



City of Durham

# Water Shortage Response Plan

Department of Water Management  
May 29, 2009

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# City of Durham

## Water Shortage Response Plan

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Prepared by: Vicki Westbrook, Deputy Director,  
Reginald Hicks, Regulatory Affairs Superintendent,  
and James Lim, Conservation Coordinator

Purpose: To establish measures and procedures for reducing potable water use during times of water shortage for the City of Durham.

### *1. Background and Overview*

The City of Durham provides potable drinking water to customers throughout the City and to portions of Durham County, including the majority of Research Triangle Park (see water system map, Appendix A). The customer base is approximately 49% residential and 48% commercial, industrial and institutional, and 3% dedicated irrigation. In 1993, Durham's Conservation Program was established. The Program focuses on working with water customers to reduce water demand using a variety of mechanisms. Voluntary water efficiency is emphasized through educational opportunities such as presentations to civic and school groups and at large community events and through incentives such as toilet rebates and showerhead exchanges. Additionally, a tiered rate structure is in place for single family residential customers to provide a more significant financial incentive to use water efficiently.

All conservation and efficiency measures are aimed at reducing water usage, decreasing the demand on the water treatment plants and extending the life of the City's water supplies. The regulatory component of the program consists of two divisions of a water efficiency ordinance. One division of the ordinance addresses year-round efficiency requirements, such as an irrigation schedule, rain or moisture sensor ordinance, and the prohibition of certain types of water waste. In the event of a drought, water shortage or other emergency, conservation staff members implement and enforce the measures listed in Division Three of the City's Water Efficiency Ordinance (Appendix B).

The purpose of the Water Shortage Response Plan (WSRP) is to address short-term water shortages, which may be caused by drought, extreme service disruptions, or facility operations. This plan directs the implementation of the City's Water Efficiency Ordinance during a water shortage. The City of Durham has been required by the State of North Carolina to have an approved WSRP under NC General Statue 143-355 (I). Rules governing Water Use During Drought and Other Water Emergencies (15A NCAC 02E. 0607) specify items that must be included in this plan. This WSRP has been developed in accordance with the Water Shortage Response Plan Guidelines provided by the Division of Water Resources (January 2009).

## 2. Authorization

The City of Durham's City Manager, and in his or her absence the Deputy City Manager, shall be authorized to declare a Water Shortage for the City of Durham, NC, and to enact water shortage response provisions of Article VI of the Durham City Code when the conditions outlined in this plan occur. References to the City Manger in this plan refer to the designated Acting City Manager or Deputy City Manager in the City Manager's absence.

### Primary Contact

City Manager  
City Manager's Office  
101 City Hall Plaza  
Durham, NC 27701

Phone: (919)560-4222

Fax: (919)560-4949

### Secondary Contact

Deputy City Manager  
City Manager's Office  
101 City Hall Plaza  
Durham, NC 27701

Phone: (919)560-4222

Fax: (919)560-4949

## 3. Notification

Once a Water Shortage has been declared, and whenever the Water Shortage Response Stage (defined in Section 4 of the WSRP) changes, the following notifications will be made:

- a. The City Manager (or designee) shall notify Durham City Council as soon as possible following the imposition of any Water Shortage Response stage, if not prior to taking such action.
- b. The Director of Water Management (or designee) shall notify neighboring municipal contract water recipients and City department heads.
- c. The Office of Public Affairs shall take lead responsibility for contacting media, which will include television, radio, print, and electronic sources. Contact information for the Department of Water Management will be provided for additional information.
- d. The City of Durham's website will be updated to reflect current Water Shortage status and related restrictions on use.
- e. The City's Government TV station will provide current information regarding the current Water Shortage status and related restrictions on use via bulletin boards and other programming opportunities.
- f. When time permits, telephone notifications to Durham residents will be made using the *Code Red Telephone Notification System*. Coordination of this effort will be made between the Water Management staff and 9-1-1 Emergency Communications.

- g. The Director of Water Management (or designee) will issue electronic notification to business and community networks (e.g. list-serves).
- h. The City of Durham will directly notify all customers of water restrictions via the water bill when a water shortage is declared and when a more restrictive stage is implemented.
- i. Conservation program staff will notify irrigation contractors included in an opt-in notification list maintained by Conservation program staff.

Additional public education efforts may also be made via public service announcements, additional news releases, school and community presentations, and expanded web campaigns and social networking sites. These additional efforts may include information on ways to voluntarily reduce water use beyond those required by the mandatory restrictions.

## 4. Levels of Response

The following levels of response (stages) shall be required when a Water Shortage is declared. The implementation of stages shall be based on the severity of the water shortage, as determined by available water supply and current water demand. A Water Supply Model will be used to help assess conditions and evaluate water supply and city-wide consumption.

The City of Durham operates under a year-round efficiency ordinance, requiring basic outdoor efficiency requirements. These requirements are addressed in Division Two of the City's Water Efficiency Ordinance.

The following stages are implemented during a declared water shortage, based on the triggers described in section 5 and are excerpted from Division Three of the City of Durham Water Efficiency Ordinance (Appendix B). Table 4.1 summarizes the major components required by each stage.

### Stage 1 Water Shortage

Upon declaration of a stage 1 water shortage, users shall comply with the following measures:

1. *Spray Irrigation.* Users shall not operate spray irrigation systems more than one day per week as specified by the director and based on the location address. Irrigation may not occur between 10:00 a.m. and 6:00 p.m.
2. *Irrigation Exemptions.* The restrictions in (1) above shall not apply to the following:
  - a. Properties using drip irrigation, hand watering, or tree or shrub watering bags;
  - b. Watering of containerized plants and commercial plant stock in trade for sale;
  - c. Irrigation for a maximum of one day necessary when treatment with an application of chemicals requires immediate watering to preserve an existing landscape or to establish a new landscape, provided that such irrigation does not occur between the hours of 10:00 a.m. and 6:00 p.m.;
  - d. Visually supervised operation of irrigation systems for short periods of time to check system condition and effectiveness;
  - e. Recreational fields, golf courses, and botanical sites operated in compliance with an approved Water Conservation Plan;

- f. New landscape exemptions granted *prior* to the declaration of a water shortage. Such exemptions will continue to be honored until the original expiration date of the exemption. No exemptions shall be issued while a water shortage declaration is in effect.
  - g. Properties on which water use is in compliance with an approved Water Conservation Plan.
3. **Additional Requirements.** In addition to the above restrictions, no User shall:
    - a. Add water to any decorative fountain, pool or pond except where the water is recycled.
    - b. Serve water in a restaurant or similar establishment except upon request.
    - c. Add water to wading pools or swimming pools except to the extent necessary to replenish losses due to evaporation or spillage, and maintain operation of chemical feed equipment.
  4. **Water Consumption Reduction Goal.** Users of more than 100,000 gallons a day shall attempt to reduce water consumption by 15% and shall document such efforts. The goal for Stage 1 for Water Conservation Plans submitted by large users and other special users shall be to reduce consumption by 15%.

### Stage 2 Water Shortage

Upon declaration of a stage 2 water shortage, users shall continue to comply with Stage 1 measures, and the following additional Stage 2 measures, which supplant Stage 1 requirements where they are more restrictive:

1. **Spray Irrigation.** Spray irrigation of landscapes with city water shall be prohibited.
2. **Irrigation Exemptions.** The restrictions in (1) above shall not apply to the following:
  - a. Properties using drip irrigation, hand watering, or tree or shrub watering bags;
  - b. Watering of containerized plants and commercial plant stock in trade for sale;
  - c. Irrigation for a maximum of one day necessary when treatment with an application of chemicals requires immediate watering to preserve an existing landscape, provided that such irrigation does not occur between the hours of 10:00 a.m. and 6:00 p.m.;
  - d. Visually supervised operation of irrigation systems for short periods of time to check system condition and effectiveness;
  - e. Recreational fields, golf courses, and botanical sites operated in compliance with an approved Water Conservation Plan;
  - f. New landscape exemptions granted *prior* to the declaration of a water shortage. Such exemptions will continue to be honored until the original expiration date of the exemption. No exemptions shall be issued while a water shortage declaration is in effect.
3. **Vehicle Washing.** Users shall not use city water to wash vehicles, except at a commercial or institutional car washes. Commercial or institutional car washes shall use no more than an average of 40 gallons of city water per vehicle washed.
4. **Surface Washing.** No city water shall be used for cleaning or washing exterior building surfaces, decks, or paved areas, such as sidewalks, driveways, roadways and parking lots. This restriction shall NOT apply to the cleaning of exterior surfaces or decks prior to painting or re-painting, or for any *surface where a health or safety issue arises*.
5. **Water Consumption Reduction Goal.** Users of more than 100,000 gallons a day shall attempt to reduce water consumption by 30% from pre-declaration consumption and shall document such efforts. The goal for Stage 2 for Water Conservation Plans submitted by large users and other special users shall be to reduce consumption by 30%.

### Stage 3 Water Shortage

Upon declaration of a stage 3 water shortage, users shall continue to comply with Stage 1 and 2 measures, and the following additional Stage 3 measures, which supplant Stage 1 and 2 requirements where they are more restrictive:

1. No city water shall be used for the purpose of irrigation except for watering of containerized plants and commercial plant stock in trade for sale.
2. No city water shall be used for any other outdoor purpose, except for emergency fire suppression or other activities necessary to maintain public health, safety, or welfare.
3. The use of city water for heating and/or cooling purposes shall be reduced in all but the most essential facilities to the extent practical in consideration of the indoor air quality standards, weather conditions, and health and safety requirements.
4. No city water shall be used to wash any motor vehicle except at commercial or institutional car washes where an average of 28 gallons of potable water or less are used per vehicle.
5. *Water Consumption Reduction Goal.* Users of more than 100,000 gallons a day shall attempt to reduce water consumption by 50% from pre-declaration consumption and shall document such efforts. The goal for Stage 3 for Water Conservation Plans submitted by large users and other special users shall be to reduce consumption by 50%.

Notwithstanding the restrictions specified in (c), the protection of public health, safety, and welfare may, under special circumstances, require the use of limited amounts of city water. Such uses shall be permitted during declared water shortages, provided that other practical alternatives are not available and water is used in the least amount practical.

#### ***Stage 4 Water Emergency***

Upon declaration of a water supply emergency, users shall continue to comply with Stage 1, 2 and 3 measures, and the following additional Stage 4 measures, which supplant Stage 1, 2 and 3 requirements where they are more restrictive:

1. All outdoor uses of water are prohibited, except for emergency fire suppression or other activities necessary to maintain public health, safety, or welfare.
2. The use of water for washing or cleaning mobile equipment including automobiles, trucks, boats and fleet vehicles is prohibited.
3. No user shall add water to decorative fountains, pools, or ponds.
4. No user shall add water to wading pools or swimming pools, including hot tubs, spas and whirlpool tubs except for health and rehabilitative purposes as prescribed by a medical doctor or administered by a medical facility.
5. All other uses of water will be limited to those necessary to meet minimum health and safety needs of the customers as determined by the city manager upon consultation with the director in light of conditions present. Water service may be discontinued or reduced to designated users or in designated portions of the city service area in order to preserve the availability of water for essential public health and safety requirements, such as fire protection, hospitals, clinics and other critical community needs.
6. The city manager may enact additional measures aimed at reducing water use for any users as conditions warrant. Users shall comply with any directives issued by the city manager to this effect.

**Table 4.1: Water shortage response stage summary for major components.**

Activity	Year-Round Efficiency Requirements	Water Shortage Response Stages			
		Stage 1	Stage 2	Stage 3	Stage 4
<b>Spray Irrigation</b>	Three Days per Week	One Day Per Week	Not Allowed	Not Allowed	Not Allowed
<b>Hand Watering, Drip irrigation, Subsurface irrigation</b>	Allowed	Allowed	Allowed	Not Allowed	Not Allowed
<b>New Landscape Exemption License</b>	Allowed	No New Licenses	Not Allowed	Not Allowed	Not Allowed
<b>Vehicle Washing</b>	Allowed	Allowed	Limited to Efficient Commercial Facilities	Limited to Efficient Commercial Facilities	Not Allowed
<b>Surface Washing</b>	Allowed	Allowed	Allowed Prior to Painting*	Not Allowed*	Not Allowed*

\*May be allowed to protect public health and safety.

***Additional Drought-Related Mandatory Construction Restrictions***

Upon receiving a report from the city manager that additional water conservation measures are necessary to adequately address a water shortage, the city council may declare by resolution that an existing water shortage requires imposition of stage 2, 3, or 4 mandatory drought-related construction restrictions. Such action shall be taken separately from the imposition of water conservation stages described above. The council’s resolution may declare one or more stages of mandatory construction restrictions, and may, additionally authorize the city manager to declare subsequent stages of construction restrictions. The city council may modify or terminate any stage of mandatory drought-related constructions restrictions upon determining that the restrictions are no longer necessary, or by resolution may authorize the manager to do the same. See Appendix B for a complete list of the additional drought-related mandatory construction restrictions. Please note that the imposition or rescission of these measures does NOT affect the mandatory measures or triggers established for stages 1, 2, 3 and 4 above.

***5. Water Shortage Response Triggers***

Water shortage response triggers define the points at which each stage of mandatory restrictions will be implemented. Triggers are based on the ability to meet the demands for water by City of Durham water customers and are influenced by a set of factors that directly relate the City’s water system. These include but are not limited to lake elevations, treatment capacity, current demand, water supply model results, raw water intake structures and supply lines, elevated storage tanks, the availability of water from neighboring systems and the distribution system. Department of Water Management staff

monitors the status of these factors to determine if a water shortage condition is developing or exists and advises the City Manager accordingly.

The City of Durham utilizes combined usable lake storage volume as the key trigger to initiate movement to more or less restrictive levels of potable water use. Table 5.1 below describes the triggers for increasing stages of Water Shortage Response. The percentages included in the table vary based on the availability of water from neighboring communities and the time of year.

**Table 5.1: Water Shortage Response Triggers, based on the percentage of combined remaining storage in Durham's primary lakes.**

Stage	Imposition Trigger Volumes: Percent of Lake Storage Remaining			
	May - October		November – April	
	Additional Sources Available	No Additional Sources Available	Additional Sources Available	No Additional Sources Available
Move to Stage 1	75%	80%	40%	45%
Move to Stage 2	55%	60%	35%	40%
Move to Stage 3	40%	45%	30%	35%
Move to Stage 4 (Emergency)	30%	35%	20%	25%

Rescission of stages can occur when lake volumes increase and remain above specific storage percentages for at least 7 days. Table 5.2 describes the triggers for moving to decreasing levels of restrictions as a water shortage becomes less severe.

**Table 5.2: Triggers for rescinding Water Shortage Stages, based on the percentage of combined remaining storage in Durham's primary lakes.**

Stage	Rescission Trigger Volumes: Percent of Lake Storage Remaining	
	May - October	November – April
Return to Stage 3	45% for at least 7 days	35% for at least 7 days
Return to Stage 2	60% for at least 7 days	40% for at least 7 days
Return to Stage 1	80% for at least 7 days	45% for at least 7 days
Return to Normal	95% for at least 7 days	95% for at least 7 days

The City Manager may, based on other factors and upon advisement from the Department of Water Management, declare a Water Shortage and implement Stages *before* a trigger is reached, sooner than indicated in Table 5.1. Likewise, the Manager may delay rescinding a Stage more slowly than indicated by Table 5.2, even when conditions are improving. Further, Stage escalation and/or regression may not always occur in a sequential fashion, particularly when conditions change rapidly or without warning.

Other factors that may be considered include but are not limited to:

- Drought Advisory issued by NC Drought Management Advisory Council
- Water supply status of neighboring water utilities

- A temporary or emergency system occurrence that creates a condition such that demand could exceed supply
- Water quality concerns from accidental or intentional contamination of the water system
- Inability to distribute water through part of the water system

## 6. Enforcement

Compliance with the requirements of the Water Shortage Response Plan is required by the Water Efficiency Ordinance (Chapter 70, Article VI of the Durham City Code, Appendix B). Civil penalties are associated with violations and are specified in the Water Efficiency Ordinance as well.

The City employs a Water Conservation Program Field Assistant who regularly enforces the year-round water efficiency ordinance. During a declared water shortage, this staff member will be the primary enforcement agent for the City, and will continue to enforce all outdoor water use restrictions. Additional staff members will be deployed as needed to achieve the desired system-wide compliance.

Compliance with indoor water use reductions will be evaluated using billing usage data. Commercial, Industrial, and institutional customers that use over 100,000 gallons of water per day are required to have a Water Conservation Plan, and shall implement phases of their plan as warranted by current conditions. Consumption by these customers shall be tracked via billing data.

City staff will audit/monitor water use more often as conditions warrant and/or if expected overall system water use does not decrease as needed.

Citizens will be able to report witnessed violations to the Department of Water Management by calling Durham One Call, via email to [savewater@durhamnc.gov](mailto:savewater@durhamnc.gov) or by using an online web form. Conservation staff will make a concerted effort to follow-up with each received report in an appropriate manner.

## 7. Variance Protocols

Administrative variances of the restrictions in the Water Shortage Response Division of the Water Efficiency Ordinance may be issued by the Director of Water Management provided that the general intent of the Water Shortage response measures is met, compliance is proven to cause practical difficulties and unnecessary hardship, and all reasonable options for abatement through modified water management have been exhausted. The criteria to determine hardship shall include but not be limited to the level of capital outlay and time required to achieve compliance.

Variances may be issued for a time-limited period and shall stipulate both short-term corrective measures and a schedule for completion of long-term corrective measures. Variances may be renewed for good cause shown.

A decision to approve or deny variance requests will be based upon consideration of criteria including but not limited to: impact on water demand, expected duration of water shortage, alternative source options, social and economic importance, purpose of water use, and the prevention of structural damage.

## 8. Measure of Effectiveness

The effectiveness of the City of Durham’s Water Shortage Response measures will be determined by tracking system-wide consumption. Comparisons will be made to consumption values prior to the imposition of any water shortage response stages as well as historical seasonal data. Variables other than water use restrictions that may impact reduction goals will be considered. Some of these include frequency of plan activation, total number of violation citations, desired reductions attained, and consumer response. Table 8.1 indicates the potential expected reduction from normal use for each stage, depending on the time of year.

**Table 8.1: Anticipated Water Use Reductions as a result of Water Shortage Response Stage Implementation.**

Water Shortage Response Stage	Reduction Goals, Relative to Normal Use	
	May – October	November - April
Stage 1	15%	7%
Stage 2	30%	12%
Stage 3	40%	17%
Stage 4 (Emergency)	55%	30%

## 9. Public Comment

A public review of this Water Shortage Response Plan is required prior to its adoption. This plan has been made available for public comment for a minimum of 30 days through the following venues:

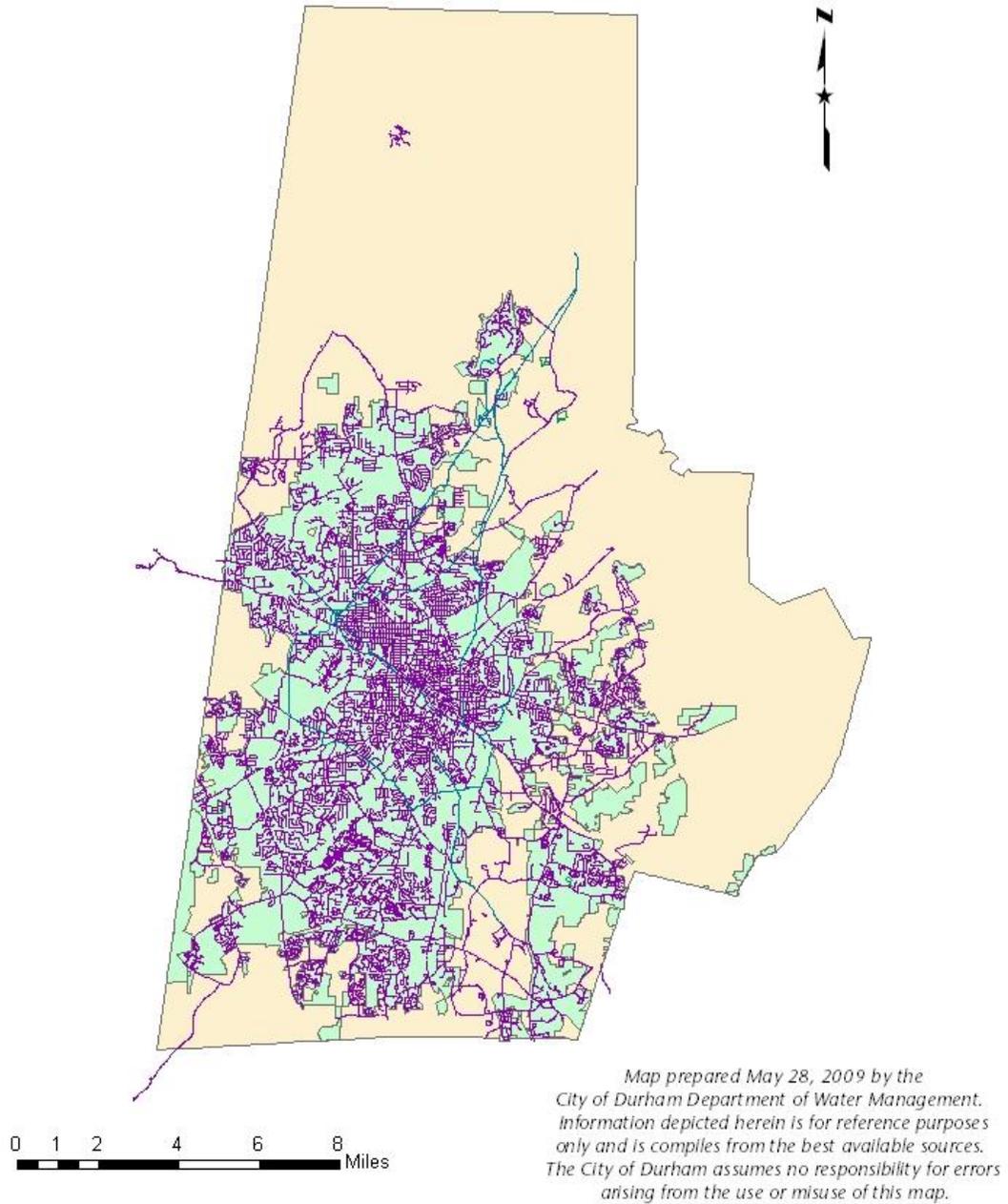
- The draft WSRP is available online – comments may be submitted via email or online form. Announcement of this availability has been made to community and neighborhood list-serves, an opt-in email distribution list for irrigation and plumbing contractors, business email distribution lists, social networking sites and through general news release to the media.
- The draft WSRP has been presented to various members of the business community with comments accepted during the presentations.
- The draft WSRP has been presented at a meeting of the Durham City Council, which offers a forum for public comment.

## 10. Plan Revision

The WSRP will be reviewed if there are new circumstances affecting water supply and/or demand, and following a Water Shortage declaration due to drought. If indicated by those reviews, or at a minimum of every five years as required by the provisions of GS 143-355 (I), the WSRP shall be updated. An opportunity for public comment will be provided for any update of the WSRP that specifically relates to the requirements imposed on the public before presentation to the City Council for approval. The City of Durham Department of Water Management Director (or designee) is responsible for initiating all WSRP updates.

## Appendix A: Water System Map

### City of Durham Water System Map



## *Appendix B: City of Durham Water Efficiency Ordinance*

### **Article VI**

#### **Water Shortage Response Requirements**

##### **Sec. XX-XXX. Purpose and intent.**

It is the purpose and intent of this division to assure that available water resources are put to reasonable beneficial uses to avoid depletion of the city water supply during a water shortage. This article shall be liberally construed to effectuate such purpose and intent.

##### **Sec. XX-XXX. Definitions.**

*Botanical Site* means a site owned or leased by a public or not-for-profit entity in which a variety of plants are grown for scientific purposes or for education of the public.

*City Water* means potable water supplied through pipes by the City to Users.

*Director* means the Director of the City of Durham's Department of Water Management or his/her designee.

*Drip Irrigation* means the application of City water to the ground through drip emitter devices emitting drops or small streams at low pressure, volume, and velocity near or at ground level.

*Even-numbered properties* mean properties with addresses that end in even-numbered digits, and other properties so designated by the Director.

*Irrigate or Irrigation* means apply, or the application of, City water to outdoor soil or landscape surfaces.

*Irrigation system* means a device or combination of devices having a hose, pipe, or other conduit which transmits City water to outdoor soil or landscape surfaces.

*Odd-numbered properties* mean properties with addresses that end in odd-numbered digits, and other properties so designated by the Director.

*Recreational Field* means an athletic or recreational field that is not located at a residence.

*User* means any Person who is an owner or occupant of real property, whether inside or outside of the City, to which water is supplied by the City, or who uses water supplied by the City, or who is billed for water supplied by the City, or who is responsible for or otherwise has the right or permission to utilize water supplied by the City.

*Water Conservation Plan* means the plan submitted to the Director by large users, botanical sites, recreational fields and other special water users specifying particular conservation measures, including irrigation measures, to be employed during stages of water shortage.

*Water Shortage Response Plan* refers to a written plan required under State law that is approved by the Director and the Manager for submission to the State, and which establishes,

among other things, various levels of response to water shortage and the triggers for such levels.

**Sec. XX-XXX. Response to water shortage.**

The Director shall report to the City Manager conditions adversely affecting the city water supply that trigger mandatory restrictions prescribed by the City's Water Shortage Response Plan. Upon receiving such report, the City Manager will declare a water shortage to exist and will enact the appropriate stage of water restriction as outlined in the City's Water Shortage Response Plan. The restrictions required under each stage shall be as set forth in this ordinance. City Manager or the City Council may terminate any stage of water restriction once the triggers for rescission prescribed by the Water Shortage Response Plan occur. The imposition of drought-related mandatory construction restrictions shall be in accordance with section 70-556.

**Sec. XX-XXX. Water Conservation Plan Requirements for Large Users and Others.**

All Users of more than 100,000 gallons per day, or that own Botanical Sites, or Recreational Fields, or Golf Courses, and other Users whose water use is determined by the Director to be unique or amenable to individually determined controls shall submit a Water Conservation Plan to the Director within six months of adoption of this ordinance. The Plan must specify the conservation measures to be used by the site or sites of the entity during successive stages of a declared water shortage, which measures shall be targeted to achieve the general percentage reductions for each stage as set forth in this Ordinance. For Botanical Sites and Recreational Fields, the Plan must specify the irrigation operating modes to be employed at the site year-round and during successive stages of a declared water shortage. The Director may approve, disapprove, or require modifications to the Special User Plan. An approved plan may vary the requirements of this Ordinance. The User shall operate in accordance with the approved Plan and shall keep records as required to document compliance with the Plan. Users that do not have an approved Plan are subject to all of the requirements of this Ordinance.

**Sec. XX-XXX. Mandatory Water Restriction Stages.**

6. *Stage 1 Water Shortage.* Upon declaration of a stage 1 water shortage, Users shall comply with the following measures:
  - a. *Spray Irrigation.* Users shall not operate spray irrigation systems more than one day per week as specified by the director and based on the location address. Irrigation may not occur between 10:00 a.m. and 6:00 p.m.
  - b. *Irrigation Exemptions.* The restrictions in (1) above shall not apply to the following:
    - i. Properties using drip irrigation, hand watering, or tree or shrub watering bags;
    - ii. Watering of containerized plants and commercial plant stock in trade for sale;
    - iii. Irrigation for a maximum of one day necessary when treatment with an application of chemicals requires immediate watering to preserve an existing landscape or to establish a new landscape, provided that such irrigation does not occur between the hours of 10:00 a.m. and 6:00 p.m.;
    - iv. Visually supervised operation of irrigation systems for short periods of time to check system condition and effectiveness;

- v. Recreational fields, golf courses, and botanical sites operated in compliance with an approved Water Conservation Plan;
  - vi. New landscape exemptions granted *prior* to the declaration of a water shortage. Such exemptions will continue to be honored until the original expiration date of the exemption. No exemptions shall be issued while a water shortage declaration is in effect.
  - vii. Properties on which water use is in compliance with an approved Water Conservation Plan.
- c. *Additional Requirements.* In addition to the above restrictions, no User shall:
- i. Add water to any decorative fountain, pool or pond except where the water is recycled.
  - ii. Serve water in a restaurant or similar establishment except upon request.
  - iii. Add water to wading pools or swimming pools except to the extent necessary to replenish losses due to evaporation or spillage, and maintain operation of chemical feed equipment.
- d. *Water Consumption Reduction Goal.* Users of more than 100,000 gallons a day shall attempt to reduce water consumption by 15% and shall document such efforts. The goal for Stage 1 for Water Conservation Plans submitted by large users and other special users shall be to reduce consumption by 15%.
7. *Stage 2 Water Shortage.* Upon declaration of a stage 2 water shortage, Users shall continue to comply with Stage 1 measures, and the following additional Stage 2 measures, which supplant Stage 1 requirements where they are more restrictive:
- a. *Spray Irrigation.* Spray irrigation of landscapes with city water shall be prohibited.
  - b. *Irrigation Exemptions.* The restrictions in (1) above shall not apply to the following:
    - i. Properties using drip irrigation, hand watering, or tree or shrub watering bags;
    - ii. Watering of containerized plants and commercial plant stock in trade for sale;
    - iii. Irrigation for a maximum of one day necessary when treatment with an application of chemicals requires immediate watering to preserve an existing landscape, provided that such irrigation does not occur between the hours of 10:00 a.m. and 6:00 p.m.;
    - iv. Visually supervised operation of irrigation systems for short periods of time to check system condition and effectiveness;
    - v. Recreational fields, golf courses, and botanical sites operated in compliance with an approved Water Conservation Plan;
    - vi. New landscape exemptions granted *prior* to the declaration of a water shortage. Such exemptions will continue to be honored until the original expiration date of the exemption. No exemptions shall be issued while a water shortage declaration is in effect.
- c. *Vehicle Washing.* Users shall not use city water to wash vehicles, except at a commercial or institutional car washes. Commercial or institutional car washes shall use no more than an average of 40 gallons of city water per vehicle washed.
- Surface Washing.* No city water shall be used for cleaning or washing exterior building surfaces, decks, or paved areas, such as sidewalks, driveways, roadways

and parking lots. This restriction shall NOT apply to the cleaning of exterior surfaces or decks prior to painting or re-painting, or for any *surface where a* health or safety issue arises.

- d. *Water Consumption Reduction Goal.* Users of more than 100,000 gallons a day shall attempt to reduce water consumption by 30% from pre-declaration consumption and shall document such efforts. The goal for Stage 2 for Water Conservation Plans submitted by large users and other special users shall be to reduce consumption by 30%.

8. *Stage 3 Water Shortage.* Upon declaration of a stage 3 water shortage, Users shall continue to comply with Stage 1 and 2 measures, and the following additional Stage 3 measures, which supplant Stage 1 and 2 requirements where they are more restrictive:

- a. No city water shall be used for the purpose of irrigation except for watering of containerized plants and commercial plant stock in trade for sale.
- b. No city water shall be used for any other outdoor purpose, except for emergency fire suppression or other activities necessary to maintain public health, safety, or welfare.
- c. The use of city water for heating and/or cooling purposes shall be reduced in all but the most essential facilities to the extent practical in consideration of the indoor air quality standards, weather conditions, and health and safety requirements.
- d. No city water shall be used to wash any motor vehicle except at commercial or institutional car washes where an average of 28 gallons of potable water or less are used per vehicle.
- e. *Water Consumption Reduction Goal.* Users of more than 100,000 gallons a day shall attempt to reduce water consumption by 50% from pre-declaration consumption and shall document such efforts. The goal for Stage 3 for Water Conservation Plans submitted by large users and other special users shall be to reduce consumption by 50%.

Notwithstanding the restrictions specified in (c), the protection of public health, safety, and welfare may, under special circumstances, require the use of limited amounts of city water. Such uses shall be permitted during declared water shortages, provided that other practical alternatives are not available and water is used in the least amount practical.

9. *Stage 4 Water Supply Emergency.* Upon declaration of a water supply emergency, users shall continue to comply with Stage 1, 2 and 3 measures, and the following additional Stage 4 measures, which supplant Stage 1, 2 and 3 requirements where they are more restrictive:

- a. All outdoor uses of water are prohibited, except for emergency fire suppression or other activities necessary to maintain public health, safety, or welfare.
- b. The use of water for washing or cleaning mobile equipment including automobiles, trucks, boats and fleet vehicles is prohibited.
- c. No user shall add water to decorative fountains, pools, or ponds.
- d. No user shall add water to wading pools or swimming pools, including hot tubs, spas and whirlpool tubs except for health and rehabilitative purposes as prescribed by a medical doctor or administered by a medical facility.

- e. All other uses of water will be limited to those necessary to meet minimum health and safety needs of the customers as determined by the city manager upon consultation with the director in light of conditions present. Water service may be discontinued or reduced to designated users or in designated portions of the city service area in order to preserve the availability of water for essential public health and safety requirements, such as fire protection, hospitals, clinics and other critical community needs.
- f. The city manager may enact additional measures aimed at reducing water use for any users as conditions warrant. Users shall comply with any directives issued by the city manager to this effect.

**Sec. XX-XXX. Additional drought-related mandatory construction restrictions.**

Upon receiving a report from the city manager that additional water conservation measures are necessary to adequately address a water shortage, the city council may declare by resolution that an existing water shortage requires imposition of stage 2, 3, or 4 mandatory drought-related construction restrictions. Such action shall be taken separately from the imposition of water conservation stages described in the previous section of this division. The council's resolution may declare one or more stages of mandatory construction restrictions, and may, additionally authorize the city manager to declare subsequent stages of construction restrictions. The city council may modify or terminate any stage of mandatory drought-related constructions restrictions upon determining that the restrictions are no longer necessary, or by resolution may authorize the manager to do the same.

**(a) Stage 2 Water Shortage: Additional Drought-Related Mandatory Construction Restrictions.**

The following restrictions shall be in place during the time that stage 2 construction restrictions have been declared, until such are modified or terminated:

- (1) Water lines permitted prior to imposition of stage 2 construction restrictions may be constructed, flushed, and placed into service;
- (2) Water lines not permitted prior to imposition of stage 2 construction restrictions may be permitted and constructed, but shall be subject to stage 3 construction restrictions if such are declared prior to lines being flushed and placed into service
- (3) Structures with existing valid building permits that do not expire may be completed, with necessary individual water connections;
- (4) Building permits issued after declaration of stage 2 constructions restrictions are subject to stage 3 and/or stage 2 construction restrictions if such are declared prior to the permitting of a water connection or meter installation;
- (5) All water used for the flushing of water lines shall be collected and used only as permitted by the city;
- (6) Swimming pools, spas, and hot tubs not already in operation shall only be filled with non-city water, and receipts for purchases of such water shall be retained. Replenishment shall be per requirements in section 70-555.

**(b) Stage 3 Water Shortage: Additional Drought-Related Mandatory Construction Restrictions.**

The following restrictions shall be added to those in stage 2 above, or, where more exacting, shall supersede those restrictions, during the time that stage 3 construction restrictions are declared, until such as are modified or terminated.

- (1) Water lines that were not permitted prior to imposition of stage 2 construction restrictions shall not be flushed or placed into service;

- (2) Water connections and meter installations shall not be allowed for structures that received building permits after stage 3 construction restrictions were declared;
- (3) Permits for the construction or installation of swimming pools, spas, hot tubs including any associated electrical work shall not be issued;
- (4) Plans for water lines shall be accepted and reviewed but no permit for extension or construction of a water line shall be issued;
- (5) All permits for water line extensions not already under construction shall be suspended.

- (c) *Stage 4 Water Emergency: Additional Mandatory Construction Restrictions.* The following restriction(s) shall be added to those in stages 2 and 3 above, or, where more exacting, shall supersede those restrictions, during the time that stage 4 construction restrictions are declared, until such are modified or terminated.

Certificates of occupancy for new structures requiring public water service shall not be issued until a return to stage 3 or a lower stage.

- (d) *Exceptions to construction restrictions.* Public projects are exempted from the above restrictions. In addition, any person may secure a written license from the city manager or his designee to engage in an activity prohibited under the additional mandatory construction restrictions where one or more of the following circumstances are demonstrated to exist:
  - (1) Service is for an existing residence with a contaminated or failed well and the residence has access to an existing water line;
  - (2) Permits are for renovations to an existing structure with water service;
  - (3) Peculiar and unique hardships exist involving one or more of the following, or similar situations: unsafe or temporary housing, subsidized housing involving unique permitting or financing arrangements; and responses to fire or other disasters which require the construction activity.

**Sec. XX-XXX. Violation, enforcement, and penalties.**

- (a) *Violation.*  
 Noncompliance with the requirements of this Division 1 constitutes a violation, and is unlawful. Violations may be remedied through the provisions of this Section 70-557 or through any other civil and criminal remedies available under law. Remedies are not exclusive and may, without limitation, be exercised singly, in combination, or cumulatively.
- (b) *Enforcement.*  
 The Director shall enforce the requirements of this Division, and shall issue notices, orders, assess penalties, and direct other actions as necessary. Among other things, the Director is authorized to remediate any violations and, pursuant to written guidelines, modify previously issued penalties.
- (c) *Warnings; Notice of Violation*
  - (1) *Warnings.* If a violation occurs, the Director shall issue one or more warnings. At least one written warning shall be issued prior to issuance of the first notice of violation requiring corrective action and/or assessing a penalty. Subsequent oral or written warnings are not required if the violation is for the same activity, or lack

thereof, that resulted in previous violations and penalties.

- (2) *Notice of Violation.* If the violation does not cease after one or more warnings, the Director shall issue a written notice of violation to each responsible User. Such notice shall be given prior to ordering a corrective action, imposing a civil penalty, or terminating water service as the result of a violation.
  - (3) *Service.* Notice shall be served by one of the following means: personal delivery; certified or registered mail, return receipt requested; any means authorized for service of documents by Rule 4 of the NC Rules of Civil Procedure; or first class mail addressed to the violator accompanied by posting of the notice at the violator's residence or place of business, as may be appropriate.
  - (4) *Contents.* The notice shall identify the location of the violation; the responsible User(s); the nature of the violation; the time period, if any, allowed for corrective action; a City contact person and contact information; the process and deadlines for contesting the violation; and a general description of potential enforcement actions available to the City, including but not limited to civil penalties and termination of water service.
- (d) *Civil Penalty and Discontinuation of Utility Service.* If, after issuance of notice of violation, the violation does not cease, the Director may assess civil penalties in accordance with the schedule below. Increasing civil penalties and utility termination may only be imposed if the violation is for the same activity, or lack thereof, that resulted in the previous warning or civil penalty, and occurs within two years of the City's previous action regarding the matter.
- (1) *Schedule of Progressive Steps and Penalties.* The following actions and penalties may be imposed by the Director. Civil penalties may be assessed only after the time period for an appeal has expired, or after a determination on an appeal has been made.
    - (A) First violation: Corrective Action.
    - (B) Second violation: Civil penalty of \$100.00
    - (C) Third violation: Civil penalty of \$250.00
    - (D) Fourth violation: Termination of water service
  - (2) *Discontinuance of water service.* The city may discontinue water service to any property upon the fourth violation, or upon nonpayment of the civil penalties that have been added to the User's utility bills pursuant to (e) below. If termination is for a fourth violation, a notice of violation shall be sent as described above. If it is for nonpayment, the notice and procedures otherwise applicable in City ordinance shall apply. Service reconnection shall only be allowed upon payment of any past due utility bills, including but not limited to civil penalties and reconnection charges.
- (e) *Assessment of penalties.* Notice of civil penalties imposed shall be given by first class mail, and may subsequently be added to the violator's utility bills.

## **Sec. XX-XXX. Variances and Appeals.**

(a) *Variance.*

- (1) Administrative variances of the restrictions in this Division may be issued by the Director provided that the general intent of this Division is met, compliance is proven to cause practical difficulties and unnecessary hardship, and all reasonable options for abatement through modified water management have been exhausted. The criteria to determine hardship shall include but not be limited to the level of capital outlay and time required to achieve compliance.
- (2) Variances may be issued for a time-limited period, and shall stipulate both short-term corrective measures and a schedule for completion of long-term corrective measures. Variances may be renewed for good cause shown.

(b) *Appeal.*

- (1) Time for Appeal. A User may appeal a determination of a violation, or any penalty for violation to the Director by filing an appeal within seven (7) calendar days of receiving a notice of violation. The appeal shall identify the property and state the grounds of appeal together with all material facts in support thereof. Violations already appealed may not be appealed again if a determination regarding the contested facts has already been made.
- (2) Meeting. A User who appeals shall be offered the opportunity for a meeting with the Director, and may present any information in addition to that presented in writing. Notice of the meeting time shall be sent certified or registered mail, return receipt requested.
- (3) Decision. The decision of the Director shall be in writing and shall explain the basis for the decision, and the penalty imposed. If corrective action is ordered, the Director shall specify the time frame during which it must be taken so as to avoid additional penalties.

**Sec. XX-XXX. Scope and duration.**

Water shortage response measures shall be applicable to all users of the system, including users located outside the city. Response measures shall be in force until they are terminated by the city manager or the city council. Notice of conservation measures shall be broadly reported to the media, and shall, where feasible, be included on customers' utility bills.