

## Drought Legislation Implementation Information Guide

**WHAT?** This information guide identifies resources to help you meet requirements of the 2008 drought preparedness and management law, S.L. 2008-143. This comprehensive legislation contains many new water resources requirements, as explained below.

**WHO?** New requirements apply to

- (1) water systems operated by local governments and
- (2) large community water systems, defined as those with at least 1,000 connections or serving at least 3,000 people.

**WHEN?** Effective July 1, 2009.<sup>1</sup>

### RESOURCES

#### Funders

##### Public Water Supply Section

Funding source: Drinking Water Revolving Fund/  
Drinking Water Reserve Fund  
[www.deh.enr.state.nc.us/pws](http://www.deh.enr.state.nc.us/pws)

##### N.C. Rural Center

Funding Source: Supplemental Grants Program,  
Economic Infrastructure Program  
[www.ncruralcenter.org](http://www.ncruralcenter.org)

##### N.C. Division of Community Assistance

Funding Source: CDBG  
[www.nccommerce.com/en/CommunityServices/CommunityDevelopmentGrants/CommunityDevelopmentBlockGrants](http://www.nccommerce.com/en/CommunityServices/CommunityDevelopmentGrants/CommunityDevelopmentBlockGrants)

<sup>1</sup> § 143-355.4(b)(1) (“adequate rate structure”) will go into effect upon development of guidelines by the State Water Infrastructure Commission: “Has established a water rate structure that is adequate to pay the cost of maintaining, repairing, and operating the system, including reserves for payment of principal and interest on indebtedness incurred for maintenance or improvement of the water system during periods of normal use and periods of reduced water use due to implementation of water conservation measures. The funding agency shall apply guidelines developed by the State Water Infrastructure Commission in determining the adequacy of the water rate structure to support operation and maintenance of the system.”

#### State agencies/University resources

##### Division of Water Resources

Information: Water supply plan, water shortage response plan, metering, reclaimed water  
[www.ncwater.org](http://www.ncwater.org)

##### Division of Water Quality

Information: Reclaimed water  
[www.ncwaterquality.org/lau/reclaimed.html](http://www.ncwaterquality.org/lau/reclaimed.html)

##### Public Water Supply Section

Information: Leak detection and repair, reclaimed water  
[www.deh.enr.state.nc.us/pws/](http://www.deh.enr.state.nc.us/pws/)

##### Environmental Finance Center

Information: Metering, rate and fee setting  
[www.efc.unc.edu](http://www.efc.unc.edu)

#### Membership organizations

##### N.C. Association of County Commissioners

Patrice Roesler, Deputy Director (919) 715-2893  
[www.ncacc.org](http://www.ncacc.org)

##### N.C. League of Municipalities

Separate irrigation meter ordinance (sample attached)  
John Phelps, Senior Assistant General Counsel  
(919) 715-3920  
[www.nclm.org](http://www.nclm.org)

##### N.C. Rural Water Association

Leak detection and repair, metering, consumer education, water audits, rate and fee setting  
Daniel Wilson, P.E., Executive Director, (919) 812-0428  
[www.ncrwa.com](http://www.ncrwa.com)

##### N.C. Rural Center

Leak detection and repair, consumer education  
Julie Cubeta, Senior Director, Physical Infrastructure  
(919) 250-4314  
[www.ncruralcenter.org](http://www.ncruralcenter.org)

##### American Water Works Association

General guidance  
[www.ncsafewater.org](http://www.ncsafewater.org)

## Required ordinance

**Separate irrigation meter:** “Local government water systems and large community water systems shall require separate meters for new in-ground irrigation systems that are connected to their systems.”

§ 143-355.4(a)

### Actions needed

- Decide split/separate taps
- Adopt ordinance (sample attached; can amend existing ordinance to comply)
- Consider issues specific to your system (attached)

## To apply for certain N.C. funding, you must implement the six programs below

### If you are extending waterlines or expanding water treatment capacity AND applying for funds from any of these sources ...

Drinking Water Revolving Fund (pwss)

Drinking Water Reserve Fund (pwss)

Supplemental Grants Program (N.C. Rural Center)

Economic Infrastructure Program (N.C. Rural Center)

CDBG water/sewer (N.C. Division of Community Assistance)

### Then you must implement these six programs/measures.

#### 1. Leak detection and repair program

“Has implemented a leak detection and repair program.”

§ 143-355.4(b)(2)

#### Actions needed:

- Establish leak detection and repair program within capital improvement program or standard operating procedures
- With funding application, include written paragraph(s) that answer seven questions on DENR guidance (attached)

#### 2. Water Supply Plan/Water Shortage Response Plan

“Has an approved water supply plan pursuant to G.S. 143-355.”

§ 143-355.4(b)(3)

#### Actions needed

- Update and submit both plans to N.C. Division of Water Resources
- Water Shortage Response Plan must have the legal authority to be implemented and enforced

#### 3. Meter all water use

“Meters all water use except for water use that is impractical to meter, including, but not limited to, use of water for firefighting and to flush waterlines.” § 143-355.4(b)(4)

#### Actions needed

- Install meters to measure water use of all local government water use: buildings, schools, water and wastewater treatment plants, parks and recreation use, etc. (NOTE: Do not have to bill these uses)
- Ensure billed water use is properly metered so that use and flow match

#### 4. No decreasing block rate structure for residential meters

“Does not use a rate structure that gives residential water customers a lower per-unit water rate as water use increases.” § 143-355.4(b)(5)

#### Actions needed

- If desired, set separate commercial/industrial rate structures

NOTE: If your rate structure is a **total declining block rate** for all uses but does not decrease cost until large amounts of commercial or industrial water are used, funders will not consider this structure to be one that gives residential customers a lower per-unit water rate as water use increases. Consult the funding agency to verify your rate structure meets this requirement.

#### 5. Reclaimed water evaluation

“Has evaluated the extent to which the future water needs of the water system can be met by reclaimed water.” § 143-355.4(b)(6)

#### Actions needed

- Fill out DENR checklist (attached) and attach to application
- If needed, conduct a comprehensive evaluation of current and future reclaimed water reuse opportunities, using attached DENR checklist as guidance

#### 6. Consumer education program

“Has implemented a consumer education program that emphasizes the importance of water conservation.” § 143-355.4(b)(7)

#### Actions needed

- Conduct consumer education program — Possible components: conservation flyer in water bill, billboards, bus ads, installation of low-flow fixtures, etc.

# Sample Ordinance

New G.S. 143-355.4 provides that, effective July 1, 2009, local government water systems “shall require separate meters for new in-ground irrigation systems that are connected to their systems.” The N.C. League of Municipalities has drafted language that local governments may want to consider in implementing this statutory mandate.

Recognizing the range of approaches used by municipalities in the organization and operation of utility systems, and the variety of existing ordinance provisions, we have attempted to draft our suggestions to facilitate their placement into your ordinances as you deem appropriate. We understand that a number of municipalities currently requiring irrigation meters authorize two methods of installation. We have included these more common methods in our proposals. The draft language follows (provisions enclosed within brackets are optional and terms within parenthesis may be selected as appropriate):

## Irrigation Meter Requirement

All new in-ground irrigation systems installed after application of this section that will be supplied water from the (City/Town/Village) water system shall be independently connected to the system and water consumption shall be measured through a separate irrigation meter.

## Methods of Connection

An irrigation service line may be installed by a direct tap into the main (separate tap) or by a split line off the non-irrigation service line at a point between the main and the non-irrigation meter (split tap). Either method of connection shall be performed by the (City/Town/Village) Public Utilities Department [or a licensed contractor]. [A licensed contractor must obtain a permit from the (City/Town/Village) prior to installing an irrigation service line.]

## Technical and Other Requirements

An irrigation service line, the irrigation meter and all related appurtenances shall be installed in accordance with the same regulations, policies and procedures that apply to non-irrigation meters.

*Note that there are a number of terms used to designate the types of tapping arrangements described, that is, separate tap and split tap. These terms or others may be selected depending upon local preference.*

## OTHER CONSIDERATIONS

- **Rate structure**
- **Fees:** connection/tap, minimum, reconnection
  - \*\* Once determined, the rates and other fees should be inserted into the appropriate schedules that exist for your particular municipality\*\*
- **Billing,** including billing software
- **Connection method** (separate/split tap)
- **Permit different irrigation meter sizes?**
- **Irrigation user classifications?** (residential, commercial, industrial, etc.)
- **Additional regulations applied to irrigation system users:** requiring that systems be equipped with programmable controllers that adjust irrigation frequency and intensity; rainfall sensors

## GUIDANCE FOR WATER SYSTEMS ON MEETING THE LEAK DETECTION AND REPAIR REQUIREMENT FOR STATE LOANS AND GRANTS

Effective July 1, 2009, a water system seeking state funds for water line extension or expansion of water treatment capacity must have a leak detection and repair program. G.S. 143-355.3(b)(2). The funding agencies agree that the intent of the legislation was to require a basic program for identifying and reporting leaks and acting on that information. The level of effort necessary to meet the eligibility criteria will be below the level of effort required to receive priority points for a water loss reduction program under the existing common criteria used by the funding agencies.

The water system must include in its funding application a description of a program to identify, locate and respond to leaks in water lines and other water system infrastructure. The program is not required to use any particular technology or method of leak identification, but must be designed to actively gather and act on information about leaks in the water system. A description of the leak detection and repair program should include the answers to the following questions:

1. What tools, programs or activities are used to proactively identify and locate leaks?
2. Do written standard operating procedures exist to describe these activities?
3. How is the information on leaks tracked and managed?
4. How is information from the leak detection program acted on? Describe how the information is used in making decisions to replace, repair, or delay action on pipes and appurtenances with known leaks.
5. How is information gathered in the leak detection program reflected in the capital improvement program?
6. How effective has the leak detection program been in reducing water loss?
7. What future activities are planned?

Answer with sufficient detail to provide a clear picture of the leak detection and repair program. For example, in describing activities undertaken to identify and locate leaks, include information on the frequency of those activities.

**INSTRUCTIONS**  
**CERTIFICATION FORM**  
**COMPLIANCE WITH THE REQUIREMENTS OF 143-355.4.(b)(6)**

The recent droughts in North Carolina resulted in new legislation to promote conservation and improved utilization of the State's water resources. Part of this legislation was implemented to ensure that water systems were complying with conservation goals before new funding would be made available for future water system expansions. In order for an applicant to qualify for State infrastructure funding after July 1, 2009, they must demonstrate compliance with the requirements of 143-355.4.(b)(1) – (7).

In accordance with N.C.G.S. 143-355.4(b)(6), funding agencies including the Public Water Supply Section of the NC Division of Environmental Health (PWSS) and the NC Rural Center will not accept an application for State water infrastructure funds from the Drinking Water Revolving Fund or the Drinking Water Reserve Fund for the purpose of extending waterlines or expanding water treatment capacity unless all the required application requirements are submitted. In order for the funding application to be approved, the application must provide complete justification for the extended waterlines and/or expanded water treatment system. In accordance with 143-355.4(b)(6), a complete application for funding must evaluate the extent to which the future needs of the water system can be met by the use of reclaimed water. Numerous communities in North Carolina and throughout the country have already demonstrated the benefits of using reclaimed water.

Please note that if a proposed system expansion is subject to SEPA Environmental Assessment (EA)/Environmental Impact Statement (EIS) requirements, the reclaimed water evaluation must be incorporated into the SEPA document. In addition, the funding agencies cannot accept an application for funding until Departmental review of the SEPA document is complete and a Finding of No Significant Impact (FONSI) has been submitted to the State Clearinghouse for circulation.

Therefore the **CERTIFICATION FORM DEMONSTRATING COMPLIANCE WITH THE REQUIREMENTS OF 143-355.4.(b)(6)** must be completed, signed by the appropriate system official and submitted as part of the funding application before the request can be processed.

Failure to submit the required evaluation will result in return of the incomplete package. If you have any questions about these requirements, contact the PWSS or Rural Center staff. Application forms and guidance documents are available on the PWSS or the Rural Center web site.

## **CERTIFICATION FORM DEMONSTRATING COMPLIANCE WITH THE REQUIREMENTS OF 143-355.4.(b)(6)**

(i) It is recognized that the ability to use reclaimed water may be limited for some scenarios, and that a full alternatives evaluation may not be warranted. If there is some question as to whether an alternative evaluation may not be warranted, contact the staff of the Public Water Supply Section (PWSS) of the Division of Environmental Health. Some scenarios that do not require a full alternatives evaluation include:

- Water distributions system extensions in systems that do not have a centralized wastewater treatment plant.
- Water distribution system expansions that will be met by the system's existing reclaimed water system.
- Water treatment plant improvements that do not expand its treatment capacity.
- Water line extensions to address contaminated drinking water wells or to consolidate failing systems.
- Other water system projects that similarly do not involve extension of waterlines or expansion of treatment capability for purposes of growth.

If one of the above scenarios applies to the requested project, go to (vi) and attach a copy of the evaluation that led to that conclusion.

**Aside from these exceptions, the applicant must proceed with the alternatives evaluation in accordance with the following requirements. If you have any questions about these requirements, contact the funding agency staff.**

- (ii) What percent of the **current** water supplied by the water system is used for each of the \_\_\_\_\_ % purposes identified on the attached list of DWQ approved uses of reclaimed water.
- (iii) What percent of the system's future water needs (20 – 30 year planning horizon as per \_\_\_\_\_ % the system's most recent Local Water Supply Plan) will be used for each of the purposes identified in the attached list of DWQ uses of reclaimed water.
- (iv) Has the system completed a comprehensive evaluation of its current and future reclaimed water reuse opportunities? If yes go to (v), **if no the system must complete the comprehensive evaluation or the system does not qualify for State infrastructure funds.** A comprehensive evaluation should, at a minimum, include the following elements:
- A discussion of the present availability of reclaimed water that includes an analysis of both the availability of reclaimed water from sources owned and operated by the applicant and the possibility of acquiring reclaimed water from other nearby water systems.

- A discussion of both the technological and economic feasibility of providing additional treatment of wastewater within the applicant's water system to create and/or enhance the supply of reclaimed water within the system.
- An analysis of the potential large volume users of reclaimed water within the system, such as industries with a demand for cooling water or large irrigation users.
- A cost benefit analysis that examines the potential of providing reclaimed water for non-potable uses either in bulk deliveries or by a pipeline compared to the expansion of potable water lines to supply these non-potable uses.

(v) Did the evaluation show the use of reclaimed water to be both technically and economically practical and will the water system implement the recommended results of the evaluation?

If yes, go to (vi) and attach a copy of the of the timeline for implementing the recommendations from this evaluation.

If no, go to (vi) provide an explanation regarding why the use of reclaimed water is not a practical option for this system or provide an explanation as to why the system has decided against implementing the results of the evaluation.

(vi) The system complies with the requirements of 143-355.4(b)(6).

**I hereby certify that the water system that I represent has complied with the requirements of 143-355.4.(b)(6).**

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Print or Type Name of Water System

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Print or Type Name and Title of Appropriate System Official

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Signature

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Date



## Division of Water Quality Approved Uses for Reclaimed Water

(Further information regarding DWQ requirements concerning the use of reclaimed waters is contained in 15A NCAC 02T .0900.)

1. Residential landscape and turf irrigation
2. Industrial, institutional and commercial landscape and turf irrigation
3. Governmental landscape and turf irrigation (parks, school grounds, ball fields, highway medians, etc.)
4. Golf Course irrigation
5. Cooling water
6. Boiler water
7. Industrial process water
8. Industrial and commercial fire prevention systems
9. Wetland augmentation
10. Irrigation of crops not for human consumption
11. Irrigation to food chain crops
12. Firefighting and fire extinguishing
13. Reclaimed water distribution line pressure testing
14. Urinal and toilet flushing in commercial and commercial facilities
15. Vehicle and equipment washing
16. Power washing
17. Make-up water for preparation of pesticides or similar
18. Make-up water for brine slurry or similar
19. Concrete production
20. Compost production
21. Concrete cutting
22. Decorative ponds and fountains
23. Sewer cleaning
24. Soil compaction and dust suppression
25. Street sweeping (not street washing)
26. Subsurface directional boring
27. Hydro-seeding and fertilizer mixing