



Integrity. Intelligence. Diligence.

August 18, 2016

Mary Ellen Winkler
St. Johns River Water Management District
P.O. Box 1429
Palatka, FL 32178-1429

VIA Electronic Mail

Dear Mary Ellen:

Please consider these comments related to the latest version of the Central Florida Water Initiative ("CFWI") proposed smart irrigation concept. Although we support programs that incentives smart irrigation systems, it is our opinion the current proposal is flawed as it will result in excess irrigating, is not protective of the environment and water resources and will ultimately harm the success that is currently being shown by smart irrigation technology. In addition, the current proposal does not comply with requirements of Chapter 373, Florida Statutes. We recommend that the CFWI Regulatory Team move cautiously with implementing any new policies that may result in increased residential irrigation. Building construction has finally picked up after an 8 plus year hiatus. Without proper protective measures in place, there will be an exacerbation of insufficient quantities in the CFWI. Please keep in mind that an improperly set smart irrigation system could relate to 4-5 times use of a typical demand by residential customers. Also, historically, one of the reasons the District implemented the 1 or 2 day a week watering requirements was due to an inability to properly manage excessive irrigation by property owners. The proposed concept will just reinitiate that opportunity.

We would like to thank you for recognizing that granting a complete exemption from day(s) of the week watering restrictions is not consistent with Section 373.62(7), Florida Statutes. Although we have substantial concerns regarding the proposal, we appreciate that one of those concerns is not related to a complete exemption from day(s) of the

Tallahassee

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week watering restrictions. Section 373.62(7), Florida Statutes, was enacted in 2009 by chapter 2009-199, Laws of Florida, and created an umbrella variance from day(s) of the week watering restrictions. Section 373.62(7)(a), Florida Statutes, provides "The Legislature finds that smart irrigation systems that use soil moisture sensors with remote monitoring and adjustment capabilities, if properly installed and monitored, provide more efficient irrigation and save substantially more water than conventional time-controlled irrigation systems." The Legislature did not provide that smart irrigation systems save water; rather, smart irrigation systems that are properly installed and monitored save water and should be exempt from the day(s) of the week watering restrictions. As the Legislature and the water management districts were concerned that this subsection could be abused and thus result in more water use, the Legislature imposed specific requirements in order to be eligible for such variance. In fact, the representative from the St. Johns River Water Management District ("SJRWMD") continued to oppose the legislation and requested the bill be vetoed due to the inclusion of the smart irrigation variance provision. This is one of the reasons the statute requires the issuance of an umbrella variance upon certification by the monitoring entity that it meets the statutory requirements. There was a concern that any discretion by a water management district would result in a denial of the umbrella variance. We believe that any proposal that provides for an exemption from the day(s) of the week watering restrictions and allows for irrigating up to seven days a week is not consistent with Florida Law.

General Permit by Rule Statutory Requirements May Not be Satisfied

As currently written, the proposal does not appear to comply with Florida Law related to general permits and permits requested for the domestic use of consumption. Section 373.118, Florida Statutes, provides that a water management district may establish a general permit system for projects that have a minimal adverse impact on the water resources. There is a limitation in the general permit system in that the rules must specify design or performance criteria that will result in compliance with the conditions

for issuance for permits. The proposal fails to include performance criteria that ensure that a smart irrigation system will be properly used. Without such performance criteria, there could be excessive water use that cumulatively harms the water resources as well as result in the use of water that is not a reasonable-beneficial use. Further, subsection (2) requires that water use general permits be subject to all Part II of Chapter 373, Florida Statutes, but for Section 373.229, Florida Statutes. As discussed in more detailed below, the proposed limiting conditions fail at ensuring compliance with the conditions for issuance for permits as well as Part II of Chapter 373, Florida Statutes.

Currently, the restrictions of the three water management districts within CFWI are more protective than what is being proposed in part due to the existing restrictions being more easily enforceable. It is easy to determine when watering is occurring on the wrong day. Nothing in the current proposal ensures compliance nor does it provide a mechanism to even determine whether a system is properly operated. Currently, SJRWMD and South Florida Water Management District ("SFWMD") have general permit by rule provisions that allow landscape irrigation. SFWMD's rules provide a general permit to persons to use or withdraw water at a single family dwelling or duplex, including for irrigation purposes, from a single well as long as such landscape irrigation is conducted in accordance with Chapters 40E-21 (Water Shortage Plan) and 40E-24 (Year Round Conservation Measures), Florida Administrative Code, or an approved variance. There are further restrictions in that the amount of water used must be limited to that necessary for efficient utilization and reclaimed water must not be available by a utility. In addition, SFWMD allows local governments to implement alternative landscape irrigation conservation measures as long as such measures achieve water conservation consistent with the number of days watering limitations. To ensure the effectiveness of the alternative conservation measures, SFWMD requires an annual report that includes any variances granted or denied and enforcement actions taken. SJRWMD's rules provide a general permit to persons to use or withdraw water for landscape irrigation as long as such water is limited to only that necessary for efficient

utilization. The general permit allows for residential landscape irrigation and non-residential landscape irrigation but limits irrigation to specified days and times. It also limits the amount of water that can be used to no more than 3/4 inch of water applied or 1 hour of irrigation per irrigation zone per irrigation day. When reclaimed water is available, the use of a private irrigation well for landscape irrigation is not authorized. Southwest Florida Water Management District ("SWFWMD") does not have a general permit by rule for residential irrigation. Rather, it allows residential irrigation to occur under the exemption from permitting provided for domestic use. Notwithstanding, SWFWMD's year round conservation measures provided for in Chapter 40D-22, Florida Administrative Code, apply to residential irrigation (both to water use permittees as well as utility customers and those with wells) and includes day(s) of the week restrictions.

The water management districts' current irrigation restrictions ensure that the requirements for general permits are satisfied as the rules specify performance criteria that result in compliance with the conditions for issuance for permits as well as Part II of Chapter 373, Florida Statutes, provisions but for Section 373.229, Florida Statutes. The current proposal does not contain comparable compliance with statutory requirements.

Variance Process is the Appropriate Mechanism to Grant Relief

The Florida Legislature has already provided the avenue for those property owners that have a soil moisture sensor control system and desire an exemption from the day(s) of the week watering restrictions. Paragraph (g) of Section 373.62(7), Florida Statutes, provides that a property owner with a soil moisture control system may seek an individual variance from the day(s) of the week watering restrictions from the applicable water management district even if such property owner is within an area covered by an umbrella variance. There is no authority granted to the water management districts to create a general permit related to smart irrigation; rather, the statute specifies the use of a variance.

Although not in the current proposal, we strongly support the current variance process that is implemented by the SWFWMD and SFWMD. Unlike a general permit by rule, a variance is revocable if the holder violates its terms. The current process of two of the water management districts should be expanded to include the area of SJRWMD within CFWI rather than creating an entirely new permit, especially one in which the statutory requirements will not be satisfied. Under the current proposal, it is unclear how compliance with the conditions of a general permit will be determined. We also do not believe enforcement of conditions will occur as it will be so difficult to determine whether there is a violation. With potentially no repercussions, we are concerned that there is nothing that will prevent a property owner from irrigating every day or changing the smart irrigation system so that it's not watering to meet the plants/sod needs but rather at some arbitrary rate set by the property owner.

We are not speculating as to this potential non-compliance. Attached for your consideration are run time reports for a development in which smart irrigation capable technology was operational. The development did not utilize an umbrella variance nor did it have a variance from the day of the week irrigation restrictions by SWFWMD. It was solely an attempt to ensure that the proper amount of water was utilized on the communities and district-prescribed day(s) of the week watering schedule. Although there was monitoring, this development did not have a monitoring entity that was authorized to override residents that changed the smart irrigation settings. Rather, it was a pilot project to monitor property owners' use of smart irrigation technology. Throughout the reports, you will see that residents irrigated longer than what was appropriate for their property (the pre-programmed time per month). Negative values reflect when a property's irrigation exceeded the pre-programmed setting. This community was set up to allow 4 hours of irrigation per week or +/-16 hours per month. For example, a property owner changed the controller and irrigated his property 23 hours and 38 minutes in March. This resulted in the property being irrigated a total 27 hours and 33 minutes versus the pre-programmed 4 hours for the month. This example

is not the highest exceedance of overwatering as some monthly irrigation exceeded over 900% of the pre-programmed setting. Residents changing the smart irrigation settings are exactly the reason that the Legislature imposed the monitoring entity requirement in order to be eligible for an exemption from the day(s) of the week watering restrictions. Concerns were raised that although smart irrigation systems can result in substantial water savings, such savings can only be achieved if the smart irrigation systems are being properly operated and managed to ensure that they truly only water when the plant/sod need irrigating. In the above pilot project, had there been a monitoring entity empowered to override property owners revisions to the settings, you would not see the overwatering as the monitoring entity would be alerted and the settings would be returned to their appropriate settings.

There is nothing in the current proposal that ensures that property owners will not override their system settings and no way for a water management district to know that such improper use of a smart irrigation system is occurring. Utilizing a variance rather than general permit by rule or noticed general permit allows water management districts to provide relief from the day(s) of the week watering restrictions while simultaneously providing a mechanism to ensure compliance. A variance can be revoked as well as be for a limited duration. We realize that variances increase cost to a water management district. However, it ensures compliance with Chapter 373, Florida Statutes. We also understand that there may be a concern that the Joint Administrative Procedures Committee ("JAPC") may raise an addition if there are too many variances. Two of the water management districts are currently granting variances for additional day(s) of the week watering due to the installation of smart irrigation systems and JAPC has not raised a concern as of yet. The water management districts should not move forward with a proposal that is outside their authority just to avoid a potential issue with JAPC sometime in the future if these variances become too numerous.

Although many of the concerns raised above are not applicable to individual permittees as a water management district does have the ability to enforce water use

permit conditions, we do propose that they also be required to receive a variance as it will be easier to monitor the number and benefits of the smart irrigation systems. In addition, we recommend that the water management districts take this opportunity to create standard conditions when issuing these variances to ensure that there is consistency not only with the process but with the limiting conditions for this type of variances. As one of the concepts of CFWI is consistency, we should ensure that those granted variances have the same limiting conditions throughout CFWI.

Variance Requirements

As the appropriate mechanism in granting relief from the day(s) of the week watering restrictions to individual water use permit holders and individuals exempt from permitting is a variance, we propose that the current draft limiting conditions concepts be included as requirements of any variance from day(s) of the week watering restrictions. Our comments are italicized and any references to permittee in the current proposed concept should be changed to variance holder.

1. Make and model of the smart irrigation controller (concept III.b.i.2.). *No change.*
2. Certification statement from a licensed contractor that the smart irrigation controller had been installed in accordance with the manufacturer's specifications (concept III.b.i.3.). *This requirement should be revised to require that the smart irrigation controller be installed by a licensed contractor in a manner that is consistent with the Field Guide to Soil Moisture Sensor Use in Florida by the University of Florida IFAS Extension Program for Resource Efficient Communities ("IFAS"). The manufacturer's specifications are not specific to Florida and may not include best practices similar to what has been developed by IFAS.*
3. A maximum of three days per week watering schedule (concept III.b.ii.1.). *This requirement should be revised so only one additional day is allowed. Separate from the smart irrigation proposal, the CFWI Conservation Team is discussing restricting certain*

areas to only once a week watering during a specific time of the year. As a result, under this proposal, a portion of CFWI will be allowed to water one additional day per week while the remainder of CFWI will be allowed to water two additional days per week. Every additional day of watering is 50% more water being used so one additional day of watering should be the maximum allowed.

4. No irrigation may occur between the hours of 10:00 a.m. and 4 p.m. on any day (concept III.b.ii.2.). *No change.*

5. Smart irrigation controllers must be used to adjust landscape irrigation schedules based on soil moisture or on climatic information (concept III.b.ii.2.). *Based on scientific studies and Florida's weather patterns, the variance should be limited to smart irrigation systems that use soil moisture sensors and the reference to climatic information (weather based) should be deleted. Also, this requirement should be revised to limit adjustment solely by a licensed contractor and include a prohibition of adjustment by a property owner (albeit an exception from the adjustment prohibition should be considered for utilities irrigating their own properties). As shown by the run time reports submitted with this letter, the benefits of smart irrigation can be easily voided by a property owner that changes the original settings. To be effective, the smart irrigation controllers need to be installed and operated properly.*

6. If the smart irrigation controller relies on the use of a soil moisture sensor or sensors, each soil moisture sensor must be located in the location that best represents the majority of the landscaped area(s) in order to optimize water use. Each soil moisture sensor controller shall be installed and operated in accordance with the manufacturer's specifications (concept III.b.ii.4.). *This requirement should be revised to provide that each soil moisture sensor control system must have multiple soil sensors that conform to different soil types and slopes in order to optimize water use for each user, its irrigation schedules must be based on soil moisture requirements and limited to the authorized additional day of watering. They must be installed by a licensed*

contractor in a manner that is consistent with the Field Guide to Soil Moisture Sensor Use in Florida by the University of Florida IFAS Extension Program for Resource Efficient Communities. The requirement should provide that a licensed contractor must certify that the smart irrigation system that was installed meets these requirements prior to the additional watering being allowed. Operating a soil moisture sensor controller in accordance with the manufacture's specifications does not address the need for different set points for different soils. It is also very different than operating a system in accordance with best management practices as provided for in the IFAS manual. Without additional specifications, it is unclear how a water management district will ensure that the system was properly installed, that the use of water is a reasonable-beneficial use or that there is compliance with the limiting conditions.

7. If the smart irrigation controller relies on the use of weather data, the controller must be installed and operated in accordance with the manufacture's specifications and in an area where there are no obstructions to rainfall or sunlight. For systems that rely on a subscription-based weather data system, the permittee must maintain the subscription to the weather database (concept III.b.ii.5.). *Based on scientific studies and Florida's weather patterns, the variance should be limited to smart irrigation systems that use soil moisture sensors. Including weather data systems is not appropriate as these systems are not as accurate as soil moisture systems due to the distance between the irrigated property and the weather station. This requirement should be deleted.*

8. The permitted shall insure that at all times the smart irrigation controller is functioning properly and is being operated in accordance with this general rule by permit (concept III.b.ii.6.). *This requirement needs to be revised as a smart irrigation controller may be functioning properly (i.e. it operates correctly) but due to incorrect settings by a property owner, excessive watering occurs. It is unclear what standards will be used to determine whether the smart irrigation controller is functioning properly. The simple changing of a soil set point can result in 24 hour watering on each of the three days.*

This requirement should be revised to include standards, including maximum soil set points, a limitation on the amount of water that can be used to no more than 3/4 inch of water applied and no more than 1 hour of irrigation per irrigation zone per irrigation day. In addition, to ensure that the requirements of the variance can be enforced, the specific days for watering should also be included within the variance. This will assist the local agency and water management district in determining whether the property owner is irrigating on the proper days. If the three days are unknown, how will compliance be verified? These requirements will provide an additional layer of protection and a backstop against overwatering.

9. The permittee shall post a notice on the irrigated property in plain view from the nearest roadway that states: "Irrigating with a Smart Irrigation Controller" and includes the address of the property where the smart irrigation controller is being used. The permittee shall remove the notice when no longer irrigating in compliance with this general permit by rule. Should a certain size/color sign be specified (concept III.b.ii.6.)? *As it will be difficult to determine compliance in operating the smart irrigation system as currently proposed, this requirement should be revised to mandate that the notice also include the specific days for watering that are allowed. This will assist the local agency and water management district in determining whether the property owner is in compliance with the limiting conditions.*

10. The permittee shall insure that the smart irrigation controller is inspected annually and is functioning properly (concept III.b.ii.7.). *This requirement needs to be revised as a smart irrigation controller may be functioning properly (i.e. it operates correctly) but due to incorrect settings by a property owner, excessive irrigating may occur. It is unclear what standards will be used to determine whether the smart irrigation controller is functioning properly. This requirement should be revised to include standards, including maximum soil set points, a limitation of the amount of water that can be used to no more than 3/4 inch of water applied and no more than 1 hour of irrigation per irrigation zone per irrigation day, so that there will be criteria in determining whether the*

smart irrigation controller is functioning properly. In addition, the current concept is unclear regarding who will be inspecting the smart irrigation controller system annually. Is a property owner allowed to inspect its system? This requirement should be revised to require that on an annual basis, a professional engineer licensed under chapter 471 or a professional landscape architect licensed under chapter 481 shall perform an annual maintenance review of the soil moisture sensor control system and certify to the water management district that the system is properly operating and in compliance with variance requirements. We are opposed to a revision to increase the inspection requirement to every two years as that could result in noncompliance for a substantial amount of time (even two years (i.e. 700+ days)) of non-compliance if a property owner immediately changes the system's settings).

11. We are also concerned that without the additional protective limiting conditions, permittees would have up to two additional watering days during periods when less irrigation is allowed. A new requirement that provides that all other applicable local government and water management district restrictions related to irrigation, including, but not limited to, a prohibition on irrigation and time-of-day watering requirements and water shortage or emergency orders remain applicable should be included. Water shortages may be applicable to all users depending upon the level of the water shortage. As currently written, it is unclear whether a water management district's water shortage order is applicable.

12. In order to ensure compliance, for non-utility water use permittees or those that do not need a water use permit, a requirement that a meter be utilized to monitor the amount of irrigation water should be included. This will again provide a level of assurance that the property owner is using the smart irrigation technology properly and provides a mechanism to ensure compliance.

13. Initially, the variance should be limited to no more than two years in order to allow a water management district an additional opportunity to ensure that conditions are being met.

Proposal is Not Clear as it Relates to Individual Water Use Permittees

Although the proposal provides separate sections for individual water use permittees and those without an individual water use permit, we are concerned regarding some of the comments submitted to you that appear to imply that the individual water use permittees may be monitoring users under the current proposal. It should be clarified that an umbrella variance is not being provided. As you have stated during one subcommittee conference call and one Regulatory Team conference call, a variance granted to a utility does not include all of the properties within its boundaries. Rather, the variance from the day(s) of the week watering restrictions is limited to the properties owned by the utility. We suggest the language be modified to make clear what is intended.

Conclusion

In conclusion, we do oppose the intent of the smart irrigation proposal – finding a method to address the implementation of smart irrigation technology that does not meet the Section 373.62(7), Florida Statutes, variance requirements. However, the current proposal has no protections or safeguards against abuse. The most efficient water conserving smart irrigation system will not save water if the system is poorly designed, improperly installed, adjusted from proper settings or lacks maintenance. This proposal grants partial relief from irrigation restrictions without any of the protections that the Legislature felt were necessary to ensure that water savings would occur when providing exceptions to the day(s) of the week watering restrictions nor does it comply with the requirements of Part II of Chapter 373, Florida Statutes. Smart irrigation systems only save water if property installed and operated. As currently proposed, we are concerned that a water conservation tool will be abused resulting in excess water

use. Without the appropriate safeguards that can ensure compliance and enforcement, the granting of one additional (and possibly two additional) days of watering will not provide reasonable assurances to conserve water. This harms those who do properly operate their smart irrigation systems as eventually there will be biased against these systems as not conserving water.

Finally, although not directly related to smart irrigation, we also wanted to bring to your attention that this proposal does not consider that the water management districts currently treat residential irrigation differently. Albeit slightly different, the three water management districts each have a provision regarding an exemption from permitting for domestic use in order to implement Section 373.219(1), Florida Statutes, which states that "no permit shall be required for domestic consumption of water by individual users." SFWMD exempts users from needing a permit for water needed strictly for domestic use at a single family dwelling with one withdrawal facility for each dwelling in Rule 40E-2.051, Florida Administrative Code, and provides a general permit for residential irrigation purposes. SJRWMD's Rule 40C-2.051, Florida Administrative Code, and SWFWMD's Rule 40C-2.051, Florida Administrative Code, provides that a water use permit is not required for the domestic consumption of water by individual users, with "domestic use" defined by Section 373.019(6), Florida Statutes, and SJRWMD provides a general permit for residential irrigation purposes. The differences between the exemptions and general permit requirements for residential irrigation (not related to smart irrigation systems) should be addressed. In addition, the water management districts also differ in the delegation of their statutory authority related to the regulation of water by allowing some local governments to adopt their own water restrictions. As consistency is being sought within CFWI, these differences may need to be addressed.

We do not envy the task before you as you draft a proposal that gives additional incentives while ensuring statutory requirements are met and water is saved. I apologize for the delay in getting our comments and data to you on this matter. We are compiling additional documents that support our proposition that additional restrictions

Mary Ellen Winkler
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are needed to ensure that the savings expected from smart irrigation systems are achieved. I will forward them as I receive them. I look forward to working with you on this matter.

Sincerely,

MANSON BOLVES DONALDSON VARN, P.A.

A handwritten signature in cursive script, appearing to read "Laura Donaldson".

Laura Donaldson

LJD/dlr

Attachments