

**ORDINANCE NO. 3724**

AN ORDINANCE OF THE MAYOR AND CITY COUNCIL OF CUMBERLAND, MARYLAND, ENTITLED "AN ORDINANCE ADOPTING THE CITY OF CUMBERLAND DROUGHT CONTINGENCY PLAN DATED MAY 1, 2012 AND REPEALING ARTICLE V OF CHAPTER 24 OF THE CITY CODE AND RE-ENACTING THE SAID ARTICLE WITH AMENDMENTS FOR THE PURPOSE OF IMPLEMENTING REGULATIONS CONSISTENT WITH THE SAID DROUGHT CONTINGENCY PLAN."

WHEREAS, the Mayor and City Council of Cumberland and Evitts Creek Water Company have adopted a Drought Contingency Plan for the purpose of implementing water conservation measures during times of drought;

WHEREAS, the Drought Contingency Plan is subject to revision from time to time in order to reflect changes in applicable law and to otherwise revise its terms as circumstances appropriately require;

WHEREAS, the Drought Contingency Plan was most recently revised on or about May 1, 2012, during which revision, it was discovered that there were a number of inconsistencies between the Plan and the regulations that were promulgated in order to implement its terms, i.e., article V of chapter 24 of the City Code;

WHEREAS, the purpose of this Ordinance is to formally adopt the May 1, 2012 Drought Contingency Plan and to repeal article V of chapter 24 of the City Code and re-enact those Code provisions with amendments so as effect consistency between the Plan and the applicable portions of the City Code.

NOW, THEREFORE:

SECTION 1: BE IT ORDAINED BY THE MAYOR AND CITY COUNCIL OF CUMBERLAND, that the Mayor and City Council

**C**

SEP 25 2012

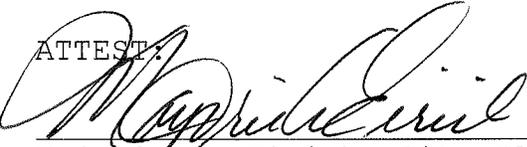
hereby adopts the City of Cumberland Drought Contingency Plan dated May 1, 2012, a copy of which is attached hereto and incorporated by reference herein as Exhibit A.

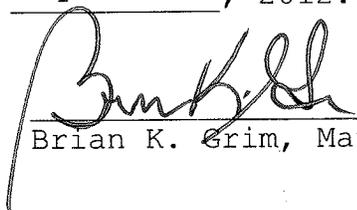
SECTION 2: AND BE IT FURTHER ORDAINED BY THE MAYOR AND CITY COUNCIL OF CUMBERLAND, that article V of chapter 24 of the Code of the City of Cumberland is repealed and it is re-enacted with amendments, the text of which article, as re-enacted with amendments, is set forth in the Exhibit B attached hereto.

SECTION 3: AND BE IT FURTHER ORDAINED BY THE MAYOR AND CITY COUNCIL OF CUMBERLAND, that this Ordinance shall take effect from the date of its passage.

Passed this 25 day of September, 2012.

ATTEST:

  
Majorie A. Eirich, City Clerk

  
Brian K. Grim, Mayor

**1st reading: 8/28/12**  
**2nd reading: 9/25/12**  
**3rd reading: 9/25/12**  
**Passed: 9/25/12**

**EVITTS CREEK WATER COMPANY**  
**and the**  
**CITY OF CUMBERLAND,**  
**MARYLAND**



**DROUGHT CONTINGENCY**  
**PLAN**

May 2012



57 N. Liberty Street  
Cumberland, Maryland  
21502  
(301) 722-2000  
T.D.D. 1-800-735-2258

May 1, 2012

## **Drought Contingency Plan**

### **I. Introduction**

The goal of the Evitts Creek Water Company (ECWC) – Drought Contingency Plan is to balance the demands with the remaining available water supply.

The Evitts Creek Water Company/City of Cumberland water supply is located in the Cumberland Valley Township in Bedford County, Pennsylvania. The available water supply consists of two (2) constructed reservoirs with a total design capacity of 3.2 billion gallons of water. The reservoirs are fed by Evitts Creek, Growden Run and Oster Run as well as several unnamed tributaries and springs. ECWC typical average customer's water usage is between nine and ten million gallons per day.

The ECWC realizes that in times of drought and other potential water shortages – it is essential to take early action to extend existing water supplies and reduce unnecessary water usage. These actions are necessary so that a sufficient water supply is available to preserve public health, sanitation and safety.

During normal wet periods the ECWC's water supply exceeds demand. During prolonged periods of drought – water demand exceeds available water supply. During these periods the ECWC must take measures to extend the existing supply by reducing demand.

Measures available to increase supply include controlling reservoir levels to prevent unnecessary "spill over" and increasing the efficiency of the existing water filtration plant (i.e. utilizing best available water to reduce filter run and filter cleaning). In addition, a leak detection program is in place throughout the distribution system to eliminate leaks as they occur thus increasing supply. During drought emergency conditions, the City can request Pennsylvania Department of Environmental Protection allow the City to reduce the conservation release below the water supply reservoir.

Demand reduction measures may include a call for voluntary water conservation, public education programs, mandatory non-essential water use bans and during extreme water supply shortages – water rationing and prioritizing competing uses.

## **II. Water Supply Management**

### **Drought Indicator Criteria**

The ECWC has several drought indicator parameters that allow the ECWC to predict available water supply. Drought indicator parameters include reservoir storage levels (i.e. feet below crest), ground water levels, stream levels as well as regional accumulated precipitation deficiencies.

### **Demand Reduction Measures**

The demand reduction measures implemented by the ECWC/City will follow a progression from voluntary water use restrictions to a mandatory non-essential use ban and finally under severe water shortage conditions – water rationing. A water rationing plan is designed to reduce water usage within residential dwellings, commercial and industrial establishments and institutions in addition to the continued reduction of water uses under non-essential use bans. Water rationing may only be imposed if a drought emergency is declared in Maryland and/or Bedford County, Pennsylvania.

During drought emergency situations, large customers will be encouraged to use alternative supplies that may be available. For example, an industry may be able to use emergency on-site well supplies or water stored in on-site tanks.

Prior to formally requesting voluntary conservation, the City will educate water customers (via the local newspaper) about water conservation practices. Customers will be alerted to current drought conditions and informed of actions that can be taken to respond to water shortages.

### **Supply Extension Measures**

At the onset of drought conditions, the primary supply extension measures include controlling lake levels to prevent unnecessary spill over and a systemwide leakage and loss reduction program. The overall objective is to store as much water as possible and to minimize source depletion by minimizing avoidable distribution system leakage.

Another measure for conserving remaining supplies is the reduction of downstream conservation releases below the water supply reservoir. This measure is only applicable during periods of prolonged drought conditions and represents the last measure to be utilized when all other supply extension and demand reduction measures have failed. Before the ECWC can make a reduction in the conservation release below the reservoirs, permission must be sought and obtained from Pennsylvania Department of Environmental Protection – Water Supply Program.

In the event Maryland and/or Pennsylvania declares a statewide drought emergency or a drought emergency in Allegany County, Maryland or Bedford County, Pennsylvania, respectively, the ECWC will request Pennsylvania Department of Environmental Protection (PA-DEP) allow a conservation flow reduction.

### III. Drought Operations - Contacts

The following are the names and phone numbers of the Evitts Creek Water Company and persons responsible for directing operations during a drought emergency:

Evitts Creek Water Company	814.767.9552
City Administrator	301.759.6424
Director of Utilities	301.759.6427
City Engineer	301.759.6600

All correspondence should be sent to the City Administrator at: City of Cumberland, 57 N. Liberty Street, Cumberland, Maryland 21502.

### IV. Plan Implementation

At the onset of a drought, storage levels in the reservoirs are monitored weekly and the number of days of remaining raw water supply is computed. Storage levels may be used to trigger the various stages for water conservation. However, if useable raw water storage provides less than a 90-day supply, streamflow may be monitored.

In order to determine the amount of storage, the ECWC/City has developed reservoir storage curves (refer to Appendix A. for Reservoir Storage Curves). The reservoir storage curves allow the City to determine the total raw water supply. The water elevation (expressed in feet below crest) is converted to storage (million gallons per acre-feet).

Due to pump elevations and siltation and sediment losses in the bottom of the reservoirs, available water supply is less than gross water stored. An engineering study to re-evaluate the raw storage in the Gordon and Koon reservoirs was conducted in 2002 to account for this loss in storage.

### V. Conservation Measures (refer to Appendix B. for Water Conservation Methods)

**A. Voluntary Water Conservation** - shall be implemented when the raw water supply is equivalent to 2 billion gallons or a 180-day supply. Voluntary conservation measures shall include a formal request to all customers to reduce their daily consumption by five percent (5%). Measures that can be taken to achieve this reduction is to limit the water used to water lawns, wash vehicles, when running the washing machine and/or dishwasher – do only full loads, turn water off while brushing your teeth, take shorter showers, etc. Water saving devices can also be installed to reduce water consumption.

**B. Mandatory Water Conservation** - shall be implemented when the raw water supply is equivalent to 1.5 billion gallons or a 135-day supply. Mandatory restrictions shall also be implemented when a drought emergency is declared in Maryland and or Bedford County, Pennsylvania. This section restricts non-essential water uses in response to a state of drought and water shortage emergency to conserve water, to balance demand with limited available supplies and to assure that sufficient water is available to serve essential health, safety and economic needs. Mandatory water conservation measures include a formal announcement to all water customers to reduce their consumption by at least 10 percent (10%). All water customers including water companies will be required to reduce or eliminate all non-essential water use.

The following water uses are prohibited

1. The use of water for watering lawns, except:
  - a. Water may be used at a minimum rate necessary to establish and maintain newly seeded sodded grass areas when applied between the hours of 8:00 p.m. and 8:00 a.m. by means of a bucket, can or hand held hose equipped with an automatic shut-off nozzle. Sprinklers may not be used for this purpose.
  - b. Water may be used at the minimum rate necessary to maintain newly seeded or sodded nonresidential grass areas exceeding 10,000 square feet when applied between the hours of 8:00 p.m. and 8:00 a.m., by any means designed and operated to assure effective conservation of the water
  - c. Water may be used by a profession landscaper at the minimum rate necessary on newly seeded and sodded grass areas greater than 10,000 square feet during regular working hours by any means designed and operated to assure effective conservation of the water
2. The use of water for irrigation and watering of outdoor gardens, landscaped areas, trees, shrubs and other outdoor plants except that water may be:
  - a. Applied by a hand held hose equipped with an automatic shut off nozzle, when applied between 8:00 p.m. and 8:00 a.m.
  - b. Applied by means of a hand-held container of hand-held hose equipped with an automatic shut-off nozzle at the minimum rate necessary to establish and maintain newly planted gardens, trees, shrubs or other outdoor plants. Sources of water, other than potable water, shall be used where available.
  - c. Used by commercial nurseries at the minimum rate necessary to maintain stock, only to the extent that sources of water other than potable water adequate to supply needs are not available or feasible to use.
3. The use of potable water for watering a portion of golf courses, except that potable may be used:
  - a. To water tees and greens during the hours of 8:00 p.m. and 8:00a.m.
  - b. To syringe heat sensitive grasses during daytime stress periods at the minimum rate necessary.
  - c. As part of the necessary overseeding, resodding operation during the months of August, September and October at the minimum rate necessary.
4. The use of water for washing paved surfaces, such as streets, roads, sidewalks, driveways, garages, parking areas, tennis courts, patios, etc., except water may be used:
  - a. For pre-washing in preparation of asphalt street or driveway recoating or sealing.
  - b. At the minimum rate necessary for sanitation of the premises of eating and drinking places.
5. The use of potable water for ornamental purposes, including fountains, artificial waterfall and reflecting pools.
6. The use of potable water for washing or cleaning of mobile equipment, including automobiles, trucks, trailers and boats, except that:
  - a. An individual may wash personally owned or leased vehicles by buckets only.
  - b. Potable water may be used by commercial car washes at the minimum rate necessary to ensure an effective wash.
  - c. Potable water may be used for cleaning of construction, emergency, public transportation, or government vehicles if necessary to preserve the proper functioning and safe operation of the vehicle.

- d. Potable water may be used for the cleaning of new and used cars which are part of a dealer's sale inventory in accordance with the following restrictions:
  1. A vehicle may be washed in preparation for sale at the time the vehicle is received from the manufacturer or prior owner.
  2. A vehicle may be washed following sale immediately prior to delivery to the purchaser.
  3. A vehicle may be washed only by a means designed and operated to assure effective conservation of water or by bucket.
7. The serving of water in restaurants, clubs or eating places, unless specifically requested by the individual.
8. The use of potable water to fill and top off swimming pools, except that potable water may be used to fill and top off:
  - a. Public swimming pools and residential swimming pools serving 25 or more dwelling units, if the pools have filtration equipment allowing for continued use and recycling of water over the swimming season.
  - b. Swimming pools operated by health care facilities used in relation to patient care and rehabilitation.
  - c. Other pools only if approved by the City.
9. All businesses, industry and water companies using a minimum of 10,000 gallons of water per day shall submit to the Director of Utilities; 57 N. Liberty Street; Cumberland, MD 21502 an Emergency Water Conservation Plan detailing available conservation methods that provide an overall ten percent (10%) reduction in water usage.
10. All customers using between 1,000 and 10,000 gallons of water per day shall submit to the Director of Utilities; 57 N. Liberty Street; Cumberland, MD 21502 an Emergency Water Conservation Plan detailing available conservation methods that provide an overall ten percent (10%) reduction in water usage

**C. Water Rationing** - may be implemented when the raw water supply is equivalent to 0.75 billion gallons or a 68 day supply. Water rationing measures include a formal announcement to all water customers to reduce their consumption by at least 25 percent (25%).

1. The ECWC/City will provide all residential water customers and water companies with suggested means for reducing water consumption in order to achieve the 25% reduction in water usage. The suggested means for reducing water consumption include:
  - a. Locating and repairing all leaks in faucets, toilets and water using appliances
  - b. Adjust all water using appliances to use the minimum amount of water in order to achieve the appliances purpose
  - c. Use automatic washing machines and dishwashers only with full loads – preferably wash dishes by hand
  - d. Take shorter showers and shallower baths
  - e. Turn off shower while soaping
  - f. Turn off faucet while brushing teeth
  - g. Reduce the number of toilet flushes per day, install a water saving toilet or install toilet tank water displacement inserts
  - h. Use sink and tub stoppers to avoid wasting water
  - i. Keep a bottle of chilled drinking water in the refrigerator
  - j. Read the meter to determine the households daily water use (meters read in cubic feet – multiply the cubic feet used by 7.48 to determine gallons)

2. The ECWC/City will provide all non-residential customers with suggested means to reduce usage levels. The suggestions may include:
  - a. Identify and repair all leaky fixtures and water using equipment. Special attention should be given to equipment connected directly to the water line, such as processing machines, steam-using machines, washing machines, water-cooled air conditioners and furnaces.
  - b. Assure that the valves and solenoids, which control water flows, are shut off completely when the water using cycle is not engaged.
  - c. Adjust water-using equipment to use the minimum amount of water required to achieve its stated purpose.
  - d. Shorten rinse cycle for laundry machines as much as possible; lower water levels should be implemented whenever possible.
  - e. Temperature setting for hot water showers should be set down 10 degrees to discourage lengthily shower taking.
  - f. Where plumbing fixtures can accommodate – flow restricting or other water saving devices should be installed.
  - g. Review usage patterns to see where other savings can be made.
  - h. For processing and cooling and other uses where possible, either reuse water or use from sources that would not adversely affect public water supplies.

3. Prohibited Non-Essential Water Uses

- A. The following water uses are considered non-essential and are prohibited during a drought emergency when water rationing is implemented:

1. Watering of lawns
2. Watering of outdoor gardens, landscaped areas, tree, shrubs, other plants except by means of bucket or pail
3. Watering of golf courses fairways
4. Non-commercial washing of automobiles and trucks
5. Washing of streets, driveways and sidewalks
6. Serving water in restaurants, clubs or eating places unless specifically requested by the individual
7. Ornamental water use including fountains, artificial water falls and reflecting pools
8. The use of water to flushing sewers or hydrants except as deemed necessary in the interest of public health or safety
9. The use of fire hydrants for testing fire apparatus and for fire department drills except as deemed necessary in the interest of public safety
10. The use of water to fill or top off swimming pools

4. General Requirement for Water Use Reductions

Each and every water customer, regardless of whether residential, commercial, industrial, municipal, institutional or other type of user, shall achieve the water use reductions set forth in this Drought Contingency Plan. In order to achieve the overall objectives of the Plan, the water use restrictions and limitations as follows shall apply:

## A. Water Use Restrictions for Residential Users

Each dwelling unit (household) shall be allotted 4800 gallons per month or 160 gallons of water per day. Residential water customers are required to provide City personnel with reasonable access to read meters as necessary to implement this rationing plan. Where access is not readily available, the City shall make all reasonable efforts to contact customers in order to arrange for access to read meters. In the event a water customer does not allow City personnel entry to read the meter, after the City has made reasonable efforts to arrange for such access, the dwelling unit (household) allotment will be reduced to 2400 gallons per month.

### 1. Master-Metered Residential Water Customers and Allotments

- a. In order to effectively implement and monitor the residential water conservation effort, a water allotment shall be established for the entire water system based on 40 gallons per day per capita served or 75 percent of the water used by the entire system during the same quarter of the preceding year, whichever is greater.
- b. The City will establish a communication system with the customers through public media to inform customers of the requirements, possible conservation measures that customers may employ; the system allotment; and a daily report of whether the usage was within the allotment.
- c. Metered and Master-Metered Residential Customers of the ECWC/City Water Supply System where a water supply system serves both metered and master-metered residential customers, the allotments and procedures provided under both subsections (a) and (b) shall be applied, as appropriate.
- d. Variances and Exceptions: Where the residential water allotment provided would create extraordinary hardship, as in the case of special health related requirements, the water customer may apply to the City for an exemption or variance from these requirements. If the City finds that the allotment provided in this section would impose extraordinary hardship, the City may establish a revised allotment for the particular customer. For these purposes, an "extraordinary hardship" means a permanent damage to property or economic loss which is substantially more severe than the sacrifices borne by other water users subject to this Water Rationing Plan.

## B. Water Use Restrictions for Non-Residential Water Customers

1. Non-residential customers include commercial, industrial, institutional, public, and all other users, with the exception of hospitals and health care facilities.
  - a. Non-residential water customers shall reduce their water usage by a minimum of 25 percent of use levels for the same quarter of the preceding year.
  - b. It is the primary responsibility of each non-residential water customer to meet its mandated water use reduction goal in whatever manner possible.

- c. The City will establish a water allotment for each non- residential water customer, based upon a required 25 percent reduction of water usage from the rate of water used by the customer in the same quarter of the preceding year or the last recorded use level if no meter readings record the rate of the customer's use in the same quarter of the preceding year.
- d. Each non-residential water user shall provide access to City personnel for purposes of meter reading and monitoring of compliance with this Plan. The City shall make all reasonable efforts to contact customers to arrange for access.
- e. If the mandated 25 percent reduction in water usage cannot be obtained without imposing extraordinary hardship threatening health and safety, the non-residential customer may apply to the City for a variance. For these purposes, "extraordinary hardship" means a permanent damage to property or economic loss which is substantially more severe than the sacrifices borne by other water users subject to this Drought Contingency Plan. If the City finds that the 25 percent reduction would cause extraordinary hardship or threaten health or safety, the purveyor may grant a variance and establish a revised water use reduction requirement for the particular customer.

## **VI. Service Interruptions**

This Drought Contingency Plan shall include provisions for implementation of temporary service interruptions if this action is necessary to achieve water use reductions to prevent a public water supply system from depleting its on hand water supply to the point that vital service demands including, but not limited to, public health and safety, fire fighting, and use of health care facilities cannot be met.

The following provisions shall govern the implementation of temporary service interruptions:

1. In order to effectuate compliance with this Plan, the City is hereby authorized and required to plan and implement temporary service interruptions to all or part of its water supply system when any and/or all of the following conditions are determined to exist, as to its water supply system:
  - a. A 25 percent reduction in systemwide water usage has not been achieved, and/or
  - b. The 25 percent reduction in systemwide water usage has been achieved, but has failed to have a significant impact in extending limited water supplies, and/or
  - c. Temporary service interruptions are necessary in order to further extend limited and/or dwindling water supplies.

2. In the event that the City determines that temporary service interruptions are necessary, the City shall notify its customers through the public media (newspapers, radio, telephone, and television) at least one day prior to the temporary service interruptions, that a planned, temporary service interruption is to be imposed. In addition, the City shall notify Maryland Department – Water Supply Program and local public health authorities, Such notice shall: (i) State the day or days when the planned, temporary service interruptions will occur; (ii) State the time(s) when such planned, temporary service interruptions will commence, and the time(s) such interruptions will cease; (iii) State whether the planned, temporary service interruptions are to be imposed on the entire system, or a part thereof, and, if only part(s) of the system will experience planned, temporary service interruptions, identify the geographical boundaries within which the planned, temporary service interruptions will occur; and (iv) Advise all customers within the areas affected by planned, temporary service interruptions how to treat any water received from the system, for human consumption, during the period(s) of planned, temporary service interruptions and for such additional time as may be necessary until full pressure is restored to the system.
3. If the City imposes planned, temporary service interruptions as authorized and required by this Plan, it shall provide for the continued delivery of water to health care facilities within the area(s) affected by such interruptions, by means of any adequate, alternative delivery measures that may be necessary.
4. (4) If the City implements planned, temporary service interruptions, it must make provision, by any means possible, for the continued delivery of such water, as may be necessary, for the proper operation of sewage collection, treatment and disposal systems and facilities.

## **VII. Warnings/Shut Offs for Excess Use**

In addition to the excess use charge, non-compliance with the Drought Contingency Plan will result in the following:

1. For the first excess use, a warning of possible discontinuation shall be issued to the customer.
2. For the second or subsequent excess use, the City may interrupt or shut off service to the customer for a period not to exceed 48 hours, or, if the customer provides access, the water supplier may install a flow restrictor in the customer's service line for the duration of the emergency. The cost incurred by the City to interrupt or shut off and reinstate service, or to install and remove a flow restrictor, shall be assessed to the water customer.

## **VIII. Penalties**

The violation or any provision of this article is declared to be a municipal infraction punishable by a fine of two hundred fifty dollars (\$250.00) if the violation is a first offense and a fine of five hundred dollars (\$500.00) if the violation is a second or subsequent offense. Each day a violation continues shall constitute a separate offense.

Additionally, water customers using more than the amount of potable water allocated to them under the provisions applicable to Stage 3 water rationing will receive a warning advising them that their water is subject to being shut off in the event of any future incidences of excess use. For any subsequent incidences of excess use, the city may interrupt or shut off water service to the customer for a period not to exceed 48 hours or, if the customer provides access, the city may install a flow restrictor in the customer's service line for the duration of the emergency. The cost incurred by the city to interrupt or

shut off and reinstate service or to install and remove a flow restrictor shall be assessed to the water customer.

In the event that there are any inconsistencies or any conflicts with drought contingency requirements, regulation or procedures the Cumberland City Code supersedes this document.

**IX. Effective Period**

This Plan shall remain in effect until terminated by action of the Evitts Creek Water Company and the Mayor and City Council.

**X. Effective Date**

This Drought Contingency Plan shall be in full force and effect.

Passed the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_

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President – Evitts Creek Water Company

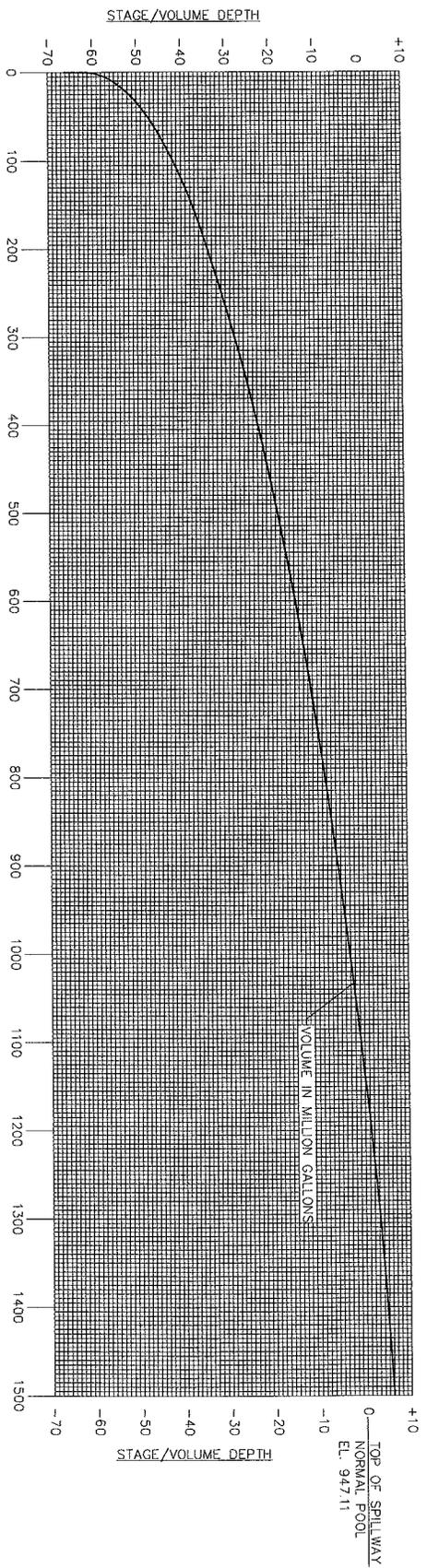
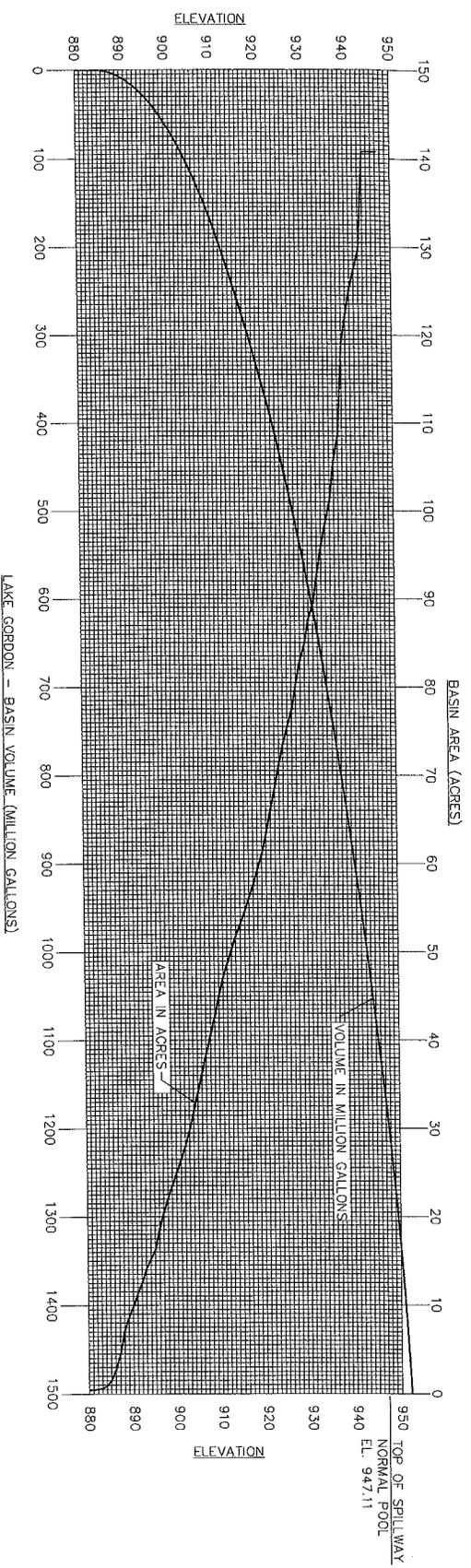
Attest:

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City Clerk

## **APPENDIX A**

### **Elevation Storage Curves**



LAKE GORDON - STAGE /VOLUME TABLE

STAGE (FT)	CUMULATIVE VOLUME (MG)	STAGE (FT)	CUMULATIVE VOLUME (MG)	STAGE (FT)	CUMULATIVE VOLUME (MG)
950	0	940	1500	930	1000
940	1500	920	500	920	500
930	1000	910	200	910	200
920	500	900	100	900	100
910	200	890	50	890	50
900	100	880	0	880	0
890	50				
880	0				

LAKE GORDON - STAGE /VOLUME (MILLION GALLONS)

AREA VOLUME CURVES

LAKE GORDON

ENGINEERING DESIGN CENTER

CONSTRUCTION DIVISION

LAKE GORDON AND LAKE KOON BASIN TOPOGRAPHIC SURVEY

DUMFRIES VALLEY TOWNSHIP

NO. \_\_\_\_\_

DATE \_\_\_\_\_

ISSUES \_\_\_\_\_

DESCRIPTION \_\_\_\_\_

TOP OF SPILLWAY NORMAL POOL EL. 947.11

**G&E**

GEORGE E. FOREMAN, INC.

Engineering & Surveying

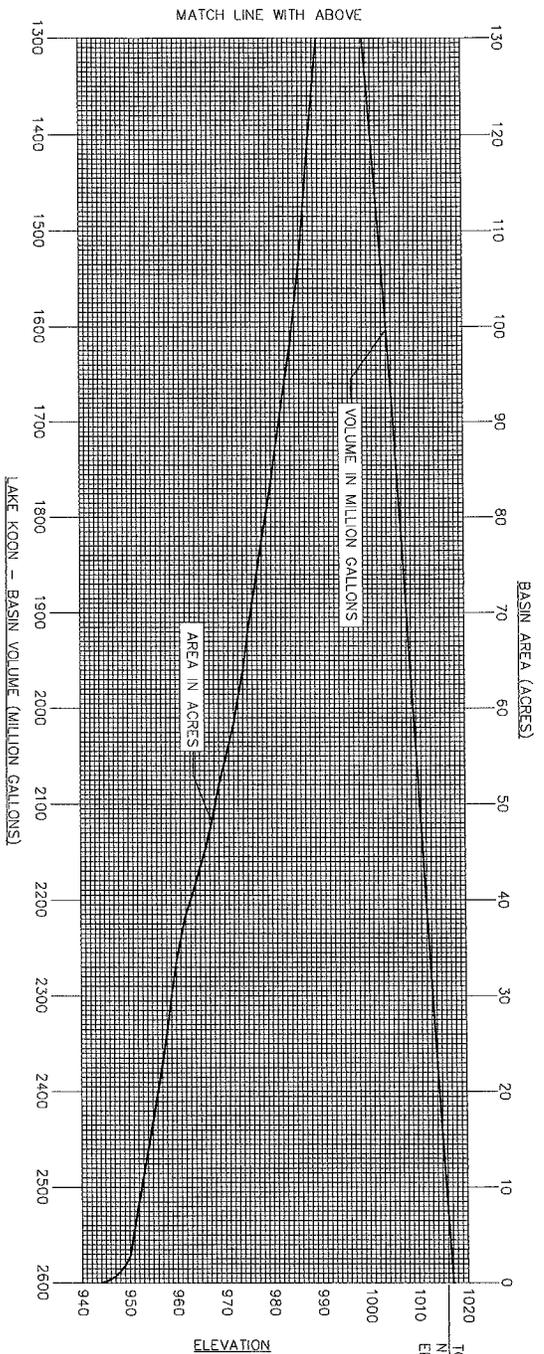
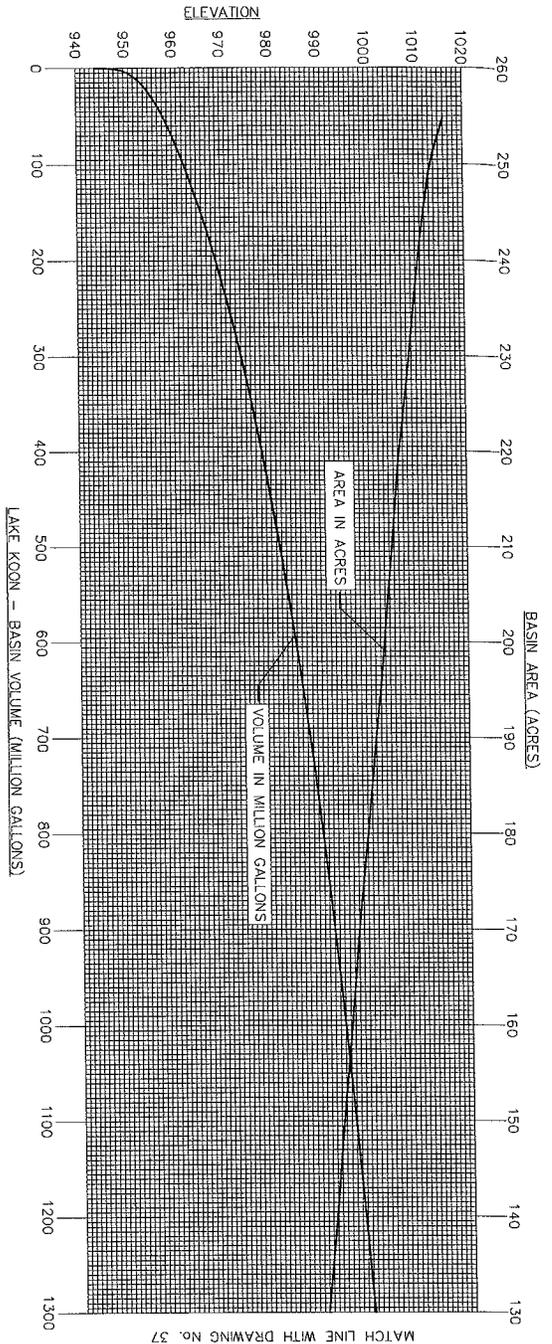
Member of G&E

SCALE

VERT. 1" = 10'

HORIZ. 1" = 100'

SHEET NO. 35



TOP OF SPILLWAY  
NORMAL POOL  
EL 1015.92

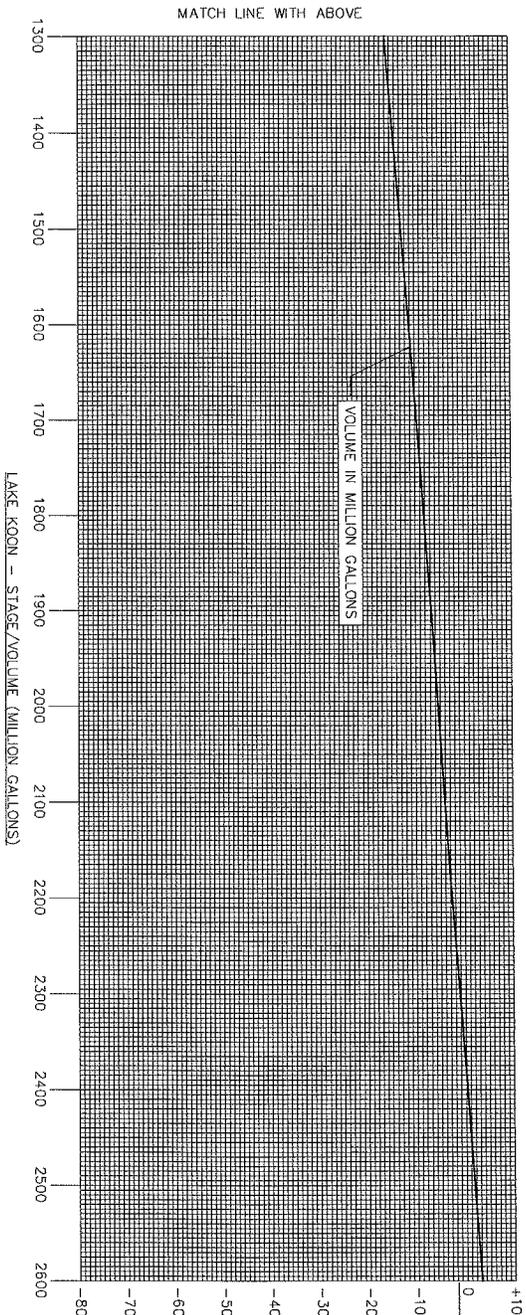
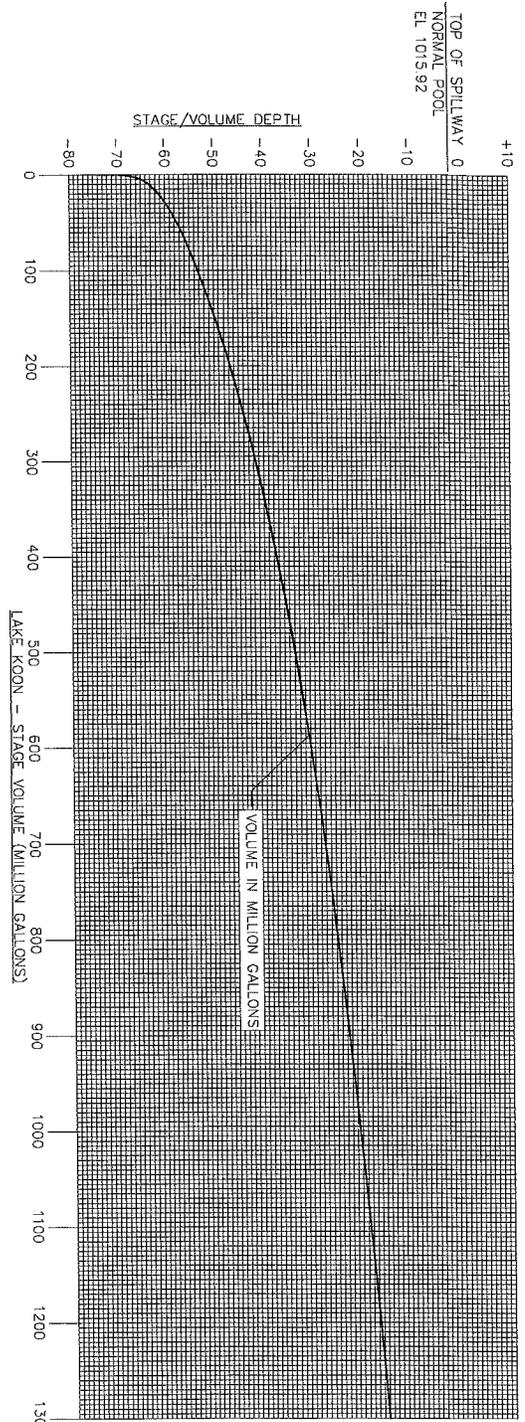


**AREA VOLUME CURVES**  
 ERIC'S GREEN WATER SUPPLY  
 CITY OF CHICKASAW  
 LAKE KOON  
 BASIN TOPOGRAPHIC SURVEY  
 CHICKASAW COUNTY, TENNESSEE

**GD&R**  
 G.D. RUFF  
 FOREMAN  
 REGISTERED PROFESSIONAL ENGINEER  
 No. 10000  
 State of Tennessee

DATE	1/27/23	SCALE	AS SHOWN
BY	JRM	DATE	1/27/23
CHECKED BY	JRM	DATE	1/27/23

SHEET NO. **36**



LAKE KOON - STAGE/VOLUME TABLE

STAGE DEPTH (FT)	CUMULATIVE VOLUME (MGALS)	STAGE DEPTH (FT)	CUMULATIVE VOLUME (MGALS)	STAGE DEPTH (FT)	CUMULATIVE VOLUME (MGALS)
0	2,097,553.142	-2.0	78,889.022	-2.0	8,564,016
-1.0	2,137,974.726	-3.0	158,889.022	-3.0	17,287,022
-2.0	2,181,417.500	-4.0	238,889.022	-4.0	26,000,022
-3.0	1,997,025.482	-5.0	318,889.022	-5.0	34,713,022
-4.0	1,808,216.882	-6.0	398,889.022	-6.0	43,426,022
-5.0	1,588,717.522	-7.0	478,889.022	-7.0	52,139,022
-6.0	1,297,717.022	-8.0	558,889.022	-8.0	60,852,022
-7.0	927,717.022	-9.0	638,889.022	-9.0	69,565,022
-8.0	487,717.022	-10.0	718,889.022	-10.0	78,278,022
-9.0	197,717.022	-11.0	798,889.022	-11.0	86,991,022
-10.0	1,000,825.122	-12.0	878,889.022	-12.0	95,704,022
-11.0	1,180,825.122	-13.0	958,889.022	-13.0	104,417,022
-12.0	1,360,825.122	-14.0	1,038,889.022	-14.0	113,130,022
-13.0	1,540,825.122	-15.0	1,118,889.022	-15.0	121,843,022
-14.0	1,720,825.122	-16.0	1,198,889.022	-16.0	130,556,022
-15.0	1,900,825.122	-17.0	1,278,889.022	-17.0	139,269,022
-16.0	2,080,825.122	-18.0	1,358,889.022	-18.0	147,982,022
-17.0	2,260,825.122	-19.0	1,438,889.022	-19.0	156,695,022
-18.0	2,440,825.122	-20.0	1,518,889.022	-20.0	165,408,022
-19.0	2,620,825.122	-21.0	1,598,889.022	-21.0	174,121,022
-20.0	2,800,825.122	-22.0	1,678,889.022	-22.0	182,834,022
-21.0	2,980,825.122	-23.0	1,758,889.022	-23.0	191,547,022
-22.0	3,160,825.122	-24.0	1,838,889.022	-24.0	200,260,022
-23.0	3,340,825.122	-25.0	1,918,889.022	-25.0	208,973,022
-24.0	3,520,825.122	-26.0	1,998,889.022	-26.0	217,686,022
-25.0	3,700,825.122	-27.0	2,078,889.022	-27.0	226,399,022
-26.0	3,880,825.122	-28.0	2,158,889.022	-28.0	235,112,022
-27.0	4,060,825.122	-29.0	2,238,889.022	-29.0	243,825,022
-28.0	4,240,825.122	-30.0	2,318,889.022	-30.0	252,538,022
-29.0	4,420,825.122	-31.0	2,398,889.022	-31.0	261,251,022
-30.0	4,600,825.122	-32.0	2,478,889.022	-32.0	269,964,022
-31.0	4,780,825.122	-33.0	2,558,889.022	-33.0	278,677,022
-32.0	4,960,825.122	-34.0	2,638,889.022	-34.0	287,390,022
-33.0	5,140,825.122	-35.0	2,718,889.022	-35.0	296,103,022
-34.0	5,320,825.122	-36.0	2,798,889.022	-36.0	304,816,022
-35.0	5,500,825.122	-37.0	2,878,889.022	-37.0	313,529,022
-36.0	5,680,825.122	-38.0	2,958,889.022	-38.0	322,242,022
-37.0	5,860,825.122	-39.0	3,038,889.022	-39.0	330,955,022
-38.0	6,040,825.122	-40.0	3,118,889.022	-40.0	339,668,022
-39.0	6,220,825.122	-41.0	3,198,889.022	-41.0	348,381,022
-40.0	6,400,825.122	-42.0	3,278,889.022	-42.0	357,094,022
-41.0	6,580,825.122	-43.0	3,358,889.022	-43.0	365,807,022
-42.0	6,760,825.122	-44.0	3,438,889.022	-44.0	374,520,022
-43.0	6,940,825.122	-45.0	3,518,889.022	-45.0	383,233,022
-44.0	7,120,825.122	-46.0	3,598,889.022	-46.0	391,946,022
-45.0	7,300,825.122	-47.0	3,678,889.022	-47.0	400,659,022
-46.0	7,480,825.122	-48.0	3,758,889.022	-48.0	409,372,022
-47.0	7,660,825.122	-49.0	3,838,889.022	-49.0	418,085,022
-48.0	7,840,825.122	-50.0	3,918,889.022	-50.0	426,798,022
-49.0	8,020,825.122	-51.0	3,998,889.022	-51.0	435,511,022
-50.0	8,200,825.122	-52.0	4,078,889.022	-52.0	444,224,022
-51.0	8,380,825.122	-53.0	4,158,889.022	-53.0	452,937,022
-52.0	8,560,825.122	-54.0	4,238,889.022	-54.0	461,650,022
-53.0	8,740,825.122	-55.0	4,318,889.022	-55.0	470,363,022
-54.0	8,920,825.122	-56.0	4,398,889.022	-56.0	479,076,022
-55.0	9,100,825.122	-57.0	4,478,889.022	-57.0	487,789,022
-56.0	9,280,825.122	-58.0	4,558,889.022	-58.0	496,502,022
-57.0	9,460,825.122	-59.0	4,638,889.022	-59.0	505,215,022
-58.0	9,640,825.122	-60.0	4,718,889.022	-60.0	513,928,022
-59.0	9,820,825.122	-61.0	4,798,889.022	-61.0	522,641,022
-60.0	10,000,825.122	-62.0	4,878,889.022	-62.0	531,354,022
-61.0	10,180,825.122	-63.0	4,958,889.022	-63.0	540,067,022
-62.0	10,360,825.122	-64.0	5,038,889.022	-64.0	548,780,022
-63.0	10,540,825.122	-65.0	5,118,889.022	-65.0	557,493,022
-64.0	10,720,825.122	-66.0	5,198,889.022	-66.0	566,206,022
-65.0	10,900,825.122	-67.0	5,278,889.022	-67.0	574,919,022
-66.0	11,080,825.122	-68.0	5,358,889.022	-68.0	583,632,022
-67.0	11,260,825.122	-69.0	5,438,889.022	-69.0	592,345,022
-68.0	11,440,825.122	-70.0	5,518,889.022	-70.0	601,058,022
-69.0	11,620,825.122	-71.0	5,598,889.022	-71.0	609,771,022
-70.0	11,800,825.122	-72.0	5,678,889.022	-72.0	618,484,022
-71.0	11,980,825.122	-73.0	5,758,889.022	-73.0	627,197,022
-72.0	12,160,825.122	-74.0	5,838,889.022	-74.0	635,910,022
-73.0	12,340,825.122	-75.0	5,918,889.022	-75.0	644,623,022
-74.0	12,520,825.122	-76.0	5,998,889.022	-76.0	653,336,022
-75.0	12,700,825.122	-77.0	6,078,889.022	-77.0	662,049,022
-76.0	12,880,825.122	-78.0	6,158,889.022	-78.0	670,762,022
-77.0	13,060,825.122	-79.0	6,238,889.022	-79.0	679,475,022
-78.0	13,240,825.122	-80.0	6,318,889.022	-80.0	688,188,022
-79.0	13,420,825.122	-81.0	6,398,889.022	-81.0	696,901,022
-80.0	13,600,825.122	-82.0	6,478,889.022	-82.0	705,614,022
-81.0	13,780,825.122	-83.0	6,558,889.022	-83.0	714,327,022
-82.0	13,960,825.122	-84.0	6,638,889.022	-84.0	723,040,022
-83.0	14,140,825.122	-85.0	6,718,889.022	-85.0	731,753,022
-84.0	14,320,825.122	-86.0	6,798,889.022	-86.0	740,466,022
-85.0	14,500,825.122	-87.0	6,878,889.022	-87.0	749,179,022
-86.0	14,680,825.122	-88.0	6,958,889.022	-88.0	757,892,022
-87.0	14,860,825.122	-89.0	7,038,889.022	-89.0	766,605,022
-88.0	15,040,825.122	-90.0	7,118,889.022	-90.0	775,318,022
-89.0	15,220,825.122	-91.0	7,198,889.022	-91.0	784,031,022
-90.0	15,400,825.122	-92.0	7,278,889.022	-92.0	792,744,022
-91.0	15,580,825.122	-93.0	7,358,889.022	-93.0	801,457,022
-92.0	15,760,825.122	-94.0	7,438,889.022	-94.0	810,170,022
-93.0	15,940,825.122	-95.0	7,518,889.022	-95.0	818,883,022
-94.0	16,120,825.122	-96.0	7,598,889.022	-96.0	827,596,022
-95.0	16,300,825.122	-97.0	7,678,889.022	-97.0	836,309,022
-96.0	16,480,825.122	-98.0	7,758,889.022	-98.0	845,022,022
-97.0	16,660,825.122	-99.0	7,838,889.022	-99.0	853,735,022
-98.0	16,840,825.122	-100.0	7,918,889.022	-100.0	862,448,022
-99.0	17,020,825.122	-101.0	7,998,889.022	-101.0	871,161,022
-100.0	17,200,825.122	-102.0	8,078,889.022	-102.0	879,874,022
-101.0	17,380,825.122	-103.0	8,158,889.022	-103.0	888,587,022
-102.0	17,560,825.122	-104.0	8,238,889.022	-104.0	897,300,022
-103.0	17,740,825.122	-105.0	8,318,889.022	-105.0	906,013,022
-104.0	17,920,825.122	-106.0	8,398,889.022	-106.0	914,726,022
-105.0	18,100,825.122	-107.0	8,478,889.022	-107.0	923,439,022
-106.0	18,280,825.122	-108.0	8,558,889.022	-108.0	932,152,022
-107.0	18,460,825.122	-109.0	8,638,889.022	-109.0	940,865,022
-108.0	18,640,825.122	-110.0	8,718,889.022	-110.0	949,578,022
-109.0	18,820,825.122	-111.0	8,798,889.022	-111.0	958,291,022
-110.0	19,000,825.122	-112.0	8,878,889.022	-112.0	967,004,022
-111.0	19,180,825.122	-113.0	8,958,889.022	-113.0	975,717,022
-112.0	19,360,825.122	-114.0	9,038,889.022	-114.0	984,430,022
-113.0	19,540,825.122	-115.0	9,118,889.022	-115.0	993,143,022
-114.0	19,720,825.122	-116.0	9,198,889.022	-116.0	1,001,856,022
-115.0	19,900,825.122	-117.0	9,278,889.022	-117.0	1,010,569,022
-116.0	20,080,825.122	-118.0	9,358,889.022	-118.0	1,019,282,022
-117.0	20,260,825.122	-119.0	9,438,889.022	-119.0	1,027,995,022
-118.0	20,440,825.122	-120.0	9,518,889.022	-120.0	1,036,708,022
-119.0	20,620,825.122	-121.0	9,598,889.022	-121.0	1,045,421,022
-120.0	20,800,825.122	-122.0	9,678,889.022	-122.0	1,054,134,022
-121.0	20,980,825.122	-123.0	9,758,889.022	-123.0	1,062,847,022
-122.0	21,160,825.122	-124.0	9,838,889.022	-124.0	1,071,560,022
-123.0	21,340,825.122	-125.0	9,918,889.022	-125.0	1,080,273,022
-124.0	21,520,825.122	-126.0	9,998,889.022	-126.0	1,088,986,022
-125.0	21,700,825.122	-127.0	10,078,889.022	-127.0	1,097,699,022
-126.0	21,880,825.122	-128.0	10,158,889.022	-128.0	1,106,412,022
-127.0	22,060,825.122	-129.0	10,238,889.022	-129.0	1,115,125,022
-128.0	22,240,825.122	-130.0	10,318,889.022	-130.0	1,123,838,022
-129.0	22,420,825.122	-131.0	10,398,889.022	-131.0	1,132,551,022
-130.0	22,600,825.122	-132.0	10,478,889.022	-132.0	1,141,264,022
-131.0	22,780,825.122	-133.0	10,558,889.022	-133.0	1,149,977,022
-132.0	22,960,825.122	-134.0	10,638,889.022	-134.0	1,158,690,022
-133.0	23,140,825.122	-135.0	10,718,889.022	-135.0	1,167,403,022
-134.0	23,320,825.122	-136.0	10,798,889.022	-136.0	1,176,116,022
-135.0	23,500,825.122	-137.0	10,878,889.022	-137.0	1,184,829,022
-136.0	23,680,825.122	-138.0	10,958,889.022	-138.0	1,193,542,022
-137.0	23,860,825.122	-139.0	11,038,889.022	-139.0	1,202,255,022
-138.0	24,040,825.122	-140.0	11,118,889.022	-140.0	1,210,968,022
-139.0	24,22				

LAKE GORDON

Point No.	Station	Latitude	Longitude	Distance	Bearing	Area	Volume	Remarks
1	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...
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LAKE KOON

Point No.	Station	Latitude	Longitude	Distance	Bearing	Area	Volume	Remarks
1	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...
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**GORDON FOREMAN**  
Professional Engineer  
License No. 10000  
State of Tennessee

**CD&F**  
Civil Design & Forestry

LAKE GORDON AND LAKE KOON  
BASIN TOPOGRAPHIC SURVEY  
GARDNER AND WALTER TOWNSHIP  
ROBERTSON COUNTY, TENNESSEE

DATE: 05/11/2017  
DRAWN BY: JAS  
CHECKED BY: BWS

SHEET NO. 38

## **APPENDIX B**

### **Water Conservation Methods**

## AVERAGE DAILY WATER USE

Be aware of how much water you use! Awareness is the first step in conservation. The following table indicates how much water the average person uses each day.

### Use Gallons Per Day

- Toilet 19
- Bathing & hygiene 15
- Laundry 8
- Kitchen 7
- Housekeeping 1

**TOTAL 50**

You can determine your average daily water use by using one of the following two methods.

### *Metered Water*

If your water use is metered, review your water bill. Divide your water usage by the number of days in the billing period and also by the number of residents of your household. If your water is measured in cubic feet, convert to gallons by multiplying by 7.48.

### *Unmetered Water*

If your water use is not metered, you must determine your water use for each fixture. Flow rates for showers and faucets can be measured by using a container and watch to measure the amount of water discharged through the fitting in a minute. Toilet use per flush can be approximated by measuring the volume of water inside the toilet tank (width x length x height) and dividing by 231. (There are 231 cubic inches in a gallon of water.) After you have determined the water use of each fixture, you will need to record the number of uses and the length of time each fixture is used to determine your average daily water use. Remember to estimate the amount of water used by appliances such as clothes washers and dishwashers as well as home water treatment systems.

Water-saving devices are economical and permanent. Low-flow showerheads and faucet aerators save valuable water and energy used to heat water without requiring changes in personal water use habits.

## WATER SAVINGS

The amount of savings depends on current water consumption habits, water, sewer and energy costs, current flow rates of fixtures and flush volumes of toilets, system pressure, and the amount of water leakage through fittings and toilets.

The following chart highlights how much water can be conserved by installing water-saving equipment in place of conventional plumbing fixtures, fittings and appliances.

### Fixture/Fitting/Appliance Water Use In Gallons Per

- |                                       |  |
|---------------------------------------|--|
| • Vintage Toilet* 4-6 flush           | • Flow Regulating Aerator .5-2.5 min.    |
| • Conventional Toilet** 3.5 flush     | • Top-Loading Washer 40-55 load          |
| • Low Consumption Toilet*** 1.6 flush | • Front-Loading Washer 22-25 load        |
| • Conventional Showerhead* 3-10 min.  | • Dishwasher 8-12 load                   |
| • Low-Flow Showerhead 2-2.5 min.      | • Manufactured before 1978               |
| • Faucet Aerator* 3-6 min.            | • ** Manufactured from 1978 to 1993      |
|                                       | • *** Manufactured since January 1, 1994 |

## **REPAIR ALL LEAKS**

A dripping faucet is more than annoying . . . it is expensive. Even small leaks can waste significant amounts of water. Hot water leaks are a waste of water and of the energy used to heat the water. Leaks inside the toilet can waste up to 200 gallons of water a day. Toilet leaks can be detected by adding a few drops of food coloring to water in the toilet tank. If the colored water appears in the bowl, the toilet is leaking. If you have a leaking faucet or toilet, stop pouring money down the drain and repair it.

## **HOW TO SAVE WATER IN THE BATHROOM**

When constructing a new home or remodeling your bathroom, install low consumption (1.6 gal/flush) toilets. Place a weighted plastic gallon jug in the tanks of conventional toilets to displace and save an equal amount of water with each flush.

Install low-flow aerators and showerheads. They are inexpensive, easy to install, and save water and energy. Do not let the faucet flow while brushing your teeth or shaving. Use a glass of water for rinsing teeth. Take showers instead of tub baths. Consider bathing small children together.

If your shower has a single-handle control or shut off valve, turn off the flow while soaping or shampooing. Leaking diverter valves (valves which divert water from the tub spout to the showerhead) should be replaced.

## **LOW CONSUMPTION TOILETS**

Federal law, effective since Jan. 1, 1994, prohibits the manufacture of toilets using more than 1.6 gallons per flush. The installation of low consumption toilets and other water-saving plumbing fixtures is required by law in 17 states. Although Pennsylvania is not one of these states, municipalities in the Pennsylvania portion of the Delaware River Basin are required by the Delaware River Basin Commission to pass ordinances requiring the installation of low consumption toilets and other water-saving plumbing fixtures in new construction and remodeling projects.

## **HOW TO SAVE WATER IN THE KITCHEN AND LAUNDRY**

1. Refrigerate a bottle of drinking water instead of letting a faucet flow until the water is cold enough to drink.
2. Use a dishpan or plug the sink for washing and rinsing dishes. Install a low-flow aerator on all faucets.
3. Pre-rinsing dishes prior to loading in a dishwasher is an unnecessary and wasteful use of water.
4. Operate the washing machine and dishwasher only when they are fully loaded.
5. Use the proper water level or load size selection on the washing machine.
6. When purchasing a washing machine or dishwasher, consider water consumption as well as energy efficiency. Most manufacturers now provide this information to consumers.

## **HOW TO SAVE WATER OUTSIDE THE HOME**

The watering of lawns and gardens can double normal household water use during the hot, dry summer months. At standard household water pressures, a garden hose will discharge up to 6½ gallons of water per minute. To apply an inch of water to 1,000 square feet of lawn or garden requires 620 gallons of water.

Watering should be limited to gardens, and newly planted lawns and landscaped areas. Established lawns and landscape plantings will usually survive without watering. Inadequate watering encourages shallow root growth and increases the risk of mortality. When water is scarce, your community or individual water supply should be reserved for your most essential needs.

The following water-saving measures should be practiced regularly, but remember, during mandatory water use restrictions, all water use outside the home is prohibited!

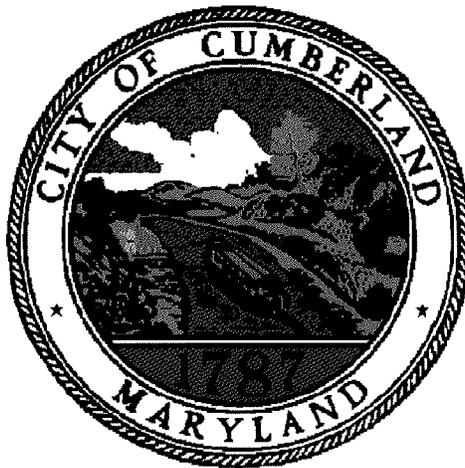
- Use a broom, not a hose, to clean driveways, steps and sidewalks.
- Wash the car with water from a bucket.

- If a hose must be used, control the flow with an automatic shut-off nozzle.
- Water the lawn or garden during the coolest part of the day. Do not water on windy days.
- Set sprinklers to water the lawn or garden only. Do not water the street or sidewalk.
- Use soaker hoses and trickle irrigation systems to reduce the amount of water used for irrigation by 20 to 50 percent.
- Use mulch around shrubs and garden plants to reduce evaporation from the soil surface and cut down on weed growth.
- Use native plants in landscaping your lawn, because they require less care and water than ornamental varieties.

#### **HOW TO CONSERVE WATER IN THE COMMUNITY**

- Encourage the use of water conservation devices by large water-using facilities such as schools, health clubs, motels and others.
- Survey water users within large water using facilities and develop plans to reduce water use.
- Encourage a community-based service organization such as a scout group, service club or church youth group to start a water conservation program. Water conservation is stewardship of our natural resources.
- Encourage use of drought tolerant vegetation in outdoor landscaping at large facilities and community sites.
- Retrofit older buildings and facilities with water-efficient plumbing fixtures.

**EVITTS CREEK WATER COMPANY**  
**and the**  
**CITY OF CUMBERLAND,**  
**MARYLAND**



**DROUGHT CONTINGENCY**  
**PLAN**

May 2012

## EXHIBIT B

### **Sec. 24-331.- Generally.**

The mayor and city council is hereby authorized to declare the following water conservation stages and measures to be in effect when the water supply of the City of Cumberland warrants the same. When either Stage 2 or Stage 3 water rationing is in effect, no person, firm, corporation or other business entity shall use any water in violation of any provision of this article.

### **Sec. 24-332. - Stage 1--Voluntary water conservation.**

Voluntary water conservation shall be in effect when the raw water supply is determined to be equivalent to two billion gallons or a one hundred eighty (180) day supply. Procedure for Stage 1 shall be as follows:

1. The city administrator will make public announcements in the news media that Stage 1 voluntary water conservation is in effect. The announcements will include a description of the provisions in effect and a formal request that all water customers reduce their daily consumption of water by five percent (5%).
2. Water customers will be urged to conserve water in every way possible in their homes and businesses.
3. Water customers will be encouraged to:
  - A. Avoid watering lawns, gardens, shrubs, trees and plants or limit water used in doing so;
  - B. Avoid washing vehicles or limit water used in doing so;
  - C. Only run washing machines and dish washers with full loads;

- D. Turn off the water while brushing their teeth, shaving or shampooing;
- E. Take shorter showers and reduce water flow while showering;
- F. Check water faucets, toilets and plumbing for leaks and repair the same;
- G. Install water saving devices such as low flow toilets to reduce water consumption;
- H. Refrain from filling and topping off pools; and
- I. Implement such other conservation measures as can reasonably be undertaken.

**Sec. 24-332. - Stage 2--Mandatory water conservation.**

Stage 2 mandatory water conservation will be in effect whenever the raw water is equivalent to 1.5 billion gallons or a one hundred thirty-five (135) day supply or when a drought emergency is declared in the State of Maryland (as a whole) or Bedford County, Pennsylvania. This section restricts non-essential water uses in response to a state of drought and water shortage emergency in order to conserve water, balance demand with limited available supplies and to ensure that sufficient water is available to serve essential health, safety and economic needs. Procedure for Stage 2 shall be as follows:

1. The city administrator will make public announcements in the news media concerning Stage 2 water conservation whenever Stage 2 water conservation is in effect. The announcement will include a description of the restrictions and will advise all water customers to reduce their consumption by at least ten percent (10%). All water customers, including water companies, will be required to reduce or eliminate all non-essential water use.

2. The following water uses are prohibited under mandatory water conservation:
  - a. The use of water for the watering of lawns, except:
    - i. Water may be used at a minimum rate necessary to establish and maintain newly seeded sodded grass areas when applied between the hours of 8:00 p.m. and 8:00 a.m. by means of a bucket, can or hand-held hose equipped with an automatic shut-off nozzle. Sprinklers may not be used for this purpose.
    - ii. Water may be used at the minimum rate necessary to maintain newly seeded or sodded nonresidential grass areas exceeding 10,000 square feet when applied between the hours of 8:00 p.m. and 8:00 a.m. by any means designed and operated to assure effective conservation of the water.
    - iii. Water may be used by a professional landscaper at the minimum rate necessary on newly seeded and sodded areas greater than 10,000 square feet during regular working hours by any means designed and operated to assure effective conservation of water.
  - b. The use of water for irrigation or watering of outdoor gardens, landscaped areas, trees, shrubs and other outdoor plants except that water may be:
    - i. Applied by a hand-held hose equipped with an automatic shut off nozzle, when applied between 8:00 p.m. and 8:00 a.m.
    - ii. Applied by means of a hand-held container or hand-held hose equipped with an automatic shut-off nozzle at the minimum rate necessary to establish and maintain newly planted gardens, trees, shrubs and other outdoor plants. Sources of water,

other than potable water, shall be used where available.

- iii. Used by commercial nurseries at the minimum rate necessary to maintain stock, only to the extent that sources of water other than potable water adequate to supply needs are not available or feasible to use.
- c. The use of potable water for watering a portion of golf courses, except that potable water may be used:
- i. To water tees and greens between the hours of 8:00 p.m. and 8:00 a.m.
  - ii. To syringe heat sensitive grasses during daytime stress periods at the minimum rate necessary.
  - iii. As part of the necessary overseeding, resodding operation during the months of August, September and October at the minimum rate necessary.
- d. The use of water for washing paved surfaces, such as streets, roads, sidewalks, driveways, garages, parking areas, tennis courts, patios, etc., except water may be used:
- i. For pre-washing in preparation of asphalt street or driveway recoating or sealing.
  - ii. At the minimum rate necessary for sanitation of the premises of eating and drinking places.
- e. The use of potable water for ornamental purposes, including fountains, artificial waterfall and reflecting pools.
- f. The use of potable water for washing or cleaning of mobile equipment, including automobiles, trucks, trailers and boats, except that:

- i. An individual may wash personally owned or leased vehicles by buckets only.
  - ii. Potable water may be used by commercial car washes at the minimum rate necessary to ensure an effective wash.
  - iii. Potable water may be used for cleaning of construction, emergency, public transportation, or government vehicles if necessary to preserve the proper functioning and safe operation of the vehicle.
- g. The use of potable water for the cleaning of new and used cars which are part of a dealer's sale inventory except in accordance with the following restrictions:
- i. A vehicle may be washed in preparation for sale at the time the vehicle is received from the manufacturer or prior owner.
  - ii. A vehicle may be washed following sale immediately prior to delivery to the purchaser.
  - iii. A vehicle may be washed only by a means designed and operated to assure effective conservation of water or by bucket.
- h. The serving of water in restaurants, clubs or eating places, unless specifically requested by the individual.
- i. The use of potable water to fill and top off swimming pools, except that potable water may be used to fill and top off:
- i. Public swimming pools and residential swimming pools serving 25 or more dwelling units, if the pools have filtration equipment allowing for continued use and recycling of water over the swimming season.
  - ii. Swimming pools operated by health care facilities used in relation to patient care and rehabilitation.

- iii. Other pools only if approved by the City.
- j. All businesses, industry and water companies using a minimum of 10,000 gallons of water per day shall submit to the Director of Utilities, 57 N. Liberty Street, Cumberland, MD 21502, an Emergency Water Conservation Plan detailing available conservation methods that provide an overall ten percent (10%) reduction in water usage.
- k. All customers using between 1,000 and 10,000 gallons of water per day shall submit the Director of Utilities, 57 N. Liberty Street, Cumberland, MD 21502, an Emergency Water Conservation Plan detailing available conservation methods that provide an overall ten percent (10%) reduction in water usage.

**Sec. 24-334. - Stage 3--Water rationing.**

Stage 3 water rationing will be in effect when the raw water supply is equivalent to 0.75 billion gallons or a sixty-eight (68) day supply. Procedure for Stage 3 shall be as follows:

1. The city administrator will make public announcement that State 3 water rationing is in effect. Water rationing measures include formal announcement to all water customers to reduce their consumption by at least twenty-five percent (25%).
2. The city will provide all residential water customers and water companies with suggested means for reducing water consumption in order to achieve the 25% reduction in water usage. The suggested means for reducing the water consumption include:
  - a. Locating and repairing all leaks in faucets, toilets and water using appliances;
  - b. Adjusting all water using appliances to use the minimum amount of water in order to achieve the appliances purpose;

- c. Using automatic washing machines and dishwashers only with full loads - preferably washing dishes by hand;
  - d. Taking shorter showers and shallower baths;
  - e. Turning off shower while soaping;
  - f. Turning off faucet while brushing teeth;
  - g. Reducing the number of toilet flushes per day, installing a water saving toilet or toilet tank water displacement inserts;
  - h. Using sink and tub stoppers to avoid wasting water;
  - i. Keeping bottle of chilled drinking water in the refrigerator; and
  - j. Reading the meter to determine the household's daily water use (meters read in cubic feet - multiply the cubic feet used by 7.48 to determine gallons).
3. The city will provide all non-residential customers with suggested means to reduce usage levels. The suggestions may include:
- a. Identify and repair all leaky fixtures and water using equipment. Special attention should be given to equipment connected directly to water lines, such as processing machines, steam-using machines, washing machines, water-cooled air conditioners and furnaces.
  - b. Assure that the valves and solenoids, which control water flows, are shut off completely when the water using cycle is not engaged.
  - c. Adjust water-using equipment to use the minimum amount of water required to achieve its stated purpose.
  - d. Shorten rinse cycle for laundry machines as much as possible. Lower water levels should be implemented whenever possible.

- e. Temperature setting for hot water showers should be set down 10 degrees to discourage lengthy shower taking.
  - f. Where plumbing fixtures can accommodate, flow restricting or other water saving devices should be installed.
  - g. Review usage patterns to see where other savings can be made.
  - h. For processing and cooling and other uses where possible, either reuse water or use water from sources that would not adversely affect public water supplies.
4. The following water uses are considered non-essential and are prohibited during a drought emergency when water rationing is implemented:
- a. Watering lawns;
  - b. Watering of outdoor gardens, landscaped areas, tree, shrubs, other plants except by means of bucket or pail;
  - c. Watering of golf courses' fairways;
  - d. Non-commercial washing of automobiles and trucks;
  - e. Washing of streets, driveways and sidewalks;
  - f. Serving water in restaurants, clubs or eating places unless specifically requested by the individual;
  - g. Ornamental water use including fountains, artificial waterfalls and reflecting pools;
  - h. The use of water to flush sewers or hydrants except as deemed necessary in the interest of public health or safety;
  - i. The use of fire hydrants for testing fire apparatus and for fire department drills except as deemed necessary in the interest of public safety; and

iii. Metered and master-metered residential customers of the city water supply system where a water supply system serves both metered and master-metered residential customers, the allotments and procedures provided under both subsections (i) and (ii) shall be applied, as appropriate.

iv. Variances and Exceptions: Where the residential water allotment provided would create extraordinary hardship, as in the case of special health-related requirements, the water customer may apply to the city for an exemption or variance from these requirements. If the city finds that the allotment provided in this section would impose extraordinary hardship, the city may establish a revised allotment for the particular customer. For these purposes, an "extraordinary hardship" means a permanent damage to property or economic loss which is substantially more severe than the sacrifices borne by other water users subject to these restrictions.

c. Water Use Restrictions for Non-Residential Water Customers

1. Non-residential customers include commercial industrial, institutional, public, and all other users, with the exception of hospitals and health care facilities.

2. Non-residential water customers shall reduce their water usage by a minimum of 25 percent of use levels for the same quarter of the preceding year.

3. It is the primary responsibility of each non-residential water customer to meet its mandated water use reduction goal in whatever manner possible.

4. The city will establish a water allotment for each non-residential water customer, based upon a required 25 percent reduction of water usage from the rate of water used by the customer in the same quarter of the

preceding year or the last recorded use level if no meter readings recorded the rate of the customer's use in the same quarter of the preceding year.

5. Each non-residential water user shall provide access to city personnel for purposes of meter reading and monitoring of compliance with these water use restrictions. The city shall make all reasonable efforts to contact customers to arrange for access.
6. If the mandated 25 percent reduction in water usage cannot be obtained without imposing extraordinary hardship threatening health and safety, the non-residential customer may apply to the city for a variance. For these purposes, "extraordinary hardship" means a permanent damage to property or economic loss which is substantially more severe than the sacrifices borne by other water users subject to these restrictions. If the city finds that the 25 percent reduction would cause extraordinary hardship or threaten health or safety, the purveyor may grant a variance and establish a revised water use reduction requirement for the particular customer.

**Sec. 24-335 - Service interruptions.**

During Stage 3 water rationing, temporary interruptions in water service may be implemented if such action is necessary to achieve water use reductions to prevent the depletion of the city's on-hand water supply to the point that vital service demands, including, but not limited to, those related to public health and safety needs, firefighting and health care facilities' needs, cannot be met.

The following provisions shall govern the implementation of temporary service interruptions:

1. The city is authorized and required to plan and implement temporary service interruptions to all or part of its water supply system when any or all of the following conditions are determined to exist:
  - a. A 25% reduction in system-wide water usage has not been achieved;
  - b. The 25% reduction in system-wide water usage has been achieved, but has failed to have a significant impact in extending limited water supplies; and/or
  - c. Temporary service interruptions are necessary in order to further extend limited and/or dwindling water supplies.
2. In the event the city determines that planned temporary service interruptions are necessary, it shall notify its customers through the public media no less than one (1) day in advance of the imposition of any such interruption. In addition, the city shall notify the Maryland Department of the Environment - Water Supply Program and local health authorities of the planned interruption in service. Such notice shall state (i) the day(s) when the temporary service interruptions will occur, (ii) the times of day when the service interruptions will begin and end, (iii) whether the interruption(s) in service will apply to the entire system or only a part thereof and, if only a part of the system is to be affected by the interruption, the geographical boundaries of the area to be affected, and (iv) an advisory as to whether any water obtained from the system and intended to be used for human consumption should be treated before being subjected to such use and, if treatment is required, a description of the treatment and whether the treatment will be required beyond the cessation of the temporary interruption in service and, if so, for what period of time.
3. In the event the city implements planned temporary interruption(s) in service, it shall provide for the continued delivery of water to

health care facilities within the area(s) affected by such interruptions by means of any adequate alternative delivery measures that may be available.

4. If the city implements planned temporary interruptions in service, it shall make provision, by any means possible, for the continued delivery of such water as may be necessary for the proper operation of sewage collection, treatment and disposal systems and facilities.

**Sec. 24-336 - Responsibility.**

No person shall be convicted of violating this article unless such person in fact turned on water, directed the turning on of water, kept water turned on after learning it was turned on in violation of this article, or failed to turn off automatic devices capable of turning on water in violation of this article. It will not be necessary, however, to present a witness who saw the accused turning on the water, if the circumstances indicate the accused turned on the water.

**Sec. 24-337 - Reports.**

The city administrator will make regular reports to the mayor and city council at least bi-weekly while Stage 2 or Stage 3 water rationing is in effect.

**Sec. 24-338 - Severability.**

The provisions of this article are severable, and the invalidity of any part of this article shall not affect the validity of the remainder of its terms.

**Sec. 24-339 - Penalty.**

The violation or any provision of this article is declared to be a municipal infraction punishable by a fine of two hundred fifty dollars (\$250.00) if the violation is a first offense and a fine of five hundred dollars (\$500.00) if the violation is a second or

subsequent offense. Each day a violation continues shall constitute a separate offense.

Additionally, water customers using more than the amount of potable water allocated to them under the provisions applicable to Stage 3 water rationing will receive a warning advising them that their water is subject to being shut off in the event of any future incidences of excess use. For any subsequent incidences of excess use, the city may interrupt or shut off water service to the customer for a period not to exceed 48 hours or, if the customer provides access, the city may install a flow restrictor in the customer's service line for the duration of the emergency. The cost incurred by the city to interrupt or shut off and reinstate service or to install and remove a flow restrictor shall be assessed to the water customer.