



## WATER SHORTAGE RESPONSE PLAN

### City of Havelock, North Carolina

A water shortage shall be deemed to exist when the water supply available through the City of Havelock water treatment and distribution facilities becomes so reduced that the citizens cannot be supplied with potable water without substantially curtailing water demand.

#### I. AUTHORIZATION

It shall be the duty of the City Manager to report to the Mayor and the Board of Commissioners conditions that may lead to, or currently are creating, a water shortage. Upon receiving a report, and upon determining that water conservations are necessary to adequately address an imminent or current water shortage, the Mayor may impose by proclamation any stage of water conservation. Except in the case of an emergency where prior notice is impossible or impracticable, prior to the Mayor’s initial proclamation or subsequent additional proclamations, the City Manager shall notify the Board of Commissioners regarding the Mayor’s decision to impose a stage of water conservation. In response, the City Manager shall enact the following water shortage response provision whenever the trigger conditions outlined in Section IV are met. In his or her absence, the Public Services 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-mails, notices at city offices and buildings, notices in water bills, and on the City of Havelock website. Required water shortage measures will be communicated through the Havelock News, PSA announcements on the local cable stations, and on the City of Havelock website. Declaration of emergency water restrictions or water rationing will be notified on local radios, TV, and through the City of Havelock’s website.

#### III. LEVELS OF RESPONSE

Five levels of water response are outlined in the table below. The five levels are: voluntary reductions, mandatory reductions, mandatory reductions II, emergency reductions and water rationing. A detailed description of each are listed below in a table.

Stage	Response	Description
1	Voluntary Reductions	Water customers are asked 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	Water customers must abide by 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	Mandatory requirements become more restrictive in an effort to lessen the impacts of worsening conditions. Penalties apply for noncompliance.
4	Emergency Reductions	Water supply conditions are substantially depleted and pose an imminent threat to human health or environmental integrity. Penalties apply for noncompliance.
5	Water Rationing	Water supply conditions are substantially depleted and remaining supplies must be allocated to preserve human health and environmental integrity. Penalties apply for noncompliance.

***In Stage 1, Voluntary Reductions:*** All water customers will be asked to reduce their water use by 5% in comparison to their previous month’s water bill. Customer education will encourage water conservation and efficiency measures including; irrigating yards a maximum of once per week between 8PM and 8AM; preventing water waste, runoff and watering impervious surfaces; washing only full loads of laundry and full dishwashers; using spring loaded nozzles on garden hoses; identifying and repairing all water leaks.

***In Stage 2, Mandatory Reductions:*** 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: irrigating is limited to once every two weeks between 8PM and 8AM; No washing of any automobile or similar equipment, (with exception of commercial car washes), no washing any outside area including sidewalks, patios, or driveways; not to use water for any decorative fountain, pool or pond; not to use any water to fill swimming pools, and not to make any non-essential use of water for commercial or public use.

***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 irrigations must be reduced to the minimum amount necessary for plant survival. Additionally, in Stage 3, a drought surcharge of 1.5 times the per gallon billed water rate applies.

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

***In Stage 5, Water Rationing:*** The goal is to provide drinking water to protect public health (e.g. residences, residential health care 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 for distributing potable water will be announced according to the City of Havelock’s Emergency Response Plan. Drought surcharges increase to 2.5 times the per gallon billed water rate.

\*Note: All water use reductions are cumulative and are in comparison to the previous month’s water bill (or first full month water bill for a new account) based on the date of the Mayor’s most recent proclamation.

#### **IV. TRIGGERS**

Triggers for the City of Havelock are provided below. The examples provided outline appropriate triggers for the City of Havelock as a groundwater system respectively.

- A. The City of Havelock’s water source is groundwater from the Castle Haynes aquifer, with four wells pumping from it. The following measurements of well pumping times and well levels in relationship to pump intake levels trigger entry into corresponding water restriction stages.

Stage	Well Operating Conditions
1	20% reduction in seasonal normal distance from static water level and pump intake. Consecutive days pumping a well >11 hours.
2	40% reduction in seasonal normal distance from static water level and pump intake. Consecutive days pumping a well >12 hours
3	60% reduction in distance from static water level and pump intake. Consecutive days pumping a well >14 hours.
4	80% reduction in distance from static water level and pump intake. Consecutive days pumping a well >20 hours.
5	Water level at pump intake elevation.

**B. Level of two storage tanks as indication of shortage; restrictions.**

In addition to well operating conditions, if any two (2) of the City’s elevated storage tanks drop to (9) feet or less of storage, then Stage 2 water shortage shall be declared. In addition to the guidelines already in effect, it shall be unlawful to use water supplied by the city’s water system in specific manners. The following restriction should be followed:

1. Car washing - limit car washing to a minimum;
2. Watering - Limit lawn and garden watering to a level that is only necessary for plants to survive;
3. Do not wash down outside areas such as sidewalks, patios, parking lots, service bays or aprons, etc;
4. Do not leave faucets running while shaving or rinsing dishes;
5. Water shrubbery to the minimum required, reusing household water when possible;
6. Limit use of clothes washers and dishwashers and when used, operate fully loaded;
7. Use of showers for bathing, rather than bathtub and limit showers to no more than four (4) minutes;
8. Limit flushing toilets by multiple usages;
9. The use of disposable and biodegradable dishes is encouraged;
10. The use of flow-restrictive and water-saving devices;
11. Limit hours of operation of water-cooled air conditioners; and
12. All residents, businesses and institutions are requested to temporarily delay new landscape work until the water shortage has ended.

**C. Level of four storage tanks as indication of shortage; additional restrictions.**

The City will declare Stage 3 if these conditions exist and any three (3) storage tanks drop to (9) feet or less and well pumping is consecutive for fourteen hours. In addition to the restrictions for Stage 1 and Stage 2 water shortage conditions, the following restrictions shall also apply:

1. To add water into any pool;
2. Use water outside a structure for any other purpose other than an emergency involving a fire;
3. Fire protection to be maintained by drafting of ponds, rivers, etc., wherever possible;
4. The use of throwaway utensils and plates is encouraged and recommended at all eating establishments; and
5. To operate an evaporative air conditioner that recycles water, except during operating hours of business.

## **V. COMPLIANCE**

If the Mayor issues a declaration of a Stage 2 water shortage condition, then it shall be unlawful for any person to use or permit the use of water from the City's water system for any purpose restricted by this Water Shortage Response Plan until such time as the declaration of water shortage has been rescinded. In exercising the authority for declaring a water shortage condition, consideration shall be given to water storage levels and available sources of supply, available usable storage on hand, drawdown rates, the projected supply capability, outlook for precipitation, daily water use patterns and availability of water from other sources.

## **VI. LIFTING OF RESTRICTIONS IMPOSED DURING SHORTAGE**

- (a) As the determining triggers decrease in severity to acceptable levels, the City of Havelock will lift the Water Shortage Response Plan restrictions.
- (b) The cancellation process will be in the reverse order of the Water Shortage Response Plan implementation.

## **VII. PENALTIES**

The provisions of the water shortage response plan will be enforced by the City of Havelock utility department and police personnel.

- (a) Any violation of the provisions of this section shall constitute a misdemeanor, punishable upon conviction as provided by these regulations.

## **VIII. DISCONTINUANCE OF WATER SERVICE FOR VIOLATIONS**

Pursuant to the provisions of these regulations, service shall be temporarily discontinued for willful disregard of this section and a reconnect fee will be imposed before restoration of service. In the event of continued gross noncompliance with this section, the removal of the meter will be deemed proper and the service will be discontinued and all tap fees and deposits forfeited. Reconnection will only be made by payment of current due amounts, and a new tap fee and deposit shall be paid.

## **IX. PUBLIC COMMENT**

Customers will have multiple opportunities to provide comments on the provisions of this water shortage response plan. First, a draft plan will be available at City Hall for customers to view. A notice will be included in the water bills, notifying the customers of such. Also, the draft plan will be published on the City of Havelock's website for a minimum of 30 days prior to the adoption by the Havelock Board of Commissioners. Comments may be submitted via mail, email, online or during any public comment period of the Havelock Board of Commissioners. In addition, all subsequent revisions to the plan will go through the normal processes for approval at regular meetings of the Havelock Board of Commissioners.

## **X. VARIANCE PROTOCOLS**

Applications for water use variance requests are available from the City of Havelock Public Services Office. All applications must be submitted to the Public Services Office for review by the Public Services Director or his/her designee. A decision to approve or deny individual variance requests will be determined within two (2) 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.

## **XI. EFFECTIVENESS**

The effectiveness of the City of Havelock 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.

## **XII. 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 the emergency restrictions, and at a minimum of every five (5) years in conjunction with the updating of our Local Water Supply Plan. 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 City of Havelock's Board of Commissioners. The Public Services Director is responsible for initiating all subsequent revisions.