Stokes County Public Works
Town of Danbury, North Carolina
Water Shortage Response Plan

June 2018

The procedures herein are written to reduce potable water demand and supplement existing drinking water supplies whenever they are in danger of being inadequate to meet customer needs.

I. Authorization

The Stokes County Manager is authorized to enact water shortage response provisions whenever the trigger conditions outlined in Section IV are met. In his or her absence, the Public Works Director will assume this role.

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II. Notification

The following notification methods will be used to inform water system employees and customers of a water shortage declaration: employee e-mail announcements, notices at municipal buildings, notices in water bills and on the Stokes County website homepage. Required water shortage response measures will be communicated through *The Stokes News*, PSA announcements on local radio and cable stations, and on the Stokes County website. Declaration of emergency water restrictions or water rationing will be communicated to all customers by telephone through use of reverse 911.

III. Levels of Response

Five levels of water shortage response are outlined in the table below. The five levels of water shortage response are: voluntary reductions, mandatory reductions I and II, emergency reductions and water rationing. A detailed description of each response level and corresponding water reduction measures follow below.

Stage	Response	Description
1	Voluntary Reductions	Water users are encouraged to reduce their water use and improve water use efficiency; however, no penalties apply for noncompliance. Water supply conditions indicate a potential for shortage.
2	Mandatory Reductions I	Water users must comply with required water use reduction and efficiency measures; penalties apply for noncompliance. Water supply conditions are significantly lower than the seasonal norm and water shortage conditions are expected to persist.
3	Mandatory Reductions II	Same as in Stage 2
4	Emergency Reductions	Water supply conditions are substantially diminished and pose an imminent threat to human health or environmental integrity.
5	Water Rationing	Water supply conditions are substantially diminished and remaining supplies must be allocated to preserve human health and environmental integrity.

In Stage 1, Voluntary Reductions, all water users will be asked to reduce their normal water use by 5%. Customer education and outreach programs will encourage water conservation and efficiency measures including: irrigating landscapes a maximum of one inch per week; preventing water waste, runoff and watering impervious surfaces; watering plants deeply to encourage root growth; washing only full loads in clothes and dishwashers; using spring-loaded nozzles on garden hoses; and identifying and repairing all water leaks.

In Stage 2, Mandatory Reductions I, all customers are expected to reduce their water use by 10% in comparison to their previous month's water bill. In addition to continuing to encourage all voluntary reduction actions, the following restrictions apply: irrigation is limited to a half inch per week between 8PM and 8AM; outdoor use of drinking water for washing impervious surfaces is prohibited; and all testing and training purposes requiring drinking water (e.g. fire protection) will be limited.

In Stage 3, Mandatory Reductions II, customers must continue actions from all previous stages and further reduce water use by 20% compared to their previous month's water bill. All non-essential uses of drinking water are banned and garden and landscape irrigation must be reduced to the minimum amount necessary for survival. Additionally, in Stage 3, a drought surcharge of 1.5 times the normal water rate applies.

In Stage 4, Emergency Reductions, customers must continue all actions from previous stages and further reduce their water use by 25% compared to their previous month's water bill. A ban on all use of drinking water except to protect public health and safety is implemented and drought surcharges increase to 2 times the normal water rate.

The goal of Stage 5, Water Rationing, is to provide drinking water to protect public health (i.e. residences, residential health care facilities and correctional facilities). In Stage 5, all customers are only permitted to use water at the minimum required for public health protection. Firefighting is the only allowable outdoor water use and pickup locations for distributing potable water will be announced according to Stokes County's Emergency Response Plan. Drought surcharges increase to 5 times the normal water rate.

IV. Triggers

Stage	Well Operating Conditions
1	Pumping Time >10 hrs 20% reduction in seasonal normal distance from static water level and pump intake 20% increase pumping time for same output
2	Pumping Time >12 hrs 40% reduction in distance from static water level and pump intake 40% increase pumping time for same output
3	Pumping Time >14 hrs 60% reduction in distance from static water level and pump intake 60% increase pumping time for same output
4	Pumping Time >20 hrs 80% reduction in distance from static water level and pump intake
5	Water level at pump intake elevation

V. Enforcement

The provisions of the water shortage response plan will be enforced by the County of Stokes Public Works Department and Sheriff Office personnel. Violators may be reported to the County's Public Works Department or the Public Works Director via E-mail listed on the County's website (http://www.co.stokes.nc.us/). Citations are assessed according to the following schedule depending on the number of prior violations and current level of water shortage.

Water Shortage Level	First Violation	Second Violation	Third Violation
None	Warning	$100	$250
Voluntary Reductions	Warning	$250	$500
Mandatory Reductions (Stages 2 and 3)	Warning	$250	Discontinuation of Service
Emergency Reductions	$250	Discontinuation of Service	Discontinuation of Service
Water Rationing	$500	Discontinuation of Service	Discontinuation of Service

Drought surcharge rates are effective in Stages 3, 4 and 5.

VI. Public Comment

Customers will have multiple opportunities to comment on the provisions of the water shortage response plan. First, a draft plan will be posted on the Stokes County website. A public hearing will be scheduled with notice printed on all customer water bills to collect comments on the draft. All subsequent revisions to the draft plan will be posted at least 30 days prior to an adoption vote by the Stokes County Commissioners.

VII. Variance Protocols

Applications for water use variance requests are available from the Stokes County Public Works Office. All applications must be submitted to the Public Works Office for review by the Public Works Director or his or her designee. A decision to approve or deny individual variance requests will be determined within two weeks of submittal after careful consideration of the following criteria: impact on water demand, expected duration, alternative source options, social and economic importance, purpose (i.e. necessary use of drinking water) and the prevention of structural damage.

VIII. Effectiveness

The effectiveness of the Stokes County Public Works, Town of Danbury water shortage response plan will be determined by comparing the stated water conservation goals with observed water use reduction data. Other factors to be considered include frequency of plan activation, any problem periods without activation, total number of violation citations, desired reductions attained and evaluation of demand reductions compared to the previous year's seasonal data.

IX. Revision

The water shortage response plan will be reviewed and revised as needed to adapt to new circumstances affecting water supply and demand, following implementation of emergency restrictions, and at a minimum of every five years, as required by the provisions of G.S. 143-355 (l). Further, a water shortage response planning work group will review procedures following each emergency or rationing stage to recommend any necessary improvements to the plan to The Stokes County Commissioners. The Stokes County Public Works Director is responsible for initiating all subsequent revisions.