

WATER SAVING MEASURES FOR WATER CONSERVATION PLANS

The following are measures which qualify to meet conservation plan elements 12.3.2.1 (Commercial/Industrial), 12.5.7.1 (Agricultural, Nursery and Aquacultural Uses), and 12.6.1.1 (Golf Course/Recreational), Applicant's Handbook.

Individual provisions listed herein are not requirements per se, and do not exclude alternative conservation measures the applicant may wish to propose to the District.

To fulfill the water conservation plan requirements, applicants must undertake or have undertaken direct and indirect measures resulting in significant water savings. In making such determination, the District will consider the type of use, the potential water use efficiency that could be obtained using best available technologies, and the efficiency of other similar water uses.

Information specific to Public Supply is in 12.2.5.1 and 12.2.5.2, Applicant's Handbook, and in this Appendix.

A. INDUSTRIAL/COMMERCIAL

Direct Water Saving Measures:

1. Provide or reuse reclaimed water or stormwater in the place of higher quality water sources.
2. Substantially reduce once-through cooling procedures where technologically possible.
3. Replace water cooling with air cooling procedures where technologically possible
4. Propose other measures designed to reduce the amount of allocated water, for example, install automatic shutoff valves where technologically possible.

NOTE: Leak detection and repair do not qualify to meet the conservation plan requirements because these measures are considered essential to prevent water from being wasted per paragraph 40C-2.381(2)(a), F.A.C.

Indirect Water Saving Measures:

1. Develop a written company policy that establishes a commitment to water conservation efforts.
2. Establish an employee suggestion/incentive program which recognizes employees who submit water saving ideas.
3. Form a company water conservation committee.
4. Xeriscape the grounds of facility buildings.
5. Participate in a research project exploring an aspect of water use efficiency, upon request of a District contractor.
6. Submit a water use efficiency research concept to the District that results in an experimental study.
7. Develop and propose other strategies to reduce water consumption.

B. GOLF COURSE/RECREATIONAL

Direct Water Saving Measures:

1. Reuse reclaimed water or stormwater in the place of higher quality water sources; recycle water on site.
2. Reduce the amount of acreage currently irrigated. For example, cease irrigation of roughs, replace irrigated turf with landscape features that do not require watering, such as sand traps, dikes, or wooded areas.
3. Upgrade the present irrigation system to current technology for volume reduction.
4. Line irrigation withdrawal ponds.
5. Install a computerized irrigation system with a weather sensing station.
6. Propose other measures designed to reduce the amount of allocated water.

NOTE: Leak detection and repair do not qualify to meet the conservation plan because these measures are considered essential to prevent water from being wasted per paragraph 40C-2.381(2)(a), F.A.C.

Indirect Water Saving Measures:

1. Install a network of soil moisture monitoring and rain sensor devices to determine the actual irrigation demands.
2. Install an on-site weather station to assist in determining actual irrigation demands.
3. Evaluate and reassess overirrigation practices.
4. Serve as a xeriscape demonstration site.
5. Participate in a research project exploring an aspect of water use efficiency, upon request of a District contractor.
6. Submit a water use efficiency research concept to the District that results in an experimental study.
7. Develop and propose other strategies to reduce water consumption.

C. AGRICULTURAL, NURSERY, AND AQUACULTURAL USES

As part of each applicant's water conservation plan, an analysis of the operation's current water use practices and the water saving potential of proposed practices must be performed. This analysis can be completed using the Soil Conservation Service's Farm Irrigation Rating Method (FIRM) (Engineering Technical Note FL-17, United States Department of Agriculture Soil Conservation Service 1987) or an equivalent method.

Additionally, the following are measures which qualify to meet the conservation plan requirements in Section 12.5.7.1(a), Applicant's Handbook.

Direct Water Saving Measures:

1. Reuse reclaimed water or recycle water on site.
2. Upgrade existing irrigation system to a more efficient irrigation system.
3. Implement commodity - specific improvements which result in water savings, e.g., land leveling or installation of water control structures, wind blocks, shade control structures; use of tailwater ponds, etc.
4. Propose other measures designed to reduce the amount of allocated water.

NOTE: Leak detection and repair do not qualify to meet the conservation plan requirements because these measures are considered essential to prevent water from being wasted per paragraph 40C-2.381(2)(a), F.A.C.

Indirect Water Saving Measures:

1. Install a network of soil moisture monitoring and rain sensor devices to determine the actual irrigation demands.
2. Install an on-site weather station to assist in determining actual irrigation demands.
3. Participate in the Benchmark Farms program, upon District request.
4. Participate in a research project exploring an aspect of water use efficiency, upon request of a District contractor.
5. Submit a water use efficiency research concept to the District that results in an experimental study.
6. Develop and propose other strategies to reduce water consumption.

WATER CONSERVATION PUBLIC SUPPLY

When an audit and/or other available information indicates that there is a need for additional water conservation measures in order to reduce a project's water use to a level consistent with projects of a similar type or when an audit and/or other information indicates that additional significant water conservation savings can be achieved by implementing additional measures, other specific measures will be required by the District, to the extent feasible, as a condition of the permit, including but not limited to:

1. Implementation of an enhanced employee/public education program beyond the minimum required in paragraph 12.2.5.1(e).
2. Implementation of a District approved automatic irrigation system shut-off device distribution program.
3. Implementation of a District approved indoor retrofit program.
4. Implementation of a District approved submetering retrofit program.
5. Implementation of monthly customer billing which includes all or some of the following items:
 - a) the corresponding month's water use for the previous year,
 - b) water conservation tips,
 - c) the previous month's water use, and/or
 - d) water use rates (per ccf or gal).
6. Implementation of a customer water audit program that analyzes water use and loss in the home. For example, providing the customer with an in-home water use analysis using software such as "Water Watch" which generates a computer model of home water use.
7. Implementation of a District approved water shortage plan or ordinance.
8. A program of technical systematic improvements such as:
 - a) improvements in the water treatment system to conserve water,
 - b) improved billing and accounting systems,
 - c) enhanced meter testing and replacement program,

- d) survey and replacement of improperly sized meters,
- e) a program to reduce or prohibit master metering; and
- f) a water main replacement program.

9. Local Government Ordinances

When requested by the District, county and municipally owned public supply applicants must consider adopting one or more of the following ordinances.

a. Landscape and Irrigation System Standards

To implement this measure, the permittee would enact an ordinance to reduce the amount of water needed for landscape irrigation, improve efficiency of landscape irrigation systems, and effectively implement section 373.185, Florida Statutes, and chapter 40C-24, Florida Administrative Code. This measure is most applicable to systems where the installation of in-ground landscape irrigation systems is common and use of water for landscape irrigation is a major factor in high water use, a high peaking ratio, or failure of supply to meet demand.

b. Plumbing Code

To implement this measure, the permittee would adopt or amend an ordinance to reduce unnecessary indoor water use in newly constructed buildings by reducing flow rates, insulating hot water pipes to reduce the need to run cold water through lines to get to hot water, and prohibit once through water-to-air heat pumps.

c. Required Use of Reclaimed Water

To implement this measure, the permittee would adopt or amend an ordinance to require potential reclaimed water users to connect to the local reclaimed water distribution system and to use reclaimed water in place of other sources when it is available.

d. Required Retrofit at Resale

This measure provides a mechanism to facilitate installation of ultralow flow plumbing devices to reduce indoor water use in older structures. The permittee would adopt or amend an ordinance to require the retrofit with ultralow flow plumbing devices in all buildings built prior to 1993, at such times as they are resold. The ordinance would also make recording of the deed contingent on proof that the retrofit has been performed.

(e) Xeriscape Ordinance

To implement this measure, the permittee would adopt a xeriscape landscape ordinance that incorporates the principles of design, appropriate plant selection, soil improvement, efficient irrigation, mulching, turf concentration, and proper maintenance.

