

HOUSE OF REPRESENTATIVES STAFF ANALYSIS

BILL #: CS/HB 755

Water Conservation

SPONSOR(S): Reed

TIED BILLS:

IDEN./SIM. BILLS: CS/SB 494 (c)

REFERENCE	ACTION	ANALYST	STAFF DIRECTOR
1) Agriculture & Natural Resources Policy Committee	15 Y, 1 N, As CS	Kliner	Reese
2) General Government Policy Council			
3) Natural Resources Appropriations Committee			
4) Full Appropriations Council on General Government & Health Care			
5)			

SUMMARY ANALYSIS

CS/HB 755 amends s. 373.62, F.S., revising the requirements for automatic irrigation systems to require any technology that will interrupt or inhibit the system during periods of sufficient moisture. It requires that licensed contractors inspect these systems to ensure that they are in compliance before completing additional work on the systems. Additionally, the bill expands the requirements of this section to apply to any person who operates an automatic landscape irrigation system. All new residential construction that includes an automatic irrigation system must include the required technology.

This bill directs the Department of Environmental Preservation (DEP) to create a model ordinance by January 15, 2010, which local governments may adopt and enforce. The ordinance shall assess penalties for violations of this section to both operators of non-conforming automatic landscape irrigation systems and licensed contractors who do not comply with this section. It provides for regular maintenance of broken systems without assessing penalties to either operators or licensed contractors when fixed within a reasonable time. It requires that funds raised through penalties be dispersed for water-conservation activities and for administration and enforcement.

The effective date of the bill is July 1, 2009.

The fiscal impact on the state is anticipated to be insignificant.

This document does not reflect the intent or official position of the bill sponsor or House of Representatives.

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DATE: 3/12/2009

HOUSE PRINCIPLES

Members are encouraged to evaluate proposed legislation in light of the following guiding principles of the House of Representatives

- Balance the state budget.
- Create a legal and regulatory environment that fosters economic growth and job creation.
- Lower the tax burden on families and businesses.
- Reverse or restrain the growth of government.
- Promote public safety.
- Promote educational accountability, excellence, and choice.
- Foster respect for the family and for innocent human life.
- Protect Florida's natural beauty.

FULL ANALYSIS

I. SUBSTANTIVE ANALYSIS

A. EFFECT OF PROPOSED CHANGES:

Current Situation

According to a 2008 United States Geological Survey report, Florida withdrew 2,541 Mgal/d (million gallons per day) of water for public use, with 2,201 Mgal/d supplied from ground water sources and 340 Mgal/d from surface water sources.¹ According to the DEP, the public supply from ground water sources represents 52 percent of all daily water withdrawn from ground water sources, while only 13 percent of surface water withdrawn on a daily basis went to public supply. Of the publically supplied water resources, approximately 50 percent is used for landscape irrigation.²

According to a December, 2008, publication by the University of Florida IFAS Extension (IFAS) entitled "Frequently Asked Questions about Landscape Irrigation for Florida-Friendly Landscaping Ordinances", landscape irrigation should be approached scientifically. Irrigation frequency and amount should be defined by the environmental demand (i.e., evapotranspiration), soil water-holding capacity and plant root zone depth. Irrigation should be applied on plant response to environmental demand, and such that the soil water reservoir is filled and gravity drainage and runoff do not occur.

This approach is detailed in an IFAS Electronic Data Information Source publication entitled, "Basic Irrigation Scheduling in Florida," (Smajstrla et al., 2006), which provides summary information from internationally recognized publications such as "Crop evapotranspiration: Guidelines for computing crop water requirements" (Allen et al., 1998). This scientifically accepted approach aims to result in "well-watered" conditions where no stress is allowed. In addition, an irrigation system must be well-designed and in good repair to apply irrigation efficiently to plants (i.e., without losses due to runoff and deep percolation).

In agriculture, for instance, by implementing Best Management Practices, soil moisture is measured to help farmers manage their irrigation and fertilizer systems more efficiently. Not only are farmers able to

¹ 1U.S. Geological Survey. Richard L. Marella. "Fact Sheet 2008-3080: Water Use in Florida, 2005 and Trends 1950–2005." Retrieved 13 Feb. 2009 < <http://pubs.usgs.gov/fs/2008/3080/>.

² 2Florida Department of Environmental Protection. "Learning from the Drought: Annual Status Report on Regional Water Supply Planning." Retrieved 20 Feb. 2009, <http://www.dep.state.fl.us/water/waterpolicy/docs/learning-from-drought-final-report.pdf>.

generally use less water to grow a crop, they are able to increase yields and the quality of the crop by better management of soil moisture during critical plant growth stages.

Besides agriculture, there are many other disciplines using soil moisture sensors. Golf courses are now using sensors to increase the efficiencies of their irrigation systems to prevent over watering and leaching of fertilizers and other chemicals offsite.

In urban areas, contractors are using soil moisture sensors in landscapes and residential lawn systems to interface with an irrigation controller. Connecting a soil moisture sensor to a simple irrigation clock will convert it into a "smart" irrigation controller that prevents an irrigation cycle when the soil is wet.

Rain sensors for irrigation systems are available in both wireless and hard-wired versions, most employing hygroscopic disks that swell in the presence of rain and shrink back down again as they dry out - an electrical switch is, in turn, depressed or released by the hygroscopic disk stack. However, some electrical type sensors are also marketed that use tipping bucket or conductance type probes to measure rainfall. Wireless and wired versions both use similar mechanisms to temporarily suspend watering by the irrigation controller – specifically, they are connected to the irrigation controller's sensor terminals, or are installed in series with the solenoid valve common circuit such that they prevent the opening of any valves when rain has been sensed.³

Soil moisture sensors measure the water content in soil. A soil moisture probe is made up of multiple soil moisture sensors. One common type of soil moisture sensor in commercial use is the frequency domain sensor such as the capacitance sensor.

Current law requires all automatic lawn sprinkler systems installed after May 1, 1991, to include rain sensing devices or switches, and specifies that any person who purchases and installs an automatic sprinkler system must install, maintain and operate a rain sensor device or switch that will override the irrigation cycle of the system when adequate rainfall has occurred.⁴ There are no statutory provisions for alternative technologies of moisture sensing devices or switches. Additionally, there is no requirement for licensed contractors to check or ensure that a rain sensor is installed or is operating properly before they commence work on lawn sprinkler systems. Lastly, there are currently no provisions to assess penalties for violations of this section, and no agency or local government has authority to determine if violations have occurred and to assess penalties for such violations.

Effect of Proposed Changes

The bill amends s. 373.62, F.S., revising the requirements for automatic irrigation systems to require any technology that will interrupt or inhibit the system during periods of sufficient moisture. It requires that licensed contractors inspect these systems to ensure that they are in compliance before completing additional work on the systems. A "licensed contractor" shall include an individual who holds a specific irrigation contractor's license issued by a county. Additionally, the bill expands the requirements of this section to apply to any person who operates an automatic irrigation system. All new residential construction that includes an automatic irrigation system must include the required technology.

This bill directs the DEP to create a model ordinance by January 15, 2010, which local governments may adopt and enforce. The ordinance shall assess penalties for violations of this section to both

³ UF/IFAS research has shown that expanding disk rain sensors can be effective at conserving water. Potential savings of 17 to 34 percent were shown at 1/2-inch and 1/4-inch thresholds under normal rainfall frequencies @ <http://edis.ifas.ufl.edu/WQ142>.

⁴ Section 373.62, FS.

operators of non-conforming automatic landscape irrigation systems and licensed contractors who do not comply with this section. At a minimum, the model ordinance shall provide:

- Penalties for operators of automatic irrigation systems that do not comply with this section: \$50 for a first offense, \$100 for a second offense, and \$250 for a third or subsequent offense;
- Requirements for contractors to report noncompliant systems to the proper authority; and,
- Penalties for licensed contractors who do not comply with this section: \$50 for a first offense, \$100 for a second offense, and \$250 for a third or subsequent offense.

The bill provides for regular maintenance of broken systems without assessing penalties to either operators or licensed contractors when fixed within a reasonable time. It requires that funds raised through penalties be dispersed for water-conservation activities and for administration and enforcement.

B. SECTION DIRECTORY:

Section 1 amends s. 373.62, F.S., revising the requirements for automatic irrigation systems to require any technology that will interrupt or inhibit the system during periods of sufficient moisture. This section provides maintenance requirements on licensed contractors; requires the DEP to create a model ordinance that will provide penalties to operators and to licensed contractors not in compliance with this section, as well as a reporting requirement; provides a local option to adopt and enforce the model ordinance and provides direction for funds received from enforcement actions.

Section 2 provides an effective date of July 1, 2009.

II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

A. FISCAL IMPACT ON STATE GOVERNMENT:

1. Revenues: See, Part D. FISCAL COMMENTS
2. Expenditures: See, Part D. FISCAL COMMENTS

B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

1. Revenues: See, Part D. FISCAL COMMENTS
2. Expenditures: See, Part D. FISCAL COMMENTS

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

All new residential development that includes an automatic irrigation system must be in compliance with this section. Licensed irrigation contractors are likely to experience an increase in the need for their services.

D. FISCAL COMMENTS:

Any funds from penalties collected by local governments that choose to adopt and enforce the model ordinance shall be used for administration and enforcement of this section and to further water conservation activities

III. COMMENTS

A. CONSTITUTIONAL ISSUES:

1. Applicability of Municipality/County Mandates Provision:

This bill does not appear to require counties or municipalities to take an action requiring the expenditure of funds, does not appear to reduce the authority that counties or municipalities have to raise revenue in the aggregate, and does not appear to reduce the percentage of state tax shared with counties or municipalities.

2. Other:

None noted.

B. RULE-MAKING AUTHORITY:

No rulemaking authority is provided.

C. DRAFTING ISSUES OR OTHER COMMENTS:

IV. AMENDMENTS/COUNCIL OR COMMITTEE SUBSTITUTE CHANGES

On March 6, 2009, the Agriculture & Natural Resources Policy Committee adopted a strike-all amendment offered by the bill's sponsor.

The CS differs from the bill as originally filed in the following ways:

The original bill regulates all automatic lawn sprinkler systems and requires that all such systems have functioning rain or soil sensors or switches. The CS requires all automatic irrigation systems to utilize any functional technology that will inhibit or interrupt the automatic irrigation system when adequate moisture is present.

The original bill requires licensed irrigation contractors to install and maintain the systems. The CS expands the class to all licensed contractors who are authorized to install such systems and also provides that all new residential construction that includes automatic irrigation systems to have the required technology. The term "licensed contractor" includes an individual who holds a specific irrigation contractor's license issued by a county.

The original bill provides rule-making authority to the DEP to establish penalties for the section's non compliance, and authority to delegate enforcement of the section to a water management district or a local government. The CS requires the DEP to create a model ordinance providing requirements and penalties for non-compliance, which local governments may adopt. If local governments adopt the model ordinance, they may use funds generated by penalties for the administration and enforcement of the section, and to advance water-conservation activities.

Finally, the CS provides that regular maintenance and replacement of worn or broken technology does not constitute a violation of this section if conducted within a reasonable time.