversion Factor (to hundred cubic feet)
- IE = Irrigation System Efficiency

Project Site Example: Total landscaped area 60,000 square feet in Palm Desert near the intersection of Cook Street and Country Club Drive in Zone No. 2 (64.0" Annual ET_o).

- 12,000 square feet of turf grass overseeded with rye grass in winter, irrigated with low angle rotor sprinklers.
- 32,700 square feet of “low” desert native plantings on drip irrigation.
- 15,300 square feet of “moderate” water using plantings on drip irrigation.

See Appendix C for formula factors. ET_o is totaled for season. Turf grass plant factors are the average for the season and tree/shrub/groundcover plant factors are considered constant annually.

Plant Factors

Turf <u>Grass</u> 0.70	Low Native <u>Plants</u> 0.20	Moderate <u>Shrubs</u> 0.50
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$$ETWU = [(ET_o) \times (PF) \times (LA) \times (.62) / (748)] / (IE) = CCF$$

$$\text{Overseeded Turf Grass: Season} = 64.0 \times 0.7 \times 12,000 \times 0.62 \div 748 \div 0.80 = 557 \text{ CCF}$$

$$\text{Seasonal Turf ETWU} = 557 \text{ CCF}$$

$$\text{“Low” Native Plants: Annual} = 64.0 \times 0.2 \times 32,700 \times 0.62 \div 748 \div 0.90 = 385 \text{ CCF}$$

$$\text{“Low” Native ETWU} = 385 \text{ CCF}$$

$$\text{“Moderate” Shrubs and Ground Cover: Annual} = 64.0 \times 0.5 \times 15,300 \times 0.62 \div 748 \div 0.90 = 451 \text{ CCF}$$

$$\text{“Moderate” ETWU} = 451 \text{ CCF}$$

$$\text{Project Total ETWU} = 1,393 \text{ CCF}$$

APPENDIX D

SAMPLE CALCULATION

Maximum Applied Water Allowance (MAWA)

Using the following formula:

$$\text{MAWA} = [(\text{ETo}) \times (0.45) \times (\text{LA}) \times (0.62)] / (748)$$

MAWA = Maximum Applied Water Allowance (CCF or hundred cubic feet)
ETo = Reference Evapotranspiration (inches per year)
0.45 = ET adjustment factor
LA = Landscaped Area (square feet)
0.62 = Conversion Factor (to gallons per square foot)
748 = Conversion Factor (to hundred cubic feet)

Using the project for the Estimated Total Water Use example:

Landscaped area of 60,000 square feet in Palm Desert near the intersection of Cook Street and Country Club Drive in Zone No. 3 (64.0" Annual ETo).

$$\begin{aligned} \text{MAWA} &= 64.0 (\text{ETo}) \times (0.45) \times (\text{LA}) \times (0.62) \div (748) \\ &= [64.0(0.45) (60,000) (0.62)] / (748) \\ \text{MAWA} &= 1,432 \text{ CCF} \end{aligned}$$

ETWU total of 1,393CCF is < the MAWA of 1,432 CCF