

ZONING CODE

21 Attachment 4

Appendix D

SAMPLE CALCULATION/ESTIMATED TOTAL WATER USE (by Hydrozone)

Using the following formula from Appendix C:

$ETWU = [(ETo) \times (PF) \times (LA) \times (.62)] / (748) / (IE)$
ETWU = Estimated Water Use (hundred cubic feet)
ETo = Reference Evapotranspiration (inches) [for period of estimate]
PF = Plant Factor (Kc)
LA = Landscaped Area (in square feet)
0.62 = 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. 3 (75.0" Annual ETo).

- 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. ETo 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

<u>Turf Grass</u>	<u>Low Native Plants</u>	<u>Moderate Shrubs</u>
0.70	0.20	0.50

$$ETWU = [(ETo) \times (PF) \times (LA) \times (.62) / (748)] / (IE) = CCF$$

Overseeded Turf Grass: Season = $75.0 \times .7 \times 12,000 \times .62 / 748 / .80 = 653 \text{ CCF}$
Seasonal Turf ETWU = 653 CCF

"Low" Native Plants: Annual = $75.0 \times .2 \times 32,700 \times .62 / 748 / .90 = 451 \text{ CCF}$
"Low" Native ETWU = 451 CCF

"Moderate" Shrubs and Ground Cover: Annual = $75.0 \times .5 \times 15,300 \times .62 / 748 / .90 = 528 \text{ CCF}$
"Moderate" ETWU = 528 CCF
Project Total ETWU = 1,632 CCF

Maximum Applied Water Allowance (MAWA)

Using the following formula:

$MAWA = [(ETo) \times (0.45) \times (LA) \times (0.62)] / (748)$
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 District Zone No. 3 (75.0" Annual ETo).

$$\begin{aligned} MAWA &= 75.0 (ETo) \times (0.45) \times (LA) \times (0.62) / (748) \\ &= [75.0 (.45) (60,000) (0.62)] / (748) \\ MAWA &= 1,678 \text{ CCF} \end{aligned}$$

ETWU total of 1,632 CCF is < the MAWA of 1,678 CCF