THE CITY OF ASHEVILLE

STAFF REPORT

Council Meeting Date: February 14, 2023

Subject: Revised Water Shortage Response Plan 2022 (WSRP)

Staff Resource(s): David Melton, Water Resources Director and Leslie Carreiro, Water Resources Assistant Director

Action Requested: Approval of the revised Water Shortage Response Plan 2022 (WSRP)

Background:

- Environmental permits for the North Fork Spillway and Embankment Improvements project required the City to review and update the WSRP. ***(Drought Plan)***
- The Water Shortage Response Plan is typically enacted when drought conditions exist, and is triggered by specific levels in the source water reservoir(s).
- NC Department of Environmental Quality Division of Water Infrastructure and NC Wildlife Commission have both reviewed and approved this updated version.
- 15A NC Admin. Code 02E .0606 requires the water systems to update the WSRP every five years.
- It has been the practice to seek Council approval if significant changes in the plan have occurred.
- Public Comment was sought through social media posts, Public Input app, and the department's website.
- Significant Changes to WSRP 2022:
    - Rebalancing of the water treatment plant production levels during the three levels of drought management. Maximizing the water from the Mills River Water Treatment Plant (WTP) to reduce the demand on the Wm. DeBruhl WTP.
    - Phase III - Rate Surcharge (Emergency): Due to highly efficient appliances and plumbing fixture improvements during the past 20 years, the total percentage of water that customers were asked to cut back was reduced from 25% to 15%.
    - Implementation of drought triggers were updated.
    - Changes to the action levels regarding the probability of drought at a certain time period in the future were made.
    - Clarification of the process for less restrictive conservation levels based on lake level increases.
    - More stringent penalties for the use of irrigation meters during mandatory and emergency drought conditions.
    - Addition of a seamless doc form to request a variance.
    - The document clarified that the Director or designees is responsible for all subsequent revisions and the process to follow for full approval and implementation.

Vendor Outreach Efforts:

- n/a

Council Goal(s):

- Improve/Expand Core Services

Committee(s):
- n/a

Pro(s):
- Increases the resilience to provide potable water to our customer in times of drought

Con(s):
- n/a

Fiscal Impact:
- This action requires no City resources and has no fiscal impact.

Suggested Motion:
- Motion to approve the Water Shortage Response Plan (2022)

Attachment(s)
- Resolution
- Revised Asheville Water Shortage Response Plan 2022

RESOLUTION NO. 23-____

RESOLUTION AUTHORIZING THE CITY MANAGER TO APPROVE THE REVISED WATER SHORTAGE RESPONSE PLAN 2022

WHEREAS, pursuant to N.C.G.S. § 160A-312, the City of Asheville has authority to operate a public enterprise; and

WHEREAS, environmental permits for the North Fork Spillway and Embankment Improvements project required the City review and update the Water Shortage Response Plan; and

WHEREAS, the NC Department of Environmental Quality Division of Water Infrastructure and NC Wildlife Commission have both reviewed and approved this updated version; and

WHEREAS, 15A NC Admin. Code 02E .0606 requires the water systems to update the WSRP every five years; and

WHEREAS, it has been the practice to seek Council approval if significant changes in the plan have occurred.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ASHEVILLE THAT:

The City Manager, on behalf of the City of Asheville, is hereby authorized to approve the revised Water Shortage Response Plan 2022.

Read, approved, and adopted this 14th day of February, 2023.

_____ _____

City Clerk Mayor

Approved as to form:

_____

City Attorney

City of Asheville, PWSID # NC 01-11-010
Water Resources Department
Water Shortage Response Plan 2022
Asheville, North Carolina
February 2023 DRAFT - To Be Adopted by City Council

X. WATER SHORTAGE RESPONSE PLAN (WSRP)

The procedures herein are written to reduce potable water demand and supplement existing drinking water supplies whenever they are in danger of being insufficient to meet customer needs. This plan meets the NC Department of Environmental Quality - Division of Water Resources requirement of a Water Shortage Response Plan. The WSRP also meets the conditions stated in the Division of Water Resources Section 401 Water Quality Certification for the North Fork Auxiliary Spillway and Embankment Improvement Project.

A. Authorization:

The City Manager of the City of Asheville is authorized to enact water shortage response provisions whenever the trigger conditions outlined in Section D are met. The Water Resources Director will advise the City Manager about the status of the water supply and the need to implement the water shortage provisions. In the absence of the Water Resources Director, the Assistant Director or Water Production Division Manager will assume this role. Contact information for all pertinent staff are presented below.

City of Asheville
PO Box 7148
Asheville, NC 28802

City Manager: (828)259-5608 or dcampbell@ashevillenc.gov
Water Resources Director: (828) 259-5955 or dmelton@ashevillenc.gov
Water Resources Assistant Director: (828)271-6105 or lcarreiro@ashevillenc.gov
Water Production Division Manager: (828) 271-6101 or bhart@ashevillenc.gov

B. Notification:

The following notification methods will be used to inform water customers and system employees when each phase of the WSRP is activated:

System Employees – email(s), City internal website, employee notifications and /or meeting(s)

Water Customers - public notification using local / regional media announcement(s) such as: press release(s) and social media posts issued by the City, viable customer notification system; and/or on the City of Asheville Water Resources homepage at www.ashevillenc.gov/departments/water.

Wholesale Customers will be notified using the above methods and /or telephone, email, and/or certified letter.

The Water Resources Director or designee will determine the method(s) of notification and will be timely and appropriate for the shortage situation.

C. Levels of Response:

The City of Asheville's Water Resources Department has three levels of water shortage responses, which are: (1) Voluntary Reductions, (2) Mandatory Reductions, and (3) Emergency Restrictions (Surcharge). The established water rates for all customers are available from a Customer Service Representative and can be found on the Water Resources Department Homepage at www.ashevillenc.gov/departments/water under the section titled "Rates & Fees". A description of each response level and corresponding water reduction measures are outlined in Table 1 below:

Table 1: Description of the water shortage response levels.

Phase	Response	Description
I	Voluntary	Water supply conditions indicate a potential for shortage. Water users are encouraged to reduce their water use and improve water use efficiency; however, no penalties apply for noncompliance.
II	Mandatory	Water supply conditions are significantly lower than the seasonal norm and water shortage conditions are expected to persist. Water users must abide by required water use reduction and efficiency measures; penalties apply for noncompliance.
III	Rate Surcharges (Emergency)	Water supply conditions are substantially diminished and pose an imminent threat to human health or environmental integrity. Remaining water supplies must be allocated to preserve human health and environmental integrity.

During any stage of this plan, the Water Resources staff may analyze any water customer's consumption to see if they are reducing their water consumption by the suggested or required amount. Local / regional media announcement(s) via press release(s) and social media posts issued by the City; posting(s) on the City of Asheville Water Resources homepage at www.ashevillenc.gov/departments/water; and/or mailing(s) in the utility bills will be used to encourage specific levels of restrictions / reductions.

In **Phase I: Voluntary**, all water customers will be asked to reduce their normal water use by 5%. Customers may calculate a 5% reduction for their household, or business from the water use line printed on all utility bills. Water customers may review their consumption history by logging into their Utility Express Pay (Paymentus) account or by contacting Customer Services at (828) 251-1122. Customer Service Representatives can suggest ways to conserve water.

To encourage water conservation and efficiency measures the department will recommend customers adhere to the following actions but not limited to: irrigating landscapes a maximum of one inch per week; preventing watering of impervious surfaces; running only full loads in washing machines and dishwashers; taking shorter showers; and repairing water leaks.

By implementing these reduction measures, the Water Resources Department would expect a reduction in water usage by 2%. Additional steps to meet customer demand are: a reduction of the production rates at the Wm. DeBruhl WTP to 2.5 MGD and an increase in production at the Mills River Water Treatment Plant up to a maximum production of 5 MGD; would fill customer demand.

No new irrigation meters will be sold or installed.

In **Phase II: Mandatory**, all water customers are expected to reduce their water use by a total of 10% in comparison to their previous City of Asheville Utility bill. Customers may calculate a 10% reduction for their household, or business from the water use line printed on all utility bills. Water customers may review their consumption history by logging into their Utility Express Pay account or by contacting Customer Services at (828) 251-1122.

In addition to continuing to encourage all voluntary reduction actions, all non-essential uses of drinking water are banned. Garden / landscape irrigation must be reduced to the minimum amount necessary for survival; outdoor use of drinking water for washing impervious surfaces is prohibited; and all testing / training requiring drinking water (i.e. fire protection) will be limited. Minimize water quality flushing.

Conservation Rate Surcharge will be implemented for non-essential water usage meters; such as irrigation and non-potable water usage (i.e. car washes)

The City Manager or designee will be empowered to negotiate with industrial and commercial customers to ensure that reasonable conservation measures are implemented.

By implementing these reduction measures, the Water Resources Department would expect a reduction in water usage by 1%. Additional steps to meet customer demand are: a reduction of the production rates at the Wm. DeBruhl would be reduced to 2 MGD and an increase in production to 6 MGD at Mills River.

In **Phase III: Rate Surcharges (Emergency)**, all water customers are expected to continue all actions from previous phases and reduce their water use by a total of 15% compared to their previous City of Asheville Utility bill. Customers may calculate a 15% reduction for their household, or business from the water use line printed on all utility bills. Water customers may review their consumption history by logging into their Utility Express Pay account or by contacting Customer Services at (828) 251-1122. In Phase

III, a ban on all use of drinking water except to protect public health and safety is implemented, and Conservation Rate Surcharges will be added at $2.20 per CCF (1 CCF = 748 gallons) in addition to the established water rate(s) on the current fee schedule.

By implementing these reduction measures, the Water Resources Department would expect a reduction in water usage by 1%. Additional steps to meet customer demand are: a reduction of the production rates at the Wm. DeBruhl would remain at 2 MGD and an increase in production to 7 MGD at Mills River.

The goal of Phase III is to provide drinking water to protect public health (i.e. residences, residential health care facilities and correctional facilities). In Phase III, all customers are restricted to using water at the minimum required for public health protection. Firefighting is the only allowable outdoor water use. If it becomes necessary to distribute potable water, the details will be announced through the City of Asheville Emergency Operations Center.

D. Triggers:

When the following specific triggers are met, the authority or authorities listed in Section A will enact water shortage response provisions. Triggers and examples for the City are provided below in relationship to the reservoir system:

1. The City as a Reservoir System

The City's primary water source consists of two reservoirs. The phases of drought correspond with the lake elevation at the reservoir supplying the North Fork Water Treatment Plant. Burnette Lake has a full pool elevation of 2,601.49 (2,601.5) feet. A list of each phase and the corresponding trigger and change in action are outlined in Table 2a below.

2. The City as a Run-of-River System

The City's Mills River Water Treatment Plant is only limited by the amount of water it can produce. The State has evaluated and approved this plant for a filter rate of 6.0 gpm / ft^2, which equates to approximately 7.5 MGD. The plant has unlimited supply from the French Broad River.

Table 2a: Description of triggers and associated change in action.

Phase	Trigger Probability	Feet Below Full Pool	Change in Operation
1	30% chance of Burnette Reservoir reaching 2,585 feet in 12 weeks	16.5	2% reduction in total demand; Mills River WTP production increases from 4 to 5 MGD; William DeBruhl WTP reduces production to 2.5 MGD
2	20% chance of the Burnette Reservoir reaching 2,580 feet in 10 weeks	21.5	Additional 1% demand reduction; Mills River WTP production increases to 6 MGD; Wm. DeBruhl WTP production decreases to 2 MGD
3	10% chance of the Burnette Reservoir reaching 2,575 feet in 8 weeks.	26.5	Additional 1% reduction in demand; Mills River WTP production increases to 7 MGD; Wm. DeBruhl plant production remains at 2MGD

There is a 30-day waiting period before the next drought phase can be implemented.
WTP = water treatment plant; MGD = million gallons per day
Water demand in 2021 was 21.5 MGD

The Water Resources Department will move from more conservative restrictions as water supply conditions improve as outlined in Table 2b below:

Table 2b: Description of less restrictive conservation levels based on lake level INCRE ASES.

Phase	Lake Elevation / Feet Below Full Pool	Change In Action
III to II	2,280 / 21.5	Move from Phase III to Phase II when the lake level reaches 2,580. Wm. DeBruhl production remains at 2 MGD; Mills River production decreases to 6 MGD
II to I	2,585 / 16.5	Move from Phase II to Phase I when the lake level reaches 2,585; Wm. DeBruhl production increases to 2.5 MGD; Mills River production decreases to 5 MGD
I to none	2,601.4 / 0	Required Minimum Release of raw water will begin when the lake reaches full pool; Wm. DeBruhl increases production to 3 MGD; Mills River decreases production to 4 MGD or to meet demand.

E. Enforcement and Penalties:
The Conservation Rate Surcharge of 2.20 per CCF (1 CCF = 748 gallons) in addition to the established water rate(s) on the current fee schedule. The provisions of the Water Shortage Response Plan will be enforced by the City of Asheville Water Resources and Police Departments. Violators may be reported by calling Customer Services at (828) 251-1122 or by contacting the authority or authorities listed in Section X.A. via mail, telephone, and/or email. Penalties are assessed depending on the water shortage level as outlined in Table 3 below.

Table 3: List of the water shortage level and associated penalty for customers.

Phase	1st Violation	2nd Violation	3rd Violation
Voluntary	None	None	None
Mandatory	Warning	$250	Discontinuation of Service
Rate Surcharges (Emergency)	$250	Discontinuation of Service	Discontinuation of Service

Table 3a: List of water shortage associated penalties for irrigation meters.

Phase	1st Violation	2nd Violation
Voluntary	none	none
Mandatory	$50 for the minimum use plus triple the rates for water used over the first 2000 gallons in the first billing cycle.	Removal of irrigation meter. A fee to reinstall the meter will be charged when the restrictions are lifted.
Rate Surcharges (Emergency)		

Penalties will be enforced consecutively from one phase to the next.

F. Public Comment:
The Water Shortage Response Plan was reviewed by the State and determined to be compliant with applicable laws and regulations. It was published on the Water Resources Department webpage at www.ashevillenc.gov/departments/water for public review and comment. The public may address all comments to the contact(s) listed in Section A of this plan. Public comment(s) will be considered but not necessarily implemented as determined by Water Resources staff.

The final plan will be incorporated into the Water Policies and considered in an open session of the Asheville City Council. The plan will be available for review prior to the meeting at the Water Resources Department webpage, www.ashevillenc.gov/departments/water. Adoption of the Water Policies by the City

Council will begin the implementation of this plan.

G. <u>Variance Protocols</u>:
Customers must request water restriction variances in writing to the Water Resources Director. A decision to approve or deny individual variance requests will be determined within two weeks of submittal after careful consideration of the following criteria: medical and/or health care requirements, 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. The Water Resources Director will notify the customer in writing of the decision to approve or deny the water restriction variance request.

https://asheville.seamlessdocs.com/f/WaterRestrictionVarianceForm

H. <u>Effectiveness</u>:
The effectiveness of the City's Water Shortage Response Plan will be determined by comparing the stated water conservation goals with observed water use reduction data. Consumption data will be tracked and analyzed at least every 30 days to measure the plan effectiveness. 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.

I. <u>Revision</u>:
The Water Shortage Response Plan will be reviewed and revised as needed to adapt to new circumstances affecting water supply and demand, following implementation of emergency restrictions, and at a minimum of every five years, as required by the provisions of G.S. 143-355 (l). Further, an ad hoc Water Shortage Response Planning Work Group will review procedures following each Rate Surcharge (Emergency) phase to recommend any necessary improvements of the plan to the Water Resources Director. The Water Resources Director, or designee, is responsible for initiating all subsequent revisions. Once the director, or designee, initiates revisions to the plan, the North Carolina Department of Environmental Quality - Division of Water Resources will review and approve. Then the Asheville City Council will review and adopt the updated plan in open session.