

Maximum Allowed Water Allowance

Example 1 MAWA

Formula: MAWA = Eto x .62 x (ETAF x LA)

Eto (reference evapotranspiration rate) = 44" year

.62 = Conversion from inches/year to gallons/year

ETAF (Et Adjustment Factor) = .55 for residential projects and .45 for non-residential

LA (Landscape Area) = 2000 sq ft

Eto x .62 x (ETAF x LA)

Calculation: $44 \times .62 \times .55 \times 2000 = 30,008$ Residential MAWA

$44 \times .62 \times .45 \times 2000 = 24,552$ Non Residential MAWA

Example 2: MAWA with a Special Landscape Area (SLA)

Formula: MAWA with an SLA = Eto x .62 x [(ETAF x LA) + ((1- ETAF) x SLA)]

Eto (reference evapotranspiration rate) = 44" /year

.62 = Conversion from inches/year to gallons/year

ETAF (Et Adjustment Factor) = .55 for residential projects and .45 for non-residential

LA (Landscape Area) = 2000 sq ft

SLA (Special Landscape Area) = 500 sq ft

Eto x .62 x [(ETAF x LA) + ((1- ETAF) x SLA)]

Calculation: $44 \times .62 [(.55 \times 2000) + ((1 - .55) \times 500)]$

$= 44 \times .62 (1100 + 225)$

$= 44 \times .62 \times 1325 = 36146$ Residential MAWA with SLA

$44 \times .62 [(.45 \times 2000) + ((1 - .45) \times 500)]$

$= 44 \times .62 (900 + 275)$

$= 44 \times .62 \times 1175 = 32054$ Non Residential MAWA with SLA

Estimated Total Water Use

Formula:

$$\boxed{ETWU = ETo \times .62 \times ETAF \times Area} = \boxed{ETo \times .62 \times \left(\frac{PF}{IE}\right) \times HA} = \boxed{ETo \times .62 \times \frac{(PF \times HA)}{IE}}$$

Where:

ETo (reference evapotranspiration rate) = 44" /year

.62 = Conversion from inches/year to gallons/year

PF (Plant Factor)

High (0.9 - 0.7), Use 0.8 for lawn,

Moderate (0.6 - 0.4), Use 0.5 for trees and shrubs,

Low (0.3 - 0.1), Use 0.3 for natives

Very Low (0.1 and less)

IE (Irrigation Efficiency)

Drip = 0.81

Spray = 0.75

HA (Hydrozone Area in Square Feet) = 500 sf

Calculate water use for each zone below to determine ETWU.

ZONE #1 - Lawn @ 500sf

ZONE #2 - Trees and Shrubs @ 500sf

ZONE #3 and #4 - Natives @ 500sf each

Note: **ETAF is rounded to 3 decimal places.**

ZONE #1: $44 \times .62 \times 1.066 \times 500 = 14540.24$ Spray

ZONE #2: $44 \times .62 \times .617 \times 500 = 8415.88$ Drip

ZONE #3: $44 \times .62 \times .37 \times 500 = 5046.80$ Drip

ZONE #4: $44 \times .62 \times .37 \times 500 = 5046.80$ Drip

ETWU: 33049.72

Results: The Residential MAWA of 30,008 has been exceeded, this design will not comply.

The Non Residential MAWA of 24,552 has been exceeded, this design will not comply.

If you change your plant selection for either zone 3 or 4 to .010 plant factor plants, this will reduce the zone to $44 \times .62 \times .123 \times 500 = 1683.95$ This will result in an ETWU of 29686.87 which is compliant with the 30,008 Residential MAWA. In order to achieve a compliant Non Residential MAWA, several changes should be made to lower the ETWU.