



## CITY OF ROCKY MOUNT WATER SHORTAGE RESPONSE PLAN

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### **Section 1. Purpose**

The purpose of this policy is to identify the measures and restrictions to be implemented when voluntary and mandatory water conservation conditions are declared.

### **Section 2. Scope**

The intent of this policy is to require all Departments and Customer Base to implement water conservation measures and operational strategies during periods when the City Manager has declared a Water Shortage Condition.

### **Section 3. Water Supply & Drought Advisory Board**

The City Manager shall maintain an advisory board comprised of the Assistant City Manager having oversight of the Department of Water Resources, the Director of Water Resources, the Director of Engineering, the Assistant City Engineer representing Water Resources, and the Department of Public Works Stormwater Manager for the purpose of advising on water supply management and conservation strategies. Meetings shall be scheduled by the Director of Water Resources no less than monthly and as often as deemed necessary when the City Manager has considered a water shortage condition to be imminent or existing.

The Advisory Board shall review information from the Tar River Reservoir Operations Model, the N.C. Drought Advisory Council, and water production data.

In the absence of the City Manager, the Assistant City Manager having oversight of the Department of Water Resources shall serve as the executive authority of the City.

### **Section 4. Standard Operational Procedures**

- a. Whenever a water shortage condition is imminent, the Water Resources Department shall move the Sunset Water Plant into the lead role of operation with the Tar River Reservoir Plant as its peaking and backup facility. Water Plant Operators shall be assigned in teams of two and Maintenance Staff shall employ 24 hour supervision.
- b. Notice will be served to the owner(s) of the Mill Dam that the Sunset Water Plant has been placed into the lead role and that the water level should not fall below three (3) feet of the Mill Dam overflow point. Two levels of coordination may be requested:
  1. A request for periodic run times of the generator turbines to assure that the water level does not fall to a point where the full production capacity of the Sunset Water Plant is compromised.

2. A request to eliminate run times for the generator turbines to assure full control of the water levels and to allow a high level of aeration to the discharge downstream.
- c. The Director of Water Resources shall make every effort possible to assure that the USGS Gauges in the Tar River are accurately calibrated on a monthly basis.
- d. Implementation of the Tar River Reservoir Model and the City of Rocky Mount Reservoir Report shall be activated in order to provide as much information as possible to the Office of the City Manager.
- e. Generally during Voluntary Conservation periods where conditions are apparently deteriorating, equipment shall be mobilized and connected at the Old Mill Road Quarry location for supplemental river flow pumping.
- f. The City shall be allowed to decrease the Tar River Reservoir Dam river release rate by the Quarry Pump rate into Maple Creek. Recovery of Quarry levels during any periodic rain event shall be deemed as a critical operation and considered a priority over supplemental pumping.
- g. The Technical Services Division shall employ a daily upstream and downstream regimen of sampling of the Tar River Regional WWTP when the average daily release of USGS 02082585 (NC Highway 97) falls below 50 cfs. Parameters for pH and dissolved oxygen shall be considered the minimum analysis.
- h. During low distribution flow periods, should bacterial analysis or the creation of nitrates due to biological breakdown of the chloramines become of concern, periodic "burns" of free chlorine may be employed to counteract the imbalance of water detention time. Periodic flushing of dead end lines may be necessary to ensure water quality. This procedure shall be at the combined recommendation of the Superintendents of Water Treatment and Technical Services.
- i. Water and Sewer Services shall aggressively repair leaks normally scheduled for next day repairs.
- j. In Stage II Mandatory restrictions, the Town of Tarboro may be requested to supply portions of Edgecombe County's water distribution system that are normally supplied by the City of Rocky Mount. This shall be done to lower production demands upon the City of Rocky Mount's treatment system. The City of Rocky Mount will hold Edgecombe County harmless from increased costs because of the change in water supplier.
- k. In Stage II Mandatory restrictions, the City of Wilson may be requested to supply portions of Nash County's water distribution system that are normally supplied by the City of Rocky Mount. This shall be done to lower production demands upon the City of Rocky Mount's treatment system. The County of Nash shall be held harmless by the City of Rocky Mount for any increase in rate structure.
- l. In Stage II Mandatory restrictions, the City of Wilson may be requested to provide additional water supply to the City of Rocky Mount through a water purchase agreement and the provisions which hereafter follow:
  1. The emergency water supply line to Wilson through Sharpsburg, Wilson County, and Elm City at a flow rate of 1.50 MGD. No Inter Basin Transfer shall be required for this supplemental water supply alone.
  2. The emergency water supply line to Wilson through Silver Lake, NC-97, and NC-58 at a flow rate of 2.0 MGD. No Inter Basin Transfer shall be required for this supplemental water supply alone.

3. Activation of both water supply lines as a supply from the City of Wilson to the City of Rocky Mount and/or portions of Nash County within the Tar Pamlico River Basin in a quantity exceeding 2.0 MGD will require an emergency Inter Basin Transfer Permit from the NC DWQ.
- m. At times when the City of Rocky Mount is receiving supplemental water supply from another water treatment source, consideration must be given to matching the disinfection properties of the receiving stream.
  - n. The City of Rocky Mount may also provide, if requested, an emergency water supply to the City of Wilson through the supply line denoted in Section 4(l-2) at a flow rate of 2.0 MGD.
  - o. The Director of Water Resources shall convey all Water Conservation Declarations of the City Manager to the Resale Customers of the Water System and encourage implementation of their Drought Management Plan relative to the restriction level.
  - p. The operation of the Tar River Regional Wastewater Treatment Facility is a critical component to Drought Management and every possible measure to assure a high quality effluent should be employed. The release of water from the Tar River Reservoir is directly related to the Wastewater Facility's 7Q10 assimilation ability. Currently documented to be sixty (60) cfs, it is defined to be the lowest stream flow average of seven consecutive days which would occur every ten years.

The Director of Water Resources shall keep the NC Drought Management Team informed of the City's actions with regard to supply and demand at least daily when a water shortage condition is in effect. There is no information more important than the volume of effluent flow, the analytical data of NPDES Permit discharge parameters, and the stream data obtained from Section 4(g).

## **Section 5. Consideration of Conservation Triggers**

- a. An Outlook Alert shall be defined as a long range forecast view of pending hydrological conditions based upon historical data. An Outlook Alert shall be invoked when the City Manager's Office has been advised by the Water Supply & Drought Advisory Board that the Tar River Reservoir Model indicates that there exists a 2½% probability that the Tar River Reservoir levels could fall below an elevation of 112' MSL within the time span of twenty (20) weeks.
- b. Voluntary Conservation I measures shall be declared from a period beginning on June 1st and ending on October 31st of each calendar year. This calendar based conservation declaration shall be in recognition of the seasonal experience of evaporation, evapotranspiration, and the upstream agricultural and industrial demands which place additional stress upon the water storage capability of the Tar River Reservoir.
- c. Voluntary Conservation II measures shall be declared when the City Manager determines that a Drought Condition may be imminent. This shall be in consideration of one or more the following:
  1. The Tar River Reservoir Model suggests that there is a 10% chance that the reservoir level will fall below 115.00' MSL within ten (10) weeks, provided that the existing level has sustained a level below 124.00' MSL.
  2. The Outlook Alert has been invoked.

3. Supplemental reserves (i.e. quarry levels) being in partial fill state.
  4. The NC Drought Council issuance of a pending drought condition.
  5. Other conditions which the City Manager shall deem to be critical.
- d. Mandatory I Conservation measures shall be declared when the City Manager determines that an advanced Drought Condition is evident. This shall be in consideration of one or more the following:
1. The Tar River Reservoir Model suggests that there is a 20% chance that the reservoir level will fall below 115.00' MSL within eight (8) weeks, provided that the existing level has sustained a level below 124.00' MSL for a period of fourteen (14) consecutive days.
  2. The Outlook Alert has been invoked.
  3. The City of Rocky Mount Reservoir Report supports the integrity of the trigger having been met.
  4. The NC Drought Council issuance of an existing drought condition.
  5. Other conditions which the City Manager shall deem to be critical.
- e. Mandatory II Conservation measures shall be declared when the City Manager determines that an extraordinary Drought Condition is evident. This shall be in consideration of one or more the following:
1. The Tar River Reservoir Model suggests that there is a 20% probability that the reservoir level will fall below 115.00' MSL within four (4) weeks, provided that the existing level has sustained a level below 120.00' MSL for a period of seven (7) consecutive days.
  2. The Outlook Alert has been invoked.
  3. The City of Rocky Mount Reservoir Report supports the integrity Outlook Alert having been invoked.
  4. The NC Drought Council issuance of an existing drought condition.
  5. Other conditions which the City Manager shall deem to be critical.
- f. Mandatory III Conservation measures shall be declared when the City Manager determines that measures beyond Mandatory II Conservation are necessary.
- g. Mandatory IV Conservation measures shall be declared when the City Manager determines that measures beyond Mandatory III Conservation are necessary.

## **Section 6. Voluntary Water Conservation I Measures**

During the calendar period beginning on June 1st and ending on October 31st, the City Manager shall declare that a period of seasonal hydrological change has come to bear upon the water storage and supply system and shall issue a water usage advisory notice which invokes Voluntary Water Conservation I Measures. The following measures shall be considered in the declaration:

- a. A customer notice shall be issued by the Director of Water Resources, through written, internet based, and televised media and urging the conservation of water during the summer and fall months.

- b. Release rates from the Tar River Reservoir as measured at USGS Station 02082506 and/or 02082585 shall be reduced from 80 to 70 cfs.

### **Section 7. Voluntary Water Conservation II Measures**

Whenever the City Manager declares a water shortage condition to be in effect and issues a water shortage advisory notice which invokes Voluntary Water Conservation II Measures, the following measures shall be considered in the declaration:

- a. The City of Rocky Mount Customer Base shall be served notice to employ a schedule of irrigation whereby the property west of US-301 Bypass shall be allowed to water at any given time on Thursdays and Sundays and the property east of US-301 Bypass shall be allowed to water at any given time on Wednesdays and Saturdays.
- b. The Parks and Recreation Department shall reduce the open times for general use of the Spray Grounds by half (if open time is normally eight hours, for example, it will be reduced to four hours). The Parks and Recreation Department shall discontinue accepting reservations for the morning hours and will cancel reservations that are more than one week old.
- c. The Water Resources Department shall discontinue the hydrant flushing program except for dead end mains and fire flow testing where there is a specific need.
- d. The Parks and Recreation Department will reduce sprinkler frequency in the parks and at other City owned property to twice each week in accordance with the provisions of the water conservation ordinance.
- e. The Transit Division shall reduce exterior bus washing frequency to "as needed" which shall be less frequently than daily.
- f. The Engineering Department shall freeze the release of water meters for use as sprinkler meters. Property owners may install sprinkler systems but sprinkler meters shall not be issued.
- g. All Departments shall reduce the frequency of vehicle washing.
- h. Release rates from the Tar River Reservoir as measured at USGS Station 02082506 and/or 02082585 shall remain at 70 cfs.

### **Section 8. Mandatory I Water Conservation Measures**

Whenever the City Manager declares a water shortage condition to be in effect and issues a Mandatory I water shortage condition notice, the following measures shall be considered in the declaration in addition to those associated with Voluntary Water Conservation:

- a. The City of Rocky Mount Customer Base shall limit irrigation of lawns, shrubbery, and gardens to two events per week from 6:00 PM to 9:00 PM employing the use of handheld device or container, a drip irrigation system, or automated sprinkler devices. The schedule shall be as follows:

Users located East of Wesleyan Blvd (US-301 Bypass) may irrigate on Wednesdays and Saturdays.

Users located West of Wesleyan Blvd (US-301 Bypass) may irrigate on Thursdays and Sundays.

- b. Governmental entities that have athletic fields for the purpose of sanctioned competition events shall be allowed to water in accordance with the provisions of Section 7(a); however, they shall be allowed to use their automated irrigation systems.
- c. Water Customers who employ private irrigation wells shall be encouraged to water in accordance with the provisions of Section 7(a).
- d. Commercial car wash locations shall be allowed to employ metered private wells as their non potable water source, if available.
- e. The washing of vehicles at locations other than commercial car washes shall be banned.
- f. Commercial vehicle sales locations shall limit their washing of vehicles to a level of receipt and final sales and leasing only. No rinsing or interim exterior cleaning shall be allowed.
- g. Restaurant establishments shall provide water with meals served only when the customer makes the request.
- h. Property owners who installed a grass sod less than thirty (30) days prior to the declaration of Mandatory I Water Conservation shall be allowed thirty days from placement to maintain their investment through irrigation. A permit must be obtained from the Director of Water Resources to allow this time frame of special irrigation.
- i. Owners of Plant Nurseries and/or Retail Establishments for the sale of plants may continue irrigation as needed to sustain its business; however, the focus upon drought tolerant inventory shall be recommended.
- j. Water Users of the City of Rocky Mount Customer Base, excluding customers who purchase water at a wholesale rate and excluding Nash General Hospital and private medical offices and clinics for public health reasons, whose average daily demand based upon the usage during the corresponding billing period of the most recent twelve (12) month period ending June 30, in which no water use restriction pursuant to this ordinance was in effect, exhibited a usage equal to or exceeding 10,000 gallons per day shall submit a 10% and 30% Conservation Reduction Plan to the Director of Water Resources in consideration of the possible implementation of Mandatory II and Mandatory III Conservation.
- k. Residents and property owners of the Tar River Reservoir who have water supply intake connections to the lake shall be allowed the same schedule and irrigation methodology as 7(a), unless a conveyance or deed agreement states otherwise.
- l. The Parks and Recreation Department shall discontinue Spray Ground operations entirely.
- m. The Parks and Recreation Department shall cut off the water supply to the distribution system within the City owned cemeteries.
- n. The Public Works Department shall suspend all street sweeping operations unless otherwise authorized by the Office of the City Manager.
- o. The Water Resources Department shall call in all hydrant meters that have been distributed and shall suspend the issuance of new hydrant meters.

- p. The Parks and Recreation Department shall discontinue all irrigation at parks and other City owned property.
- q. Departments shall wash vehicles at commercial car washes that recycle water by at least 50%, but on a reduced frequency, during Stage I Mandatory Conservation.
- r. Vehicles may be washed using the Reclaimed Waters of the Tar River Regional WWTP at the Sludge Loading Station, provided that a schedule is made thru the Superintendent of the Facility.
- s. The Parks and Recreation Department shall discontinue swimming pool operations entirely.
- t. Water necessary for the filling and testing of new water mains shall be approved and coordinated through the Director of Engineering.
- u. The Director of Engineering will close review on all well drilling permits within the City of Rocky Mount's authority unless otherwise instructed by the City Manager.
- v. Release rates from the Tar River Reservoir as measured at USGS Station 02082506 and/or 02082585 shall be reduced from 70 to 60 cfs.

**Section 9. Mandatory II Water Conservation Measures**

Whenever the City Manager declares a water shortage condition to be in effect and issues a Mandatory II water shortage condition notice, the following measures shall be considered in the declaration in addition to the provisions of Mandatory I Water Conservation:

- a. The City of Rocky Mount Customer Base shall limit irrigation of lawns, shrubbery, and gardens to one event per week from 5:00 PM to 8:00 PM employing the use of handheld device means only. The schedule shall be as follows:
  - Users located East of Wesleyan Blvd (US-301 Bypass) may irrigate on Saturdays.
  - Users located West of Wesleyan Blvd (US-301 Bypass) may irrigate on Sundays.
- b. Governmental entities that have athletic fields for the purpose of sanctioned competition events shall be allowed to water in accordance with the provisions of Section 8(a); however, they shall be allowed to use their automated irrigation systems.
- c. Water Customers who employ private irrigation wells shall be encouraged to water in accordance with the provisions of Section 8(a).
- d. Residents and property owners of the Tar River Reservoir who have water supply intake connections to the lake shall be allowed the same schedule and irrigation methodology as 8(a), unless a conveyance or deed agreement states otherwise.
- e. Commercial car washes that do not employ the use of a private well for non potable use, or do not recycle at least fifty percent (50%) of their water shall operate on Fridays, Saturdays and Sundays only. The benchmark set forth for normal demand in consideration of reduction measurement shall be 70 gallons per vehicle for an automated system and 25 gallons per vehicle for a manual system.
- f. The Customer Base who submitted a ten percent (10%) Conservation Reduction Plan as provided in Section 7(d) shall be required to implement the plan.

- g. Initial filling, drain and refilling of swimming or wading pools is prohibited. The makeup waters needed for normal operation of the installation shall be allowed.
- h. Operation of exterior fountains shall be banned.
- i. Pressure washing shall be allowed only for the abatement of unsanitary conditions or processes critical to building constructions. Examples of construction related applications would be an exterior wall scour prior to repainting or the final cleaning of brick masonry. An application approval shall be requested from the Director of Water Resources prior to the commencement of work.
- j. Release rates from the Tar River Reservoir as measured at USGS Station 02082506 and/or 02082585 shall be reduced to a minimum level approved by the State of North Carolina; however, a release rate equal to 200% of the average daily flow of USGS Station 02081747 (Louisburg, NC) shall not be exceeded.

**Section 10. Mandatory III Water Conservation Measures**

Whenever the City Manager declares a water shortage condition to be in effect and issues a Mandatory III water shortage condition notice, the following measures shall be considered in the declaration in addition to the provisions of Mandatory II Water Conservation:

- a. Commercial car wash facilities who do not employ the use of a non potable well, or have certified to the Director of Water Resources that they recycle at least fifty percent (50%) of their wash water, or any other commercial car wash facilities that demonstrates a fifty percent (50%) reduction in their average daily use of water, may be open for business on Saturdays and Sundays. Other car wash facilities shall not use water supplied by the City for washing vehicles.
- b. Watering lawns, grasses, shrubbery, trees, flowers, vegetable gardens, or any other outside surfaces by any means shall be prohibited. Plant nursery establishments shall reduce their water usage to a level of sustaining inventory plants only.
- c. Water Customers who employ private irrigation wells shall be encouraged to suspend all outside watering.
- d. Operating swimming or wading pool shall be banned.
- e. Testing or flushing of any water or sewer lines, unless necessary to ensure public health and safety, shall be banned.
- f. All non-residential customers who use ten-thousand (10,000) gallons or more of water per day who submitted water use reduction plans shall implement their thirty percent (30%) reduction plans and submit a fifty percent (50%) reduction plan in consideration of the possible implementation of Mandatory Stage IV.
- g. All non-residential customers, excluding customers who purchase water at a wholesale rate and excluding Nash General Hospital and private medical offices and clinics for public health reasons, who use between five-thousand (5,000) and ten-thousand (10,000) gallons of water per day shall submit plans to the Director of Water Resources demonstrating the ability to reduce water consumption by ten percent (10%) and thirty percent (30%) per day. The list of customers for these groups shall be based on the average usage during the corresponding billing period of the most

recent twelve (12) month period ending June 30, in which no water use restriction pursuant to this ordinance was in effect. Upon approval of plans, and as directed by the city manager, these customers shall reduce water consumption by ten percent (10%).

- h. Customers operating water-cooled chillers for air conditioning and other purposes shall be seriously encouraged to restrict use to during operating hours only, or as necessary to ensure public health and safety.
- i. Restaurants and other eating establishments and facilities, including schools and hospitals, shall be encouraged to use disposable utensils, dishes, and serving ware.
- j. All customers shall be advised to restrict their water usage to the minimum amounts necessary and implement temporary measures as necessary to conserve above and beyond existing measures.
- k. Release rates from the Tar River Reservoir as measured at USGS Station 02082506 and/or 02082585 shall be reduced to a minimum level approved by the State of North Carolina; however, a release rate equal to 150% of the average daily flow of USGS Station 02081747 (Louisburg, NC) shall not be exceeded.

#### **Section 11. Mandatory IV Water Conservation Measures**

Whenever the City Manager declares a water shortage condition to be in effect and issues a Mandatory III water shortage condition notice, the following measures shall be considered in the declaration in addition to the provisions of Mandatory III Water Conservation:

- a. Using water for any outside purpose, except as necessary to ensure public health and safety shall be banned.
- b. Operating any commercial car wash facility, or washing any cars, trucks, or other motorized equipment, by vehicle and automobile dealers, repair shops, rental agencies, or any other person shall be banned.
- c. Restaurants and other eating establishments and facilities, including schools and hospitals, shall be required to use disposable utensils, dishes, and serving ware.
- d. All customers shall be advised to restrict their water usage to the minimum amounts necessary to handle the critical functions of food preparation, drinking, and hygiene, and shall implement temporary measures as necessary to conserve above and beyond existing measures.
- e. All non-residential customers who submitted water use reduction plans or were required to submit water use reduction plans shall implement reductions up to the following amounts (as determined by the City Manager), depending on their average daily usage:
  - 1. For those customers who consume between five-thousand (5,000) and ten-thousand (10,000) gallons per day, reductions shall be up to thirty percent (30%).
  - 2. For those customers who consume ten-thousand (10,000) or more gallons per day, reductions shall be up to fifty percent (50%).

- f. The City Manager shall have the authority to utilize all necessary and available resources, including those of the city, counties, state, and federal governments, to locate and distribute water for household use at prearranged locations within affected areas of water shortage.
- g. Release rates from the Tar River Reservoir as measured at USGS Station 02082506 and/or 02082585 shall be reduced to a minimum level approved by the State of North Carolina; however, a release rate equal to the average daily flow of USGS Station 02081747 (Louisburg, NC) shall not be exceeded.

## **Section 12. Administrative Matters**

The components which comprise the City of Rocky Mount's Drought Management Implementation Plan shall be administered as follows:

- a. **Notification**: The Director of Water Resources shall notify the City of Rocky Mount's water customers of the invocation of any water conservation measure identified herein by preparing and releasing to the media information regarding the current state of the City's water supply and demand and the specific measures required to reduce consumption. The Director of Water Resources shall use other means of communication including the Public Information Channel (Channel 19), utility bill inserts, direct mail postcards, and other electronic media including the City of Rocky Mount's internet based web site.
- b. **Public Comment**: The City Council shall schedule a public hearing for the purpose of soliciting public comment whenever Article V of Chapter 2 of the City's Code of Ordinances regarding Water Conservation is proposed for amendment.
- c. **Variances**: Requests for variances in water conservation measures shall be directed to the Water Supply and Drought Advisory Board (the "Board"). Requests shall be submitted in writing to the Board. The Board shall consider the requests and respond within ten (10) days of receipt of a request.

Requests shall be evaluated after taking into consideration:

- the amount of water consumption the requesting party has reduced prior to submitting the request.
  - the amount of income the requesting party will lose as a result of the reduction in consumption.
  - whether full or part-time jobs will be lost as a result of the reduction in consumption.
  - the effect on public health and safety that may result from the reduction in consumption.
- d. **Effectiveness**: The Water Supply and Drought Advisory Board (the "Board") shall evaluate the effectiveness of imposing water use restrictions by monitoring daily the level of water production at the water treatment plants and maintaining a daily record thereof.

- e. **Revision:** The Water Supply and Drought Advisory Board (the "Board") shall review the Water Conservation ordinance and the Drought Management Implementation Plan (Policy IX.18) every five (5) years beginning July 1st, 2010 and after any period in which a mandatory water conservation order is imposed. The Board shall review the ordinance and policy whenever there is a significant change in circumstances such as the acquisition of a water storage quarry or a change in ownership of the Rocky Mount Mills. The Board shall recommend any amendments to the ordinance or the policy as it deems appropriate.

**Section 13. Fines Associated with a Mandatory Water Conservation Measures**

- a. Any person, firm, or corporation who violates any provision of this article shall be subject to the following civil penalties for violations under Stages I and II, and double said amounts under Stages III and IV:
  - 1. *Residential violations:*
    - i. First violation - Warning notice;
    - ii. Second violation - \$100.00 civil penalty;
    - iii. Third violation - \$250.00 civil penalty;
    - iv. Fourth violation - Termination of service until such time as the violator established to the reasonable satisfaction of the City Manager that such customer has taken appropriate steps to prevent any further violations; and
    - v. Fifth violation - Termination of service until the end of the water shortage condition.
  - 2. *Non-residential violations:*
    - i. First violation - Warning notice;
    - ii. Second violation - \$250.00 civil penalty;
    - iii. Third violation - \$500.00 civil penalty;
    - iv. Fourth violation - Termination of service until such time as the violator establishes to the reasonable satisfaction of the City Manager that such customer has taken appropriate steps to prevent any further violations of this article; and
    - v. Fifth violation - Termination of service until the end of the water shortage condition.
  - 3. *High volume water users required to operate under a ten percent (10%) or more per day reduction plan - violations:*
    - i. First violation - Warning notice;
    - ii. Second violation - \$1,000.00 civil penalty; and
    - iii. Third and subsequent violations - \$5,000.00 civil penalty.