

**MEMORANDUM**

**Date: November 20, 2018**

**To: Members of the Governing Board and WSWC TCC**

**From: District Staff**

**RE: Optional Model Language Provided as Technical Assistance for Requirements of WSWC – 10 (Outdoor Water Requirements for Large Landscapes) and WSWC-11 (State Water Conservation and Drought Response Requirements)**

District staff received requests for technical assistance in implementing two water conservation action items from the 2017 update to the District’s Water Resources Plan. District staff is providing this memorandum to ensure the Governing Board and WSWC TCC are aware of the optional resources available to interested jurisdictions under the District’s Technical Assistance Program.

Action Item Requirements

Action Item WSWC – 10 (Outdoor Water Requirements for Large Landscapes) requires that any new irrigation system installed for large landscapes (irrigated area to be greater than one acre) have pressure regulators, master shut-off valves, and flow sensors that detect and report high flow conditions to the system owner due to broken pipes or popped sprinkler heads. While the large landscape requirement does not apply to single family homes, it does require landscape irrigation systems for all other developments (including home owners’ associations) to comply with this requirement if the common areas to be irrigated with an irrigation system are more than one acre. All local water providers, in coordination with the local government, inspection/code enforcement staff, legal counsel and site plan review, are to adopt an ordinance or policy by January 1, 2019.

Action Item WSWC – 11 (State Water Conservation and Drought Response Requirements) requires, among other things, that local governments implement existing Georgia state law requiring that new irrigation systems in the District be installed with a rain sensor shut-off. Specifically, O.C.G.A. § 12-5-6 requires rain sensor shut-off for all landscape irrigation systems except for those landscape irrigation systems installed on golf courses or any system dependent upon a nonpublic water source.

Approach and Process for Preparing Model Language

District staff is offering model language that local water providers may want to consider using for compliance with WSWC-10 and WSWC-11. See the model language provided in Attachment A. District staff convened a working group comprised of interested Water Supply and Water Conservation Technical Coordinating Committee Members to help develop this model language. District staff also coordinated and shared drafts with irrigation and landscape professionals, the Georgia Green Industry Association, and the Georgia Urban Ag Council. Staff also reviewed, researched, and considered ordinance examples from the Irrigation Association, Florida, Texas, and California.

This model language is being offered as an optional tool, and District staff expects local water providers will take different approaches when necessary or desired so long as such approaches satisfy the elements of the action items. This model language is optional and does not include any requirement that local water providers’ approaches be equivalent.

District staff’s underlying philosophy in developing the model language has been to meet at least the minimum requirements of the action items, accomplish the intent of the action items, and develop requirements that are easy to implement even if that means providing water efficiency that goes somewhat beyond the minimum of what is required in the action items.

WaterSense Irrigation Controllers

While WaterSense irrigation controllers are not required by WSWC-10, District staff specified the use of WaterSense controllers in the model language because checking for the WaterSense label is a simple way for local staff to ensure a controller has the necessary technical capabilities. Specifically, the WaterSense specifications for irrigation controllers[[1]](#footnote-1) require that the controller be capable of interfacing with a rain sensor shut-off and include other features and reporting capabilities consistent with what is needed to make use of pressure regulators and flow sensors. WaterSense irrigation controllers are widely available at comparable prices. For local water providers with the local staff, resources, and desire to confirm on a case-by-case basis whether other non-WaterSense irrigation controllers have the necessary technical capabilities, this alternative would be fully consistent with the requirements of WSWC-10.

Self-Certifications

Based on stakeholder feedback, two different options for self-certification have been included as part of this model language. Based on the exclusion of single-family homes, it is proposed that the self-certification requirements apply only to connections 1” or larger. For the compliance self-certifications contemplated in Section 7 of the model language, Attachment B includes two options for local consideration.

General Landscape Irrigation Requirements

Section 5 of the model language includes elements that satisfy the state law requirements under WSWC-11 as well as a requirement that a WaterSense controller be used. For the same reasons stated above, specifying that a WaterSense controller should be used ensures that the controller is capable of interfacing with a rain sensor shut-off. Alternatively, such capabilities could be confirmed on a case-by-case basis. Including both the general requirements and large landscape irrigation system requirements in the model language together is simpler than having two separate ordinances or policies given that the rain sensor shut-off requirements apply to landscape irrigation systems for large landscapes and otherwise. Also, implementing and enforcing the resulting ordinance or policy may be easier if all requirements related to landscape irrigation design are included in one place. For local water providers that address rain sensor shut-off requirements elsewhere in their policies or ordinances, Section 5 should be deleted.

Backflow Prevention Requirements

 District staff added a reference to backflow prevention as a requirement, when applicable, as a reminder to local staff and to those installing landscape irrigation systems to check the local water provider’s backflow prevention requirements. The reference to backflow prevention requirements in the model language is not intended to change in any way the local water provider’s backflow prevention requirements.

Attachment A

\*NOTE: Please see the memorandum dated November 20, 2018 and available at [www.northgeorgiawater.org](http://www.northgeorgiawater.org) for information on the flexibility available to local water providers in tailoring this model language and for additional information on adopting and implementing landscape irrigation requirements. This model language for landscape systems can be adopted by adding it to a local water provider’s (1) construction standards for the local water provider used in the development plan review process or (2) local code of ordinances, if applicable. It should be added in such a way that it applies to all new water service connections regardless of whether a separate irrigation meter is used. **Before finalizing remember to delete Section 5 if the rain sensor shut-off requirement is already covered elsewhere, select or create a locally-tailored option for Section 7 if desired, and change the *[local water provider]* references to your jurisdiction’s name.**

**Model Language**

**Landscape Irrigation System Requirements**

Article X – Landscape Irrigation System Requirements.

 Section 1 – Purpose and Intent. The purpose of this Article is to reduce discretionary outdoor water use and avoid wasting water by adopting more efficient irrigation system design requirements.

 Section 2 – Definitions.

(a) “flow sensor” means an inline device that produces a repeatable signal proportional to flow rate.

(b) “landscape irrigation system” means an assembly of component parts that is permanently installed for the controlled distribution of water to irrigate landscapes.

(c) “landscape” means ground cover, trees, shrubs, and other plants.

(d) “large landscape” means the landscape areas associated with a development (excluding single-family homes) served by one or more landscape irrigation systems where all irrigated areas added together total more than 1 acre (or 43,560 square feet).

(e) “master shut-off valve” is an automatic valve such as a gate valve, ball valve, or butterfly valve) capable of being automatically closed by the WaterSense controller. When this valve is closed water will not be supplied to the landscape irrigation system.

(f) “rain sensor shut-off” means an electric device that detects and measures rainfall amounts and overrides the cycle of a landscape irrigation system so as to turn off such system when a predetermined amount of rain has fallen.

(g) “WaterSense controller” means weather-based irrigation controllers labeled under the U.S. Environmental Protection Agency’s WaterSense program, which includes standalone controllers, add-on devices, and plug-in devices that use current weather data as a basis for scheduling irrigation.

 Section 3 – Applicability and Exceptions. The Article applies to all landscape irrigation systems except those (a) used for commercial agricultural operations as defined in the Official Code of Georgia Section 1-3-3, (b) used for golf courses, and (c) dependent upon a nonpublic water source.

Section 4 – Avoiding Water Waste through Design. All landscape irrigation systems shall be designed, installed, maintained, and operated to prevent runoff from leaving the target landscape due to low- head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, parking lots, or structures. This requirement helps ensure compliance with, and is in addition to, the ***[local water provider’s]*** more general prohibitions against water waste.

 Section 5 – General Landscape Irrigation System Requirements. ***[Note – Remove Section 5 if requirements for rain sensor shut-off adequately covered in another policy or ordinance.]*** Regardless of whether an irrigation meter is used, all new landscape irrigation systems for single family residences shall include the following:

(a) A backflow prevention assembly if required by the applicable backflow prevention requirements;

 (b) A WaterSense controller; and

(c) A rain sensor shut-off installed in an area that is unobstructed by trees, roof over hangs, or anything else that might block rain from triggering the rain sensor shutoff.

Section 6 – Large Landscape Irrigation System Requirements. Regardless of whether an irrigation meter is used, new landscape irrigation systems for large landscapes shall include the following:

(a) Applicable backflow prevention, a WaterSense controller, and the rain sensor shut-off as required of all new landscape irrigation systems;

(b) A master shut-off valve for each controller installed as close as possible to the point of connection of the water but downstream of the backflow prevention assembly;

(c) Pressure-regulating devices such as valve pressure regulators, sprinkler head pressure regulators, inline pressure regulators, or other devices shall be installed as needed to achieve the manufacturer’s recommended pressure range at the emission devices for optimal performance; and

(d) At least one flow sensor, which must be installed at or near the supply point of the landscape irrigation system, that when connected to the WaterSense controller will detect and report high flow conditions to such controller and automatically shut master valves

 Section 7 – Compliance Self-Certifications for 1" and Larger Service Connections. [**Option 1**: *As a condition of selling a new water meter or irrigation meter for any new service connection of 1" or larger, the purchaser of such meter shall submit a certification of compliance along with any other required paperwork and project information as may be required.*

*(a) Such certification of compliance shall include a certification that one of the following is true and correct:*

*(1) the development will not include any landscape irrigation systems;*

*(2) the development will include a landscape irrigation system that does not serve a large landscape, and as a result the system will only include applicable backflow prevention, a WaterSense controller, and the rain sensor shut-off; or*

 *(3) the development will include a landscape irrigation system that does serve a large landscape, and as a result all requirements in Section 6 will be met.*

*(b) For all new services connection of 1" or larger, the* ***[local water provider]*** *shall receive the signed certification of compliance and determine whether all required information has been provided. If the certification of compliance has not been completed with all required information, the* ***[local water provider]*** *shall return the certificate of compliance to the purchaser specifying what information is missing and ask that a complete certificate be resubmitted.]*

[**Option 2**: *All plans for development involving any new service connection of 1" or larger shall include a certification, through written statements in plan documents or on drawings, that the following is true and correct:*

*(a) the development will not include any landscape irrigation systems;*

*(b) the development will include a landscape irrigation system that does not serve a large landscape, and as a result the system will only include applicable backflow prevention, a WaterSense controller, and the rain sensor shut-off; or*

*(c) the development will include a landscape irrigation system that does serve a large landscape, and as a result all requirements in Section 6 will be met.*

*If the certification is not included with all required information, the* ***[local water provider]*** *shall notify the purchaser specifying what information is missing and ask that documentation with the complete certification be submitted.]*

Attachment B

Options for Compliance Self-Certifications for New Service Connections of 1” or Greater

**Option 1 for 1" and Larger Service Connections**

The undersigned as the purchaser of the new meter certifies, by marking the appropriate boxes with an X and signing below, that:

 1. [ ] the development will not include any landscape irrigation systems;

 2. [ ] the development will include a landscape irrigation system that does not serve a large landscape, and as a result the system will include the following:

 [ ] Total irrigated landscapes including all areas = sq. ft.\*

 [ ] Backflow prevention assembly;

 [ ] WaterSense controller; and

 [ ] Rain sensor shut-off.

 3. [ ] the development will include a landscape irrigation system that does serve a large landscape, and as a result the system will include:

 [ ] Total irrigated landscapes including all areas = sq. ft.\*

 [ ] Backflow prevention assembly;

 [ ] WaterSense controller;

 [ ] Rain sensor shut-off;

 [ ] Master shut-off valve;

 [ ] Pressure regulating devices; and

 [ ] Flow sensor(s).

\*NOTE – It is recommended that you measure and total all areas of irrigated landscapes in connection with the development. If you do not perform and submit these measurements, then you must meet the large landscape requirements.

Signature: .

Name: .

Title: .

Company: .

**Option 2 for 1" and Larger Service Connections**

The appropriate plan document or drawing for developments with new connections of 1” or larger must include one of the following:

No Landscape Irrigation System: This development does not include a landscape irrigation system.

Landscape Irrigation System – No Large Landscape: This development will include a landscape irrigation system that does not serve a large landscape, and as a result the system will include the following: (1) total irrigated landscapes combining all areas is 1 acre or less, (2) backflow prevention assembly, (3) WaterSense controller, and (4) rain sensor shut-off.

Landscape Irrigation System – Large Landscape: This development will include a landscape irrigation system that does serve a large landscape, and as a result the system will include: (1) total irrigated landscapes combining all areas is greater than 1 acre (2) backflow prevention assembly, (3) WaterSense controller, and (4) rain sensor shut-off, (5) master shut-off valve, (6) pressure regulating devices, and (7) flow sensor(s).

1. The WaterSense Specification for Weather-Based Irrigation Controllers, Version 1.0, dated November 3, 2011, is available at <https://www.epa.gov/sites/production/files/2017-01/documents/ws-products-spec-irrigation-controllers.pdf>. [↑](#footnote-ref-1)