

Procedural Guide
For
Procuring Landscape Irrigation Water



February 14, 2007

Attachment 1
Ord. No. 72.22

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I. CONDITIONS FOR ISSUANCE OF LANDSCAPE IRRIGATION METERS

Prior to the issuance of landscape irrigation meter(s), the owner or representing agent shall:

1. Attend the scheduled pre-job meeting.
2. Complete the “Site Usage Analysis” form.
3. Sign the “Landscape Irrigation Water Budget Agreement.”

II. APPLICABILITY

This guide applies to all new landscaping for public agency projects and private development projects including but not limited to industrial, commercial, institutional and recreational projects, developer installed landscaping in multi-family residential developments, and any other landscaped areas served by a separate landscape meter that is 3,000 square feet or more.

EXCEPTION: ALL projects shall be subject to the provisions of this guide; exceptions will be at the discretion of EMWD.

III. LANDSCAPE IRRIGATION AND WATER BUDGET APPROVAL

A. PURPOSE

The intent of the Landscape Irrigation Water Budget Agreement is to ensure that all individually metered landscape/irrigation projects applicable to this guide are assigned maximum allowable water budgets and to be in accordance with state regulations AB325 and the Best Management (conservation) Practices (BMPs). *EMWD will not approve, ensure the adequacy, efficiency, or functional ability of any landscaping or irrigation systems.*

A site map showing landscape area, including square footage if irrigated land, is required in order to accurately estimate the water budget provisions as explained herein for subject landscaped area(s).

NOTE: It is the sole intent of Eastern Municipal Water District to coordinate these guidelines with required state statutes. EMWD is an official signatory to a Memorandum of Understanding to ensure compliance with the BMPs - these are reported annually to the State Department of Water Resources.

IV. PROHIBITIONS, LIMITATIONS AND ACCOUNTABILITY REGARDING LANDSCAPE IRRIGATION WATER BUDGETS

- A. "Landscape Area" means the entire parcel less the building footprint, driveways, non-irrigated portions of parking lots, hardscape – such as decks and patios – and other non-porous areas. Water features are included in the calculation of the landscaped area.
- B. Any landscape project with a total area greater than or equal to 3,000 square feet shall be supplied through a separate metered service connection.
- C. On-site irrigation systems served from one irrigation meter **cannot** be connected to another irrigation system supplied from a different meter.
- D. Owner or representing agent shall provide EMWD with accurate landscape square footage to be served by each irrigation meter, separating Non Functional Turf (a landscaped turf area, including trees, shrubs, and ground covers used for aesthetic purposes) and Functional Turf (a landscaped turf area that serves as a surface for such purposes as playing a sport or gathering for group activities). EMWD may verify submitted square footage by conducting an on-site measurement and inspection. **Note:** EMWD reserves the right to charge additional fees **if** submitted landscape square footage is less than actual field measurements.
- E. EMWD will provide applicant with the Annual Maximum Allowable Water Budget (AMAWB) to be used in the scheduling of irrigation systems, which shall include a water budget for Non Functional and Functional Turf as follows:

Non Functional Turf:

- Any customer with a signed EMWD Landscape Irrigation Water Budget Agreement dated prior to February 14, 2007 will retain the water budget calculated using 100% of Reference Evapotranspiration (ET_o) for Non Functional Turf.
- Any customer who signs an EMWD Landscape Irrigation Water Budget Agreement dated February 14, 2007 or later will have a water budget that is calculated using 80% of Reference Evapotranspiration for Non Functional Turf.

Functional Turf:

- Water budgets for Functional Turf are calculated using 125% of Reference Evapotranspiration.

Additional adjustments, based on site specific conditions, may be considered.

- F. After six (6) months establishment period, each individually metered landscape project will be expected to use water within the limits of the annual maximum allowable water budget and the evapotranspiration (whichever is highest). **Note:** Upon resale, new owner accepts existing water budget requirements unless new landscape plans are submitted and approved, or accurate field measurement submitted on company letterhead.
- G. EMWD will provide owner or representing agent with a monthly Target water budget, using the Monthly Adjustment Factor. The owner or representing agent will use the Target as a monthly indicator in relationship to the AMAWB.

V. NON-COMPLIANCE SETTLEMENT CHARGES

- A. It is the responsibility of the owner or representing agent to use irrigation water within the limits of the AMAWB, or ETo (whichever is highest).
- B. EMWD will attempt to get landscape irrigation water customers to stay within the AMAWB and ETo through phone contact, site visits and monthly consumption reports, followed by end of the year non-compliance settlement charge letter, if necessary.
- C. EMWD will hold the owner responsible for an end-of-the-year, non-compliance settlement charge if at year’s end water consumption exceeds the **Evapotranspiration** or the **Annual Maximum Allowable Water Budget**, whichever is highest (see **glossary**).
- D. EMWD will assess water budget accounts based on a tiered non-compliance settlement charge structure, which means that large water users will pay much more, incrementally, when reaching water use in the upper tiers. The table below explains the End of the Year “Non-Compliance Settlement Charges” based on the tiers structures as follows:

Non-Compliance Settlement Charge Tiers			
0 – 100% of Budget	101 – 120% over Budget	121 – 140% over Budget	141% > over Budget
Base Rate	200% of Base Rate or 2 times Base Rate	300% of Base Rate or 3 times Base Rate	400% of Base Rate or 4 times Base Rate

Note: The Base Rate will be factored on the previous year’s annual water budget. Any amount over budget will be billed within the appropriate tier as described above. In some cases, a customer’s water use that is over budget could fall within all four tiers.

- E. EMWD will monitor and report to owner or representing agent, on a monthly basis, the monthly target, usage, adjustments, evapotranspiration in inches, and monthly evapotranspiration in billing units, the annual maximum allowable water budget and any non-compliance settlement charges.
- F. APPEALS – If there are discrepancies in the Non-Compliance Settlement Charges, an appeal can be registered with EMWD’s Conservation Department in accordance with Ordinance No. 72.22.

VI. DETERMINATION TO USE RECYCLED WATER OR POTABLE WATER

- A. The developer (applicant) or representing agent shall contact EMWD prior to landscape irrigation system design to determine the availability of recycled water or potable water service. If EMWD determines that a potential service will be furnished with recycled water, the involved landscape and irrigation plans must be designed and approved in accordance with the **“Procedural Guide and General Design Requirements for Construction of Recycled Water Facilities”** of EMWD, as well as the provisions of this guide. EMWD’s New Business Department will make the determination if recycled water is to be used.

VII. SITE USAGE ANALYSIS

- A. Based on plant watering requirements, the “**Site Usage Analysis**” will identify Functional Turf and Non-Functional Turf which includes trees, shrubs and ground covers. The required form will be used by EMWD to calculate the Annual Maximum Allowable Water Budget (AMAWB).

VIII. LANDSCAPE IRRIGATION WATER BUDGET AGREEMENT

- A. After the above requirements have been met, the “**Landscape Irrigation Water Budget Agreement**” between EMWD and owner/applicant must be signed.
- B. **Landscape Irrigation Audit Policy**
 - 1. It is the responsibility of the owner to ensure that a landscape irrigation audit will be performed at a minimum of once every five years. Audits shall be in accordance with the Landscape Irrigation Auditor Handbook and conducted by a certified Landscape Irrigation Auditor. A copy of the audit document shall be mailed to EMWD’s Conservation Department.
 - 2. If the project’s water bill indicates that it is using less than or equal to the AMAWB for that project site, an audit shall not be required.

IX. ADDITIONAL INFORMATION

- A. Upon request, EMWD will provide an up-to-date list of certified Landscape Irrigation Auditors.
- B. Upon request EMWD will provide the Water Use Classification of Landscape Species (WUCOLS) plant guide and EMWD’s Guide to Preparing Water Budgets. This can assist landscape architects establish annual maximum allowable water budgets.

GLOSSARY

The words used in this guide have the meaning set forth below:

- A. “**Allowable Percentage**” – a factor of 1.0 (100%) or .8 (80%) – depending on the date of the signed Landscape Irrigation Water Budget Agreement – for Non Functional Turf areas or a factor of 1.25 (125%) for Functional Turf areas that when applied to reference evapotranspiration, determines the Annual Maximum Allowable Water Budget (AMAWB) for an individually metered landscape project.
- B. “**Annual Maximum Allowable Water Budget**” (AMAWB) – the sum of the monthly water budgets, representing the upper limit of water use for the entire landscaped area per individual irrigation meter. It is based on the size of the landscaped area and upon the allowable percentage of reference evapotranspiration – 1.0 (100%) or .8 (80%) for Non Functional landscaped areas – depending on the date of the signed Landscape Irrigation Water Budget Agreement – or 1.25 (125%) for Functional Turf areas.

- C. **“Evapotranspiration” (ET)** – the quantity of water evaporated from adjacent soil surfaces and transpired by plants during a specific time. Evaporation (E) from the soil and Transpiration (T) from the plant. Evapotranspiration data is collected from the UCR CIMIS Field Station No. 44; however, EMWD will use additional CIMIS stations as they are established.
- D. **“Functional Turf”** - a landscaped turf area that serves as a surface for such purposes as playing a sport or gathering for group activities.
- E.. **“Monthly Adjustment Factor” (MAF)** – a factor expressed as a decimal, that, when multiplied by the annual “Maximum Allowable Water Budget” for an individually metered landscape project, determines the monthly target water budget for that project. MAFs are based upon monthly historic average reference evapotranspiration for the area of Riverside County. The MAFs for the twelve months of the year are:

JAN	0.037	MAY	0.108	SEP	0.108
FEB	0.051	JUN	0.125	OCT	0.073
MAR	0.071	JUL	0.140	NOV	0.046
APR	0.073	AUG	0.134	DEC	0.034

- F. **“Non-Compliance Settlement Charge”** – a monetary dollar amount charged to any landscape irrigation water account that exceeds the AMAWB or the ETo (whichever is highest) at year’s end.
- G. **Non Functional Turf** - a landscaped turf area, including trees, shrubs, and ground covers, used for aesthetic purposes.
- H. **“Reference Evapotranspiration” (ETo) or 56.65 inches** – a standard measurement of environmental parameters, which affect the water use of plants. **Reference Evapotranspiration** is given as 56.65 inches of water per year, and represents the annual historic average evapotranspiration of a large field of 4-7 inch tall cool-season grass that is well watered and located in the area of Riverside County. **Reference Evapotranspiration** is used as the basis of determining the maximum allowable water budget.
- I. **“Target”** – refers to the monthly water budget, and is used as an indicator in relationship to the AMAWB.
- J. **“Water Use Classification of Landscape Species” (WUCOLS)** – is a guide to help landscape professionals identify irrigation water needs of landscape species. It can be used either for the selection of species or to assist in developing irrigation schedules. It is not intended to be used as a **required or approved list** by EMWD for selection of plant species – *the WUCOLS guide is provided upon request.*