

MEMORANDUM

Date: November 5, 2009

To: Governing Board

Through: Kirby B. Green III, Executive Director
or
David W. Fisk, Assistant Executive Director

Harold A. Wilkening III, Director
Department of Resource Management

From: Dwight T. Jenkins, Esq., P.G.
Consumptive Use Policy Development Coordinator

Subject: Governing Board Workshop, Nov. 9, 2009, 1 to 5 p.m. — Discussion of Proposed Water Conservation Rule Enhancements

Location: **St. Johns River Water Management District Headquarters, 4049 Reid Street (Highway 100 W.), Palatka, FL 32177**

RECOMMENDATION

Workshop for information and discussion only.

BACKGROUND

In October 2009, St. Johns River Water Management District staff briefed the Governing Board Regulatory Committee on the status of proposed enhancements to District water conservation requirements in both the consumptive use permit (CUP) and environmental resource permit (ERP) rules for public water supply type uses. The purpose of that briefing was to seek high-level informal input on the enhancements from the Regulatory Committee in preparation for more detailed workshops with the entire Board from 1 to 5 p.m. on Nov. 9 and Dec. 7. Both workshops are opportunities for discussion and advance public input, prior to beginning the rulemaking process for any of these proposed topics.

DISCUSSION

Based on direction from the Governing Board and Executive Office, District staff have developed nine proposed conservation enhancements to current District water conservation requirements that could be implemented through CUP and ERP rulemaking. These enhancements are envisioned as foundational to meeting the long-

term water conservation goals that are being developed for public supply type uses through the District's water supply planning initiative. Staff anticipate presenting the long-term goals to the Governing Board for further review in spring 2010.

The goals of these proposed rule enhancements are to achieve additional water savings, expand water conservation requirements for standard general and individual permitted water uses, and to include water conservation requirements in the ERP program. During the November workshop, staff will present details on five of the proposed enhancements:

- Local Government Water Conservation Ordinances (CUP)
- Landscape Irrigation System Design/Installation Constraints (CUP and ERP)
- ERP Water Conservation Provisions (ERP)
- Concurrent ERP/CUP Application Processing (CUP and ERP)
- Water Conservation Rate Structures (CUP)

Staff have prepared brief draft discussion papers on each proposed enhancement. Each paper includes a discussion of current rule provisions related to the enhancement, the specific goal of the rule amendment, which CUP and ERP rules would be affected, proposed rule provisions, an analysis of the enhancement, summary of any stakeholder comments and examples of implementation. Attached are the papers associated with the five enhancements to be discussed during the November workshop.

During the December Board workshop, it is anticipated that the following topics will be discussed, with additional discussion and input received on all of the topics:

- Metering, Billing and Reporting
- Storm Water Reuse
- High Water User Requirements
- Water Use Reporting for Per Capita Calculations

Staff anticipate that public comment will be received on the first five topics at the November workshop, and there will be an opportunity for public comment on any of the nine topics during the December workshop.

Local Government Water Conservation Ordinances

Draft Discussion Paper for Governing Board Workshop on Nov. 9, 2009

- I. **Goal of Rule:** Enhance water conservation by requiring local governments to implement, by ordinance, the District's landscape irrigation requirements.
- II. **Current Rule Provisions:** Subsection 40C-2.042(2)(b)1., F.A.C., currently states:

“A local government is strongly encouraged to enforce paragraph 40C-2.042(2)(a), F.A.C., within its jurisdiction by adopting a landscape irrigation ordinance that incorporates each of the provisions set forth in Paragraph 40C-2.042(2)(a), F.A.C.”
- III. **Rules affected:** Consumptive Use Permit (CUP).
- IV. **Proposed Rule Provisions:** Rule would require that as a condition of receiving a CUP, a local government must fully implement paragraph 40C-2.042(2)(a), F.A.C., within its jurisdiction by adopting a landscape irrigation ordinance that incorporates each of the provisions set forth in Paragraph 40C-2.042(2)(a), F.A.C.”
- V. **Analysis:** Implementation of the District's existing landscape irrigation rule has been successful in reducing inefficient water use associated with landscape irrigation. However, the District does not have sufficient resources to ensure compliance with the rule throughout the District's entire 18-county area. The District's current rule encourages local governments to adopt and enforce ordinances that incorporate each of the District's landscape irrigation rule provisions. Some local governments have voluntarily adopted landscape irrigation ordinances that fully implement the District's rule. However, some local governments have adopted ordinances that are in conflict with or that do not fully implement the District's landscape irrigation rule. This has resulted in public confusion, and messaging and enforcement conflicts. Additionally, such local governments place themselves in the position of having ordinances that are subject to legal challenges because they lack independent legal authority to regulate the consumptive use of water. The Florida Legislature has vested the water management districts with the exclusive preemptive authority to regulate the consumptive use of water. Requiring each local government seeking a CUP to adopt and enforce an ordinance that does not conflict with and fully implements the District's landscape irrigation rule would add significant additional

resources to achieve compliance with the requirements limiting landscape irrigation and avoid actions that may be counterproductive to achieving greater water conservation.

Summary of Comments from Stakeholders: The District received comments regarding local government implementation of District landscape irrigation requirements from a number of utilities and local governments in previous rulemaking initiatives. Some utilities and local governments have been supportive of implementing the District rule. However, some utilities and local governments have indicated a desire to implement different requirements in their ordinances. Some of the stated reasons behind these requests include a desire to tailor the requirements to their specific service areas, a need to differ because of infrastructure issues and a desire to have additional, more stringent conservation measures.

- VI. **Examples of Implementation:** Currently, no water management district has rules that require local governments to implement water conservation measures by ordinance. However, the St. Johns and Southwest Florida water management districts encourage local governments to implement such requirements by ordinance. Within the St. Johns District, 22 local governments have implemented the District's requirements by ordinance.

Landscape Irrigation System Design/Installation Constraints

Draft Discussion Paper for Governing Board Workshop on Nov. 9, 2009

- I. **Goal of Rule:** Limits the design/installation and use of high-volume, in-ground irrigation systems for residential landscape irrigation.
- II. **Current Rule Provisions:** None.
- III. **Rules affected:** Environment Resource Permit (ERP) and Consumptive Use Permit (CUP)
- IV. **Proposed Rule Provisions:** Rule would set design and use limits on residential high-volume, in-ground irrigation systems. Specifically, the rule would limit the design and use of in-ground irrigation of residential landscape as follows:
 - No more than 60 percent of the landscapable portion of a lot (up to a maximum of ½ acre) shall be irrigated via an in-ground irrigation system.
 - No more than 60 percent of the irrigated portion of a lot shall be irrigated using high-volume irrigation.
 - All irrigation systems shall be built to achieve a 70 percent distribution uniformity.

The above requirements would not affect agricultural water use, such as pasture irrigation. The following are design and actual landscape examples of the above.



V. **Analysis:** A significant portion of the use of water associated with public water supply utilities is for the irrigation of urban landscape, particularly landscape associated with residential development. In many cases, this use of water amounts to more than 50 percent of water use by residential users. The use of high-volume, in-ground irrigation systems has been identified as a major factor associated with large-scale landscape irrigation water use due to the fact that they often cover most of a residential lot, are often improperly designed and installed, and that they operate in an largely automated manner that, if improperly set, over-irrigates. In order to limit the amount of water needed for residential landscape irrigation, the rule would set limits on the amount of landscape that can be irrigated using high-volume, in-ground irrigation systems and would require appropriate irrigation head spacing uniformity.

VI. **Summary of Comments from Stakeholders:** Currently none.

VII. **Examples of Implementation:** No water management district currently sets specific limits on the amount of residential landscape that can be irrigated using a high-volume, in-ground irrigation system. However, several municipalities within the St. Johns District are considering setting limits on the amount of landscape that can be irrigated using in-ground irrigation systems. The cities of Ocoee and Clermont are currently looking at setting limits on the amount of turfgrass that can be put on a lot, and the city of Apopka has already adopted ordinance provisions which state:

- Irrigation systems shall comply with the following requirements:

1. A high volume irrigation area shall not exceed 50 percent of the landscaped area, but shall not, in any case, cover more than one-half acre on single-family residential lots. Low or medium volume irrigation areas may be utilized in lieu of any high volume irrigation area.
2. A medium volume irrigation area shall not exceed 25 percent of the landscaped area. However, the landscaped area may contain up to 75 percent medium volume irrigation area, if no high volume irrigation area is utilized on site.
3. A low volume irrigation area may be utilized for an entire landscaped area, however, no less than 25 percent of the area covered shall utilize low volume irrigation. Zones in this area shall have a pressure regulator and a filter with a mesh smaller than the emitter openings.

Environmental Resource Permit (ERP) Water Conservation Provisions

Draft Discussion Paper for Governing Board Workshop on Nov. 9, 2009

- I. **Goal of Rule:** To implement water conservation practices through the ERP Program.
- II. **Current Rule Provisions:** None.
- III. **Rules affected:** ERP (40C-4, 40C-40, and 40C-41, Florida Administrative Code, Applicant's Handbook: Management and Storage of Surface Waters, Applicant's Handbook: Regulation of Stormwater Management Systems). Chapter 40C-2, F.A.C.
- IV. **Proposed Rule Provisions:** Staff propose modifying the ERP criteria to require that Homeowner Association (HOA) documents do not contain any language that prohibits any property owner from implementing Florida-friendly landscaping (FFL). In addition, the criteria would be modified so HOA documents would not conflict with any provision of part II of Chapter 373, F.S., or a water shortage order, other water management district order or consumptive use permit.

FFL is a program implemented by the University of Florida Institute of Food and Agricultural Sciences that encourages landscaping practices that help to preserve Florida's natural resources and protect the environment. FFL consists of the following nine principles:

- a. Right Plant, Right Place
- b. Water Efficiently
- c. Fertilize Appropriately
- d. Mulch
- e. Attract Wildlife
- f. Manage Yard Pests Responsibly
- g. Recycle Yard Waste
- h. Reduce Storm Water Runoff
- i. Protect the Waterfront

The rule would incorporate the landscape irrigation system design/installation constraints previously discussed. The rule would require submittal and implementation of District-approved irrigation/landscaping plans for single-family residential projects addressing landscape design constraints that would be

enforced by the HOAs and require irrigation and landscape plans for multi-family/commercial/industrial projects.

- V. **Analysis:** Staff recognize the existence of conflicts between the water conservation goal of implementing Florida-friendly landscaping and requirements to install and maintain non-Florida-friendly landscaping that often exists in HOA covenants and restrictions. This conflict has been recognized statewide and was recently addressed in the adoption of Senate Bill 2080 (2009) that states:

“A deed restriction or covenant may not prohibit or be enforced so as to prohibit any property owner from implementing Florida-friendly landscaping on his or her land or create any requirement or limitation in conflict with any provision of part II of this chapter or a water shortage order, other order, consumptive use permit, or rule adopted or issued pursuant to part II of this chapter.”

To address this conflict, staff are proposing to modify ERP rules to include provisions that would prevent (1) HOAs from incorporating in their covenants and restrictions any mandates to install and maintain non-Florida-friendly landscaping and (2) enforcement by HOAs against property owners who install Florida-friendly landscapes.

In addition, staff recognize the need to have water conservation measures included as a part of the design and construction of surface/stormwater management systems since the design of such systems can impact water use. This is of particular concern in regard to landscape design and irrigation. Staff are proposing to modify ERP rules to include a requirement that applicants submit a water conservation plan as part of their ERP application that addresses water conservation as a part of surface/storm water management system design. This requirement would apply to all projects with irrigated landscapes. The conservation plans associated with residential development would be specifically required to incorporate the landscape irrigation system design constraints previously proposed.

- VI. **Summary of Comments from Stakeholders:** Currently none.
- VII. **Examples of Implementation:** This type of provision has not been implemented in the ERP rules of any of the other water management districts.

Concurrent Environmental Resource Permit (ERP)/Consumptive Use Permit (CUP) Application Processing

Draft Discussion Paper for Governing Board Workshop on Nov. 9, 2009

- I. **Goal of Rule:** To promote the use of storm water as an alternative water supply by ensuring that surface water system design addresses water supply potential.
- II. **Current Rule Provisions:** None.
- III. **Rules affected:** ERP and CUP.
- IV. **Proposed Rule Provisions:** Rule would require concurrent processing of ERPs and CUPs for projects that propose to irrigate urban landscape, common areas, recreational fields or golf courses.
- V. **Analysis:** Staff recognize the need to include the use of storm water as an alternative water supply to meet irrigation needs in the ERP application process. Currently, ERP rules do not have any criteria that address water supply potential of a stormwater management system. Applicants often apply for, and obtain, ERPs authorizing construction of a stormwater management system prior to submitting an application for a CUP for their irrigation needs. Although District CUP rules require the use of lower quality sources such as storm water, in many cases, the use of storm water from a project's surface water management system is economically infeasible because the applicant has already constructed the system when the design did not consider its use for water supply for irrigation. In most cases, once the system has been constructed, it is too expensive to retrofit the system to be used as a source of water supply since such retrofit often requires significant changes be made to the system. By placing criteria in the ERP rules that require an applicant to consider water supply as part of the surface water system design, and by requiring concurrent processing of the ERP and the CUP, staff can ensure that the use of storm water for irrigation needs is addressed.
- VI. **Summary of Comments from Stakeholders:** Currently none.
- VII. **Examples of Implementation:** The South Florida and Suwannee River water management districts have provisions currently in their rules that require concurrent processing of ERP and CUP applications in similar cases. According to staff from these districts, the requirements have not been utilized extensively in the past but have been beneficial in encouraging the use of storm water as an alternative water supply.

Water Conservation Rate Structures

Draft Discussion Paper for Governing Board Workshop on Nov. 9, 2009

- I. **Goal of Rule:** To better define criteria for identifying water conservation rate structures that would be effective in “providing financial incentives to conserve water.”
- II. **Current Rule Provisions:** Consumptive Use Permit (CUP) Applicants Handbook Appendix I

2.0 Definitions (nn): Water Conservation Promoting Rate Structure - A water supply utility rate structure designed to encourage the utility’s water customers to reduce discretionary water use by providing financial incentives to the customers to conserve water.

12.2.5.1 (f) Water Conservation Plan: The applicant must submit a written proposal and implement a water conservation promoting rate structure, unless the applicant demonstrates that the cost of implementing such a rate structure is not justified because it will have little or no effect on reducing water use. In the event that the applicant has a water conservation promoting rate structure in effect, the applicant must submit a written assessment of whether the existing rate structure would be more effective in promoting water conservation if it were modified, and if so, describe and implement the needed changes. Upon request, the District will assist the applicant by providing available demographic data, computer models, and literature. In evaluating whether a proposed rate structure promotes water conservation, the District will consider customer demographics, the potential for effectiveness, the appropriateness to the applicant’s particular circumstances, and other relevant factors. Those permittees required to implement a water conservation rate structure must provide written reminder notices to their customers at least twice a year of the financial incentive to conserve water in order that the rate structure does not lose its effectiveness.
- III. **Rules Affected:** CUP 40C-2.301 Conditions for Issuance of Permits and Applicants Handbook, Appendix I.
- IV. **Proposed Rule Provisions:** Include an additional rule provision that supplements current rules, and provides that the District considers that a rate structure with the following characteristics be “sufficient to provide the financial incentive to conserve water”:

- A.** An inclining block rate structure, with a minimum of three tiers meeting the following criteria:

Tier 1 provides for essential uses. The price of water in this tier may be very low. This rate typically would cover the first 6,000 to 8,000 gallons per month of use to allow for indoor use for two to three people per household and a small amount of outdoor use.

Tier 2 allows for outdoor water use for an amount of water that would bring the total residential per capita up to a goal to be established in the District's water supply planning process. This rate would typically extend up to approximately 9,000 to 12,000 gallons per month.

Tier 3 charges a high price to high water users to send a strong message to conserve.

Recommended minimum prices for water in tiers 2 and 3 would be based on *Florida water rates evaluation of single-family homes, SJ2005-SP10* and the WaterRate model, prepared for Florida's water management districts by John B. Whitcomb, or a similar type of analysis that considers price elasticity and the customer profile.

- B.** A base fee is charged for a service connection but no volume of water is included in the base charge.
- C.** Billing is monthly and is based on monthly meter readings to deliver the costing information in a timely manner.
- D.** The rates for the second and third and any subsequent tiers are adjusted annually according to fluctuations in the Consumer Price Index.
- E.** If the cost of water production is too low to justify the level of rates needed for a water conservation rate structure, the water supply utility institutes a water conservation cost recovery surcharge to increase the overall cost to the consumer. Funds derived from this surcharge are placed in a reserve account that can be used only for the public promotion of water conservation and for reimbursement of water customers for the installation of water conservation devices.

For rate structures that do not comply with these characteristics, the permit applicant would need to provide a detailed quantitative analysis demonstrating how the proposed rate structure will provide a financial incentive to conserve water.

- V. **Analysis:** The current guidance in the Applicant's Handbook requires water conservation rate structures for utilities and provides a qualitative definition of such a structure but does not provide means for determining whether a proposed rate structure fulfills the requirements of the definition. More explicit guidance, in the form of quantitative criteria, is needed to assure the proposed rate structures will achieve the desired effects on water use.

The new rule must be specific enough to assure that the objective of water conservation is met by the rate structure but cannot prescribe rates. Care must be taken in framing the rule to assure compliance with Section 373.227(3), F.S., which states, "Regarding the use of water conservation or drought rate structures as a conservation practice, a water management district shall afford a public water supply utility wide latitude in selecting a rate structure and shall limit its review to whether the utility has provided reasonable assurance that the rate structure contains a schedule of rates designed to promote efficient use of water by providing economic incentives. A water management district shall not fix or revise rates." The proposed criteria does not set the rate structure; rather it provides for minimum criteria of an acceptable rate structure sufficient to provide an economic incentive to conserve water.

- VI. **Summary of Comments from Stakeholders:** Many utility representatives have been supportive of a tiered conservation rate structure. However, they are otherwise reluctant to have prescriptive requirements regarding specific rates and specific tiers. As mentioned above, there is a statutory prohibition against water management districts setting rates.
- VII. **Examples of Implementation:** The California Urban Water Conservation Council has adopted a policy that requires the amount of revenue generated by volumetric charges to be at least 70 percent of the total of volumetric plus base service charges to qualify as a conservation rate structure.