`Impact Response Plan (Comprehensive)

Sardis Lake Water Authority

Name:

Address:161552 State Hwy 2 Clayton, Ok 74536

Telephone Number:1-918-569-4685

Water Right No.(s):91-54

Production

Surface Water (gpm):600

Booster capacity (gpm):220

Storage

Elevated Storage

In-ground clear well

Customer Data:

Population Served

Water System Facilities:

[*Stations/] Wildwood acres pump station*

[*# of Fire Hydrants*] 20

Active Connections

Residential

Wholesale

Commercial

Potential Supplemental Supply Sources (for emergency conditions):

Potential Interconnections (for emergency conditions):

Previous Annual Water Use (5 years)

Year	Water Produced (Gallons)	Water Metered (Gallons)	Non-Metered Water (Gallons)
2022	173,579,000	126,371,115	
2021	159,226,000	117,873,359	
2020	151,031,000	93,179,772	
2019	71,212,000*	106,373,629	

2018	59,758,000*	103,848,690	

- Reflects data that may not have been reported or read incorrectly by previous operators/or bad data by meter or scada system.

Projected Water Demands:

Water Demands expect to grow in next ten years due to developments.

Supply and Demand Balance

Quantify yearly shortage for next five or more years.

Demand of residential development is restricted based on restricted capacity of the facility.

Form Completed by:

Title:

Person responsible for implementation: Phone:

Signature: Date:

SLWA has a high level of concern for the protection of the environment, sustainability of its water resources, and maintaining high levels of service to their customers.

Climate change presents specific challenges to water providers, including increased frequency and duration of droughts, deep freeze events, and flooding from extreme precipitation events, and degradation of source water quality. SLWA establishes this Impact Response Plan to predictively and preventatively plan for these challenges to maintain a high level of service to all customers on the system.

SLWA is exercising diligence in this effort with the issuance of this Impact Response Plan (the Plan). This Plan is created to develop, manage, and conserve water resources, and further preparing for and responding to extreme climate and emergency impacts. This planning effort will ensure sufficient water will be available at a reasonable cost to protect public health, safety, and welfare; to further economic development; and to maintain the agricultural and natural resources of the region during water stressed events.

SLWA owns and operates a water treatment and distribution system, including production, storage, and distribution facilities and equipment.

The system serves an area of approximately 200 square miles. All properties within the SLWA [*limits / boundaries*] use the water system(s). The customer base consists of single-family residential, wholesale, [*multiple-family residential*, *non-residential / commercial, institutional, and industrial*] users. [*Institutional users consist of public schools, churches, and municipal properties. Institutional users are generally listed as commercial and reflected as such in this Plan.*]

The SLWA owns and operates the system that serves residents and businesses located within its boundaries.

Section I: Declaration of Policy, Purpose, and Intent

In order to conserve, sustain, and maintain the available water supply and protect the integrity of water supply facilities, with regard to domestic water use, sanitation, and fire protection, to protect and preserve the public health, and minimize adverse impacts of water stresses, SLWA hereby adopts the following Plan to address water shortages brought about by extreme climate impact and other emergency impact events.

Water uses regulated or restricted under this Plan are **non-essential** and a continuation of such uses during times of water shortage or other emergency water supply impact conditions are deemed to constitute a waste of water which subjects the violators to penalties as defined in Section X of this Plan. "Waste" shall be defined as use of water in such an inefficient manner that excessive losses occur. (785:20-1-2; 82 O.S. § 1020.15)

[*This Plan is adopted by SLWA pursuant to the direction of the Board of Members contained in Section.*

Section II: Public Involvement

Opportunity for the public to provide input into the preparation and adoption of the Plan was provided by SLWA by means of [*public notice of a public meeting to accept input on the Plan, etc*.].

SLWA holds regular Council Meetings on the 2nd Wednesday of each month at 5:30 p.m. These meetings are open to the public, and citizens are free to speak on any subject during the portion of the meeting designated for this purpose.

Section III: Public Education

SLWA will timely provide the public with information about the Plan, including information about when the conditions under which each stage of the Plan is to be initiated or

terminated and the appropriate response measures to be implemented in each stage. This information will be provided by means of [by website alerts or social media page then by mail if time allows.]

SLWA will distribute educational materials on water use and conservation through [*website*] and provide the Impact Response Plan and water conservation tips on the SLWA's website and social media.

SLWA will increase educational efforts to inform customers of high usage of consumption and provide conservation tips. SLWA strives to provide for a continuing process of maintaining and/or reducing water consumption levels, especially in water stressed and emergency events, through good stewardship and conservation.

Beginning in the month of January through March, SLWA will increase educational efforts to increase customer awareness of potential freezing impacts to the water system and within the customer lines. Updates will be made to notify customers of impending low temperatures for an extended period of time as soon as possible through mass text communication, social media and websites. Best management practices have been included as an Appendix to this Plan to assist customers in preparing their homes and distribution systems for extended durations of extreme low temperatures, ice storms, and snow events.

Beginning in the month of March through May, SLWA will increase educational efforts to increase customer awareness of potential flooding conditions and necessary water conservation in coming months to encourage the most efficient use of water. Updates will be made to notify customers of any flooding event as soon as possible through mass text communication, social media, and website.

In June, SLWA will increase educational efforts to inform customers on the SLWA website providing email alerts and notifications on customers' water usage.

Beginning in the month of June through September, SLWA will provide increased notification to customers with high or unusual usage trends in order to assist in the early detection of leaks and potential irrigation system issues. Updates to drought forecasts will be made to notify customers of current drought conditions and weekly drought forecasts via mass text communication, social media, and website. Best management practices for water use and conservation for drought events have been included as an Appendix to this Plan.

SLWA will implement a process of maintaining and/or reducing high water consumption levels through good stewardship and conservation by performing frequent water accounting and meter testing to identify meter failures, line breaks, leaks, and inaccuracies.

SLWA will continue to educate customers of potential climate and emergency impacts that may affect levels of service and further provide conservation tips to conserve, sustain, and maintain a reliable water supply. SLWA will update best management practices for customers to reduce impacts that may affect their water services.

Section IV: Coordination with Interconnected Water Providers

The service area of SLWA distributes water to Latimer #2, Pushmataha #1, Pushmataha #5, and City of Clayton through purchase agreement and SLWA has provided a copy of this Plan to Latimer #2, Pushmataha #1, Pushmataha #5, and City of Clayton. Further, SLWA encourages Latimer #2, Pushmataha #1, Pushmataha #5, and City of Clayton to adopt this Plan for water stressed events due to climate or other emergency impact events as needed to maintain a reliable service for the protection of public health.

Section V: Authorization

The SLWA Board, or their designee is hereby authorized and directed to implement the applicable provisions of this Plan upon determination that such implementation is necessary to protect public health, safety, and welfare. The SLWA Board or their designee shall have the authority and discretion to initiate or terminate climate or other emergency water supply impact protocol response measures as described in this Plan.

SLWA is an Oklahoma public trust rural water system for the benefit of Pushmataha, Latimer, Pittsburg, and Atoka County's and has the authority to enforce this Plan with appropriate fees for violations.

The Board of Trustees shall pass to adopt the Plan and cause the Plan to become part of the SLWA in order to assess fees and terminate water service in the event of a violation of the mandatory water use restrictions.

Any violation of the provisions herein may result in a penalty fee(s) and/or interruption of water service based upon repeated violations. Penalties shall be paid before water service is restored. Violations will be reported by all SLWA personnel to SLWA Board or their designee for enforcement.

Section VI: Application

The provisions of this Plan shall apply to all persons, customers, and properties utilizing water provided by the SLWA. The terms "person" and "customer" as used in the Plan include individuals, corporations, partnerships, associations, wholesale entities, and all other legal entities.

Section VII: Definitions

Aesthetic water use: water use for ornamental or decorative purposes such as fountains, reflecting pools, and water gardens.

Aquatic life: a vertebrate organism dependent upon an aquatic environment to sustain its life.

Best Management Practices (BMPs): applicable Best Management Practices for a particular industry or general use of water (*see Appendices for examples*).

Commercial and institutional water use: water use which is integral to the operations of commercial and non-profit establishments and governmental entities such as retail establishments, hotels and motels, restaurants, and office buildings.

Conservation: those practices, techniques, and technologies that reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or increase the recycling and reuse of water so that a supply is conserved and made available for future or alternative uses.

Customer: Any person, company, corporation, partnership, association, organization, or other legal entity using water supplied by SLWA through system connections, or legal or contractual agreement.

Domestic water use: water use for personal needs or for household or sanitary purposes such as drinking, bathing, heating, cooking, sanitation, or for cleaning a residence, business, industry, or institution.

Drip irrigation: an irrigation system (drip, porous, pipe, etc.) that applies water at predetermined, controlled low-flow levels directly to the roots of the plant.

Even number address: street addresses, box numbers, or rural postal route numbers ending in 0, 2, 4, 6, 8, and locations without addresses.

Flooding: major rain events causing huge amounts of water to run off down creeks to flood lake and or too much water downstream that they cannot let water out of lake.

Freezing: Event that cause the temperature to lower below freezing and stay there for extended periods that could cause problems with water movement or delay of.

Handheld hose: a hose physically held by one person, fitted with a manual or automated shutoff nozzle.

Hand watering: the application of water for irrigation purposes through a hand-held watering hose, watering can, or bucket.

Hose-end sprinkler: a device through which water flows from a hose to a sprinkler to water any lawn or landscape.

Industrial water use: the use of water in the processes designed to convert materials of lower value into forms having greater usability and value.

Irrigation system: a system of fixed pipes and water emitters that apply water to landscape plants or turfgrass, including but not limited to in-ground and permanent irrigation systems.

Landscape irrigation use: water used for the irrigation and maintenance of landscaped areas, whether publicly or privately owned, including residential and commercial lawns, gardens, golf courses, parks, and rights-of-way and medians.

Municipal water use: water treated by SLWA specifically to meet Safe Drinking Water Standards as defined by the Safe Drinking Water Act for domestic/residential and non-residential purposes: 1) *domestic/residential use* is that water which is used in private residences, apartment houses, etc., for drinking, bathing, cleaning, landscape sprinkling, sanitary, and other purposes; 2) *non-residential/commercial and industrial* use is that water used by commercial establishments and industries; and 3) *non-residential/public and institutional* use includes water required for use in parks, public golf courses, civic buildings, schools, hospitals, and churches.

Non-essential water use: water uses that are not essential nor required for the protection of public health, safety, and welfare, including:

(a) Irrigation of landscape areas, including parks, athletic fields, and golf courses, except otherwise provided under this Plan.

(b) Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane, or other vehicle.

(c) Use of water to wash down any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas except to alleviate health and safety hazards.

(d) Use of water to wash down buildings or structures for purposes other than immediate fire protection.

(e) flushing gutters or permitting water to run or accumulate in any gutter or street.

(f) use of water to fill, refill, or add to any indoor or outdoor swimming pools or Jacuzzi-type pools.

(g) use of water in a fountain or pond for aesthetic or scenic purposes except where necessary to support aquatic life.

(h) failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s); and

(i) use of water from hydrants for construction purposes or any other purposes other than firefighting.

Non-Metered/Unaccounted Water: water use that is attributed to firefighting, unauthorized water use, inaccurate metering of customer use, distribution system leaks, line flushing, and losses due to water main breaks.

Odd numbered address: street addresses ending in 1, 3, 5, 7, or 9.

Reclaimed/Reuse water: Wastewater treated to levels appropriate for irrigation and industrial uses.

Soaker hose: a flexible hose that is designed to slowly emit water across the entire length and connect directly to a flexible hose or spigot. Does not include hose that by design or use sends a fine spray in the air. It is not considered drip irrigation.

Swimming pool: any structure, chamber, or tank, including Jacuzzi type pools, containing artificial body of water for swimming, diving, or recreational bathing, or wading, and having a depth of two (2) feet or more at any point.

Waste: use of water in such an inefficient manner that excessive losses occur. (785:20-1-2; 82 O.S. § 1020.15)

Section VIII: Initiation and Termination of Weather Response Stages

Year-Round Water Conservation:

Customers are encouraged to voluntarily adopt year-round water conservation practices and utilize best management practices, regardless of the season or water supply conditions (*see Appendices for examples*). Key elements of a successful sustainability plan are that the resources and hardships are shared as equitably as possible, and that customers are kept informed about the status of the water shortage due to adverse impact events.

The SLWA Board or their designee shall monitor water facility conditions, water supply and demand conditions, and any other determined factors on a monthly or more frequently basis

as necessary and shall determine when impact conditions warrant initiation or termination of each stage of the Plan, that is, when the "triggers" are reached.

The triggering criteria are based on factors that include, but are not limited to, the time of year, weather conditions, climate conditions, or an anticipation of a stressed replenishing of water supplies. It is not necessary for the SLWA Board to implement lower steps before higher ones. If the SLWA Board judges the situation to warrant, based on the statistical analysis of the vulnerability of the water source under climate, weather, or other emergency conditions, they can declare a higher stage of response at any time. All measures contained in the Plan for the lower levels of response automatically come into action at that point.

The SLWA Board, or their designee, shall monitor water supply and demand conditions on a daily basis, weather and emergency conditions that would affect levels of service, and in accordance with the triggering criteria set forth in each Stage of this Plan, shall determine that a water shortage condition exists and shall implement the following notification procedures:

Notification

The SLWA Board, or their designee, shall notify the public of the applicable Plan Stage and corresponding conservation measures, or the termination of a Plan Stage and corresponding conservation measures, by one or more of the following means:

[*Examples*]

- *Publication in a newspaper of general circulation*
- *Direct mail to each customer on the utility bill, as a bill insert, and or special mailing.*
- *Public meetings/community council meetings*
- *Social media*
- *SLWA website*

Additional Notifications:

The SLWA Board, or their designee, shall notify directly, or cause to be notified directly, the following individuals or entities:

- *Mayor/Chairman and members of the City Council/Utility Board*
- *City and/or County Emergency Management Coordinator(s)*
- *County Judge & Commissioner(s)*
- *State Disaster District / Department of Public Safety*
- *Oklahoma Department of Environmental Quality*

- *Major water users*
- *Critical water users (i.e., hospitals, clinics, nursing homes, schools)*
- *Parks / street superintendents & public facilities* manager*s*

Additionally, SLWA will periodically provide customers and customer agencies with information about the Plan, including information about water, weather, and emergency conditions under which each stage of the Plan is to be initiated or terminated, the response measures to be implemented in each stage, as well as any Plan updates.

Stage 1 Triggers – ADVISORY of Potential Water Shortage Conditions

During this stage, the public is informed as early as meaningful data is available that a possible water shortage may occur due to a climate, weather, or other emergency impact to assist all customers potentially affected. This public outreach is for customers to better understand the state of the water shortage condition and the need for voluntary actions. Increased voluntary conservation efforts are encouraged to minimize waste of water through carelessness, either intentional or accidental (*see Appendices for Examples of Best Management Practices*).

Stage 1 Response – ADVISORY for Potential Water Shortage Conditions

Target: Achieve a voluntary *three percent* (*3%*) reduction in [*total water use, overall daily consumption, use that would have occurred in the absence of water conservation measures, etc*.]

BMPs for Supply Management

Preventative Best Management Practices for Flooding, Freezing, and Heat Preparation are found in Appendix D, E, and F, respectively. All activities of the facility shall be focused on prevention and mitigation of adverse impacts through strategic planning.

Stage 1 is intended to increase the community's awareness of the potential for future water shortages due to climate, weather, or other emergency impacts. Under this stage, conservation efforts, which are encouraged and ongoing, will receive additional emphasis, and measures not pursued during normal water supply times because they are not cost-effective, will be re-evaluated.

1. Lawns and landscaping may be watered on any day by handheld hose, drip irrigation, or a watering can. During drought events, water customers are requested to voluntarily limit the irrigation of landscaped areas to Sundays and Thursdays for customers with a residential street address ending in an even number (0, 2, 4, 6, or 8), and Saturdays and Wednesdays for water customers with a residential street address ending in an odd number (1, 3, 5, 7,

or 9). All non-residential locations (businesses, industries, parks, medians, etc.) may water on Tuesdays and Fridays. Watering of lawns and landscapes during flooding and freezing events are highly discouraged.

2. Establishment of new turf is discouraged during drought events. After establishing new lawn growth, customers are encouraged to engage in watering restrictions listed above in Response #1.
3. All customers are encouraged to use native and adapted drought tolerant plants in landscaping.
4. All customers are encouraged to reduce the filling and refilling of swimming pools, wading pools, hot tubs, and Jacuzzi type pools during impact events except to maintain adequate water levels for structural integrity, proper operation, and maintenance, and/or to alleviate an issue that poses a public safety risk.

BMPs for Supply Management:

Measures to be implemented by SLWA to manage limited water supplies and/or reduce water demand shall be identified and encourage voluntary reduction measures by high-volume water users through water use audits.

Voluntary Water Use Restrictions for Reducing Demand:

1. Water customers are requested to voluntarily limit the irrigation of landscaped areas to Sundays and Thursdays for customers with a residential street address ending in an even number (0, 2, 4, 6, or 8), and Saturdays and Wednesdays for water customers with a residential street address ending in an odd number (1, 3, 5, 7, or 9), with irrigation of landscapes between the hours of midnight and 10:00 am and 8:00pm and midnight on designated watering days. Watering of lawns and landscapes during flooding and freezing events are highly discouraged.
2. All non-residential locations (businesses, industries, parks, medians, etc.) may water on Tuesdays and Fridays. Watering of lawns and landscapes during flooding and freezing events are highly discouraged.
3. Water customers are requested to practice water conservation and to minimize or discontinue water use for non-essential purposes.

4. Establishing new turf is highly discouraged. After grass sod, hydro mulch, or grass seed is installed for the purpose of establishing a new lawn, watering restrictions may be suspended for one thirty-day (30) period. After thirty days, the watering restrictions as set forth in this stage apply. (This does not include over seeding with seasonal or other grasses, since turf already exists.)

Stage 2 Triggers – MODERATE Water Shortage Conditions – Mandatory Water Restrictions

Requirements for initiation:

Customers shall be required to comply with the protocols and restrictions on certain non-essential water uses in Stage 2 of this Plan when Flow out of plant is greater than 425 GPM, *beginning on May 1 through September 30 (for drought events),*

Requirements for termination:

Stage 2 of the Plan may be rescinded when all conditions listed as triggering events have ceased to exist for a period of eight (8) consecutive days. Upon termination of Stage 2, Stage 1, or the applicable impact response stage based on triggering criteria becomes operative.

Stage 2 Response – MODERATE Water Shortage Conditions

Target: Achieve a mandatory *five percent (5%) to ten percent (10%)* reduction from in [*use that would have occurred in the absence of water conservation measures, etc*.]

BMPs for Supply Management:

Measures to be implemented by SLWA to manage limited water supplies and/or reduce water demand shall be to encourage residential use of reclaimed water for non-potable purposes; visually inspect lines and repair leaks on a daily basis for non-metered and unaccounted water use; refrain from water line flushing except for dead-end mains or for identified water quality-controlled issues; and estimate water use when flushing.

Water Use Restrictions for Demand Reduction:

All requirements of Stage 1 shall remain in effect during Stage 2 except:

1. Irrigation of landscaped areas with hose-end sprinklers or automatic irrigation systems shall be limited to Sundays and Thursdays for customers with a residential street address ending in an even number (0, 2, 4, 6, 8), and Saturdays and Wednesdays for water customers with a residential street address ending in an odd number (1, 3, 5, 7, or 9), with irrigation of landscaped areas between the hours of midnight and 10:00am

and between 8:00pm midnight on designated watering days. However, irrigation of landscaped areas is permitted at any time if it is by means of a hand-held hose, a faucet filled bucket, or watering can of five (5) gallons or less, or drip irrigation system. Watering of lawns and landscapes during flooding and freezing events are highly discouraged.

2. All non-residential locations (businesses, industries, parks, medians, etc.) shall water on Tuesdays and Fridays. Watering of lawns and landscapes during flooding and freezing events are highly discouraged.
3. Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane, or other vehicle is prohibited except on designated watering days between the hours of midnight and 10:00am and between 8:00pm and midnight. Such washing, when allowed, shall be done with a hand-held bucket or hand-held hose equipped with a positive shutoff nozzle. Vehicle washing may be done at any time on the immediate premises of a commercial car wash or commercial service station. Further, such washing may be exempted from these regulations if the health, safety, and welfare of the public is contingent upon frequent vehicle cleansing, such as garbage trucks and vehicles used to transport food and perishables. Vehicle washing during flooding and freezing events is highly discouraged.
4. Use of water to fill, refill, or add to any indoor or outdoor swimming pools, wading pools, or Jacuzzi-type pools is prohibited except on designated watering days between the hours of midnight and 10:00am and between 8:00pm and midnight. The use of water for this purpose is solely to maintain adequate water levels for structural integrity, proper operation, and maintenance, and/or to alleviate an issue that poses a public safety risk.
5. Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system. Users of private wells or lake water systems are required to post a sign indicating so in a conspicuous location.
6. Use of water from hydrants shall be limited to firefighting, related activities, or other activities necessary to maintain public health, safety, and welfare, except that use of

water from designated fire hydrants for construction purposes may be allowed under special permit from the SLWA.

The following non-commercial uses of water are prohibited during all extreme weather events:

- Washing down of any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas except to alleviate an immediate health or safety hazard.
- Use of water to wash down buildings or structures for purposes other than immediate fire protection.
- Use of water for dust control.
- Flushing gutters or permitting water to run or accumulate in any gutter or street.
- Operating a permanently installed irrigation system with a broken head, head out of adjustment and spraying into a street or parking lot, or a head misting because of high pressure.
- Allowing water during irrigation to run off a property and form a stream of water in a street for a distance of 50 feet or greater, or to pond in a street or parking lot to a depth greater than one-quarter of an inch.
- Allowing or causing an irrigation system or other lawn watering device to operate during any form of precipitation or when temperatures are at or below 32 degrees Fahrenheit.

Stage 3 Triggers – SEVERE Water Shortage Conditions

Requirements for initiation:

Customers shall be required to comply with the requirements and restrictions on certain non-essential water uses for Stage 3 of this Plan when 500 GPM is leaving plant for one or more consecutive days, *beginning on May 1 through September 30 (for drought events), unless extended by / reservoir levels are low enough to disrupt major economic activity or cause unacceptable damage to a vital ecosystem.*].

Requirements for termination:

Stage 3 of the Plan may be rescinded when all conditions listed as triggering events have ceased to exist for a period of [*ten (10) consecutive days / after 5 weeks of implementation / Stage reduction by designated official or city council resolution*]. Upon termination of Stage 3, Stage 2, or the applicable impact response stage based on the triggering criteria, becomes operative.

Stage 3 Response – SEVERE Water Shortage Conditions

Target: Achieve a mandatory ten percent (10%) reduction to a fifteen percent (15%) reduction in [*total water use, daily water demand, overall daily consumption, average annual demand, use that would have occurred in the absence of water conservation measures, etc*.].

BMPs for Supply Management:

Measures to be implemented directly by SLWA to manage limited water supplies and/or reduce water demand shall be [to visually inspect right of ways and repair leaks on a daily basis for non-metered and unaccounted water use / prohibit water line flushing, except for specific identified water quality issues and only between the hours of 9:00pm and 3:00am / encourage residential use of reclaimed water for non-potable purposes / water operators will be asked to maintain vigilance for violations of water restrictions / review conditions or problems that caused Stage 3, take corrective actions if able / increase frequency of public notice of water supply conditions and educate on efforts to reduce water use.] Freeze is eminent within 2 to 3 weeks / use preventative best management practices for supply management and residential / temperatures are expected to remain below 30 degrees for at least three days.

Water Use Restrictions for Demand Reduction:

<u>All requirements of Stages 1 and 2 shall remain in effect during Stage 3 except</u>:

1. Irrigation of landscaped areas shall be limited to designated watering days between the hours of midnight and 8:00am and between 8pm and midnight and shall be by means of hand-held hoses, hand-held buckets, drip irrigation, or permanently installed automatic sprinkler system only. The use of hose-end sprinklers is absolutely prohibited. Watering of lawns and landscapes during flooding and freezing events are prohibited.
2. The use of water from fire hydrants under special permits for construction purposes is prohibited.

Stage 4 Triggers – EMERGENCY Water Shortage Impact Conditions

<u>Requirements for initiation</u>:

Customers shall be required to comply with the requirements and restrictions for Stage 6 of this Plan when SLWA Board, or their designee, determines that a water supply impact emergency exists based on:

1. Major water line breaks, or pump or system failures occur, which cause unprecedented loss of capability to provide water service; or
2. Natural or man-made contamination of the water supply source(s).
3. *, beginning on May 1 through September 30 (for drought events), unless extended by / reservoir levels are low enough to disrupt major economic activity or cause unacceptable damage to a vital ecosystem,*
4. Freeze is eminent within 1 week / use preventative best management practices for supply management and residential / temperatures are expected to remain below 20 degrees for at least three days.

Requirements for termination:

Stage 4 of the Plan may be rescinded when all conditions listed as triggering events have ceased to exist for a period of [*fifteen (15) consecutive days / after five (5) weeks of implementation / Stage reduction by designated official or city council resolution*].

Stage 4 Response – EMERGENCY Water Shortage Impact Conditions

Target: Achieve a mandatory thirty percent (30%) reduction to a fifty percent (50%) reduction in [*total water use, daily water demand, overall daily consumption, average annual demand, use that would have occurred in the absence of water conservation measures, etc*.].

BMPs for Supply Management:

Measures to be implemented by SLWA to manage limited water supplies shall include *[discontinue flushing of water mains / begin water rationing if necessary / distribute water-boil notices if necessary / seek another source of water.]*

Water Use Restrictions for Demand Reduction:

All requirements of Stage 1, 2, 3 shall remain in effect during Stage 4 except:

1. Irrigation of landscaped areas is absolutely prohibited.
2. Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane, or other vehicle is absolutely prohibited.

Single-Family Residential Customers

The allocation to residential water customers residing in a single-family dwelling shall be as follows:

Persons per Household	Gallons per Month

1 or 2	2,000
3 or 4	4,000
5 or 6	6,000
7 or 8	8,000
9 or 10	10,000
11 or more	12,000

"Household" means the residential premises served by the customer's meter. "Persons per household" include only those persons currently physically residing at the premises and expected to reside there for the entire billing period. It shall be assumed that a customer's household is comprised of two (2) persons unless the customer notifies the SLWA of a greater number of persons per household on a form prescribed by the SLWA Board. The SLWA Board, or their designee, shall give their best effort to see that such forms are mailed, otherwise provided, or made available to every residential customer. It shall be the customer's responsibility to go to the SLWA office to complete and sign the form claiming more than two (2) persons per household. New customers may claim more persons per household at the time of applying for water service on the form prescribed by the SLWA Board.

When the number of persons per household increases, placing the customer in a different allocation category, the customer may notify the SLWA on such form and the change will be implemented in the next practicable billing period. If the number of persons in a household is reduced, the customer shall notify the SLWA within five (5) days. In prescribing the method for claiming more than two (2) persons per household, the SLWA Board shall adopt methods to ensure the accuracy of the claim.

Any person who knowingly, recklessly, or with criminal negligence falsely reports the number of persons in a household or fails to timely notify the SLWA of a reduction in the number of persons in a household shall be fined not less than $75.

Residential water customers shall pay the following surcharges:

$50	For the first 1,000 gallons over allocation
$100	For the second 1,000 gallons over allocation
$250	For the third 1,000 gallons over allocation
$500	For each additional 1,000 gallons over allocation

Surcharges shall be cumulative. Flow restrictor or interruption of service until corrective actions are taken and previous fines are paid in full may be applied.

Non-Residential: Commercial, Institutional, and Industrial Customers

A monthly water allocation shall be established by the SLWA Board, or their designee, for each non-residential customer. The non-residential customer's allocation shall be a percentage of the customer's usage baseline. The percentage will be set by the SLWA Board based on the assessment of the severity of the water shortage condition and the need to curtail water diversions and/or deliveries. Monthly allocations may be adjusted periodically by the SLWA Board as conditions warrant. Once this water allocation is in effect, water diversions by or deliveries to each non-residential customer shall be limited to the allocation established for each month.

The non-residential customer usage baseline will be determined by the average water usage by month for the previous five (5) year period. If the non-residential customer's billing history is less than five years, the monthly average for the period for which there is record shall be used for any monthly period for which no billing history exists.

The SLWA Board, or their designee, shall give their best effort to see that notice of allocation is mailed to each non-residential customer. If, however, a non-residential customer does not receive such notice, it shall be the customer's responsibility to contact the SLWA to determine the allocation.

Upon request of the customer, or at the initiative of the SLWA Board, the allocation may be reduced or increased if, (**1**) the designated period does not accurately reflect the non-residential customer's normal water usage, (**2**) one non-residential customer agrees to transfer part of its allocation to another non-residential customer, or (**3**) other objective evidence demonstrates that the designated allocation is inaccurate under present conditions. A non-residential customer may appeal an allocation established hereunder to the [*designated official / a special water allocation review committee*].

Non-residential Customers shall pay the following surcharges:

During any period when water allocation of available water supplies is in effect, non-residential customers shall pay the following surcharges on excess water diversions and/or deliveries. **The surcharges shall be cumulative**:

1.5 times normal water charge	Per 1,000 gallons for distributions exceeding monthly allocation up through 5% percent above the monthly allocation.
2.0 times the normal water charge	Per 1,000 gallons for distributions exceeding monthly allocation from 5% through 10% above the monthly allocation.
2.5 times the normal water charge	Per 1,000 gallons for distributions exceeding monthly allocation from 10% to 15% above the monthly allocation.
3.0 times the normal water charge	Per 1,000 gallons for distributions exceeding monthly allocation more than 15% above the monthly allocation.

Section IX: **Enforcement**

1. No person shall knowingly or intentionally allow the use of water from the SLWA for residential, commercial, institutional, industrial, agricultural, governmental, or any other purpose in a manner contrary to any provision of this Plan, or in an amount in excess of that permitted by the impact response stage in effect at the time pursuant to action taken by SLWA Board, or their designee, in accordance with provisions of this Plan.
2. If a person is found in violation of four or more distinct notices of violation of this Plan, the SLWA Board shall, upon due notice to the customer through direct mailing, be authorized to discontinue water service to the premises where such violations occur and to the designated agent address. Services discontinued under such circumstances shall be restored only upon payment of a re-connection charge, hereby established at *one-hundred fifty dollars $150*, and any other costs incurred by the SLWA in discontinuing service. In addition, suitable assurance must be given to the SLWA Board that the same action shall not be repeated while the Plan is in effect. An option includes installation of a flow restrictor. Compliance with this Plan may also be sought through [*punitive / injunctive*] relief in the district court as described below.
3. Any person who knowingly or intentionally violates this Plan with five (5) or more subsequent violations, multiple cumulative fees will be acquired, and corrective

measures sought by the SLWA. Following the corrective actions by the SLWA, the SLWA Board may file a petition against a person he/she believes to be in violation of this Plan. The petition shall be prepared in duplicate and shall contain the name and address of the alleged violator, if known, the violation and fees charged, and shall direct him/her to appear in the [*district court*] on the date shown on the filed summons. The alleged violator shall be served a copy of the petition and summons per Oklahoma Civil Procedure. The alleged violator shall appear in [*district court*] to enter a plea of guilty or not guilty for the violation of this Plan. A fine of not less than fifty dollars ($50) and not more than one thousand dollars ($1,000) shall be sought by SLWA for each offence. Each day that one or more of the provisions in this Plan is/are violated shall constitute a separate offense.

4. Any person, including a person classified as a water customer of the SLWA, in apparent control of the property where a violation occurs or originates shall be presumed to be the violator, and proof that the violation occurred on the person's property shall constitute a rebuttable presumption that the person in apparent control of the property committed the violation, but any such person shall have the right to show that he/she did not commit the violation.
5. Any employee of the SLWA or other employee designated by the SLWA Board, may issue a violation notice to a person he/she reasonably believes to be in violation of this Plan.

Section X: Negligent Waste of Water

"Waste" as defined by the Oklahoma Water Resources Board (OWRB) and Oklahoma groundwater law is "use of water in such an inefficient manner that excessive losses occur or any manner that is not a beneficial use or use of water in excess of the amount which is authorized by the water right." (785:20-1-2; Okla. Stat. Tit. 82 O.S. § 1020.15) A waste is also characterized by "transporting fresh water to the place of use in such a manner that there is an excessive loss in transit."

A water customer in the boundaries of SLWA violates this section of the Plan if the customer fails to repair a leak which causes water to flow through any portion of a public right-of-way seventy-two (72) hours after written, telephonic, or in-person notice of the leak has been

provided to the customer by SLWA. Each day a violation that exists constitutes a separate violation. A customer may be fined up to five-hundred dollars ($500) per violation of this section and the customer's water service may be terminated without further notice.

A leak which causes water to flow through the public right-of-way necessarily constitutes a hazard to public health, safety, and welfare. Accordingly, SLWA, through the SLWA Board or their designee, may cause termination of service to the customer immediately following SLWA's discovery of such a hazardous leak. SLWA must provide notice of termination to the customer as soon as reasonably possible, but such notice is not required to precede termination.

Section XI: **Variances**

The SLWA Board, may grant, in writing, temporary variance for existing water uses otherwise prohibited under this Plan if it is determined that failure to grant such variance would cause an emergency impact condition adversely affecting the health, sanitation, or fire protection for the public or the person requesting such variance and if one or more of the following conditions are met:

1. Compliance with this Plan cannot be technically accomplished during the duration of the water supply shortage or other condition for which the Plan is in effect.
2. Alternative methods can be implemented which will achieve the same level of reduction in water use.

Persons requesting an exemption from the provisions of this Ordinance shall file a petition for variance with the SLWA within 5 days after the Plan or a particular impact response stage has been invoked, and the variance shall only be valid for the impact response period and shall be at the discretion of the SLWA Board. All petitions for variances shall be reviewed by the SLWA Board, and shall include the following:

- Name and address of the petitioner(s).
- Purpose of water use.
- Specific provision(s) of the Plan from which the petitioner is requesting relief.
- Detailed statement as to how the specific provision of the Plan adversely affects the petitioner or what damage or harm will occur to the petitioner or others if petitioner complies with this Ordinance.
- Description of the relief requested.

- Period of time for which the variance is sought.
- Alternative water use restrictions or other measures the petitioner is taking or proposes to take to meet the intent of this Plan and the compliance date.
- Other pertinent information.

Section XII: Severability

It is hereby declared to be the intention of the Sardis Lake Water Authority Board of Directors that the sections, paragraphs, sentences, clauses, and phrases of this ordinance are severable and, if any phrase, clause, sentence, paragraph, or section of this ordinance shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs, and sections of this ordinance, since the same would not have been enacted by the Sardis Lake Water Authority Board of Directors without the incorporation into this ordinance of any such unconstitutional phrase, clause, sentence, paragraph, or section.

x_____	x_____
Chairperson	Vice - Chairperson
x_____	x_____
Secretary – Treasurer	Member
x_____	x_____
Member	Date

Appendix A – Water Conservation Tips

Bathroom

a) Take a shower instead of filling the tub and taking a bath. A ten-minute shower uses about 10 to 25 gallons of water, depending on the shower head, and a bath uses 70 gallons.

b) Install a low-flow shower head, which restricts the quantity of flow at 60 psi to no more than 3 gallons per minute.

c) Install a cutoff valve or turn the water off while soaping and then turn it back on again only to rinse.

d) Do not use hot water when cold water will do. Water and energy can be saved by washing hands with soap and water; hot water should only be added when hands are especially dirty.

e) Reduce the level of the water being used in a bathtub by one inch or two inches if a shower is not available.

f) Turn water off when brushing teeth until it is time to rinse.

g) Do not let water run when washing hands. Instead, hands should be wet, and water should be turned off while soaping and scrubbing, and then turned on again to rinse. A cutoff valve may also be installed on the faucet.

h) Hold hot water in the basin when shaving, instead of letting the faucet continue to run.

i) Test toilets for leaks. To test for a leak, a few drops of food coloring can be added to the water in the tank. The toilet should not be flushed. The customer can then watch to see if the coloring appears in the bowl within a few minutes. If it does, the fixture needs adjustment or repair.

j) Use a toilet tank displacement device. A one (1) gallon plastic milk bottle can be filled with stones or with water, and then recapped and placed in the toilet tank. This will reduce the amount of water in the tank, but still provide enough for flushing. (Bricks, which some people use for this purpose, are not recommended, since they can crumble and damage working mechanisms. Do not use displacement devices on low-volume flush toilets.)

k) Install faucet aerators to reduce water consumption.

l) Never use the toilet to dispose of cleaning tissues, cigarette butts, or other trash. This practice can waste a great deal of water, and it also places an unnecessary load on the wastewater treatment plant.

m) When building a new home or remodeling a bathroom, install a new low-volume toilet that uses 1.6 gallons or less per flush.

Kitchen

a) Use a pan of water (or place a stopper in the sink) for rinsing pots, pans, and cooking implements when cooking, rather than turning on the water faucet each time a rinse is needed.

b) Never run the dishwasher without a full load. In addition to saving water, expensive detergent will last longer, and a significant energy savings will appear on the utility bill.

c) Use the sink disposal sparingly, and never use it for just a few scraps.

d) Keep a container of drinking water in the refrigerator. Running water from the tap until it is cool is wasteful. Better still, both water and energy can be saved by keeping cold water in a picnic jug on a kitchen counter to avoid opening the refrigerator door frequently.

e) Use a small pan of cold water when cleaning vegetables, rather than letting the faucet run.

f) Use only a little water in the pot and put a lid on it for cooking most food. Not only does this method save water, but food is also more nutritious when cooking this way, since vitamins and minerals are not poured down the drain with the extra cooking water.

g) Use a pan of water for rinsing dishes when washing them by hand, rather than running the faucet.

h) Always keep water conservation in mind and think of other ways to save in the kitchen. Small kitchen savings (such as from not making too much coffee or from not letting ice cubes melt in a sink) can add up over a year's time.

Laundry

a) Wash only a full load when using a washing machine.

b) Use the lowest water level setting on the washing machine for light loads whenever possible.

c) Use cold water as often as possible to save energy and to conserve the hot water for uses that cold water cannot serve. Cold water is also better for clothing made of today's synthetic fabrics.

Appliances and Plumbing

a) Check water requirements of various appliance models and brands when considering purchasing any new appliance that uses water, as some appliances use less water than others (high efficiency).

b) Check all water connections and faucets for leaks. A slow drip can waste as much as 170 gallons of water EACH DAY and can add as much as $10 per month to the water bill.

c) Learn to replace washers so that drips can be corrected promptly. This is easy to do; additionally, it costs very little, and can represent a substantial amount of savings in plumbing and water bills. https://www.thisoldhouse.com/kitchens/21097141/how-to-stop-kitchen-faucet-leaks

d) Check for water leakage that you may be unaware of, such as a leak between the water meter and the house. To check, all indoor and outdoor faucets should be turned off and the water meter should be checked if it continues to run or turn, as this means a leak probably exists and needs to be located.

e) Insulate all hot water pipes to avoid the delays (and wasted water) experienced while waiting for the water to turn hot.

f) Be sure that the water heater thermostat is not set too high. Extremely hot settings waste water and energy because the water often must be cooled with cold water before it can be used.

g) Use a moisture meter to determine when house plants need water. More plants die from overwatering than from being on the dry side.

h) Install rain and freeze sensors on irrigation systems to ensure outdoor watering does not occur during any form of precipitation to reduce negligent waste of water.

Outdoor Use

a) Water lawns between the hours of 5 a.m. to 9 a.m. during the hotter summer months, when dew is still on the ground. Much of the water used on the lawn can simply evaporate between the sprinkler and the grass.

b) Use a sprinkler that produces large drops of water, rather than a fine mist, to avoid evaporation.

c) Turn soaker hoses so that the holes are on the bottom in order to avoid evaporation.

d) Water slowly for better absorption, and never water in high winds.

e) Don’t let your sprinklers water the streets, walks, and driveways. This is a waste of water.

f) Condition the soil with compost before planting grass or flower beds, so that water will soak in rather than run off.

g) Fertilize lawns at least twice a year for rot stimulation. Grass with a good root system makes better use of less water.

h) Learn to know when grass needs watering. https://www.popularmechanics.com/home/lawn-garden/how-to/g849/the-smarter-way-to-water-your-lawn/

i) Do not water too frequently. Too much water can overload the soil, so the air cannot get to the roots and can encourage plant diseases.

j) Do not overwater. Soil can absorb only so much moisture, and the rest will simply run off. A timer will help, and either a kitchen timer or an alarm clock will do. Approximately 1.5 inches of water applied once a week will keep most grasses alive and healthy.

k) Operate automatic sprinkler systems only when the demand on the water supply is at its lowest, and set the system to operate between 5 a.m. and 9 a.m.

l) Do not scalp lawns when mowing during hot weather. Taller grass holds moisture better. Grass should be cut often, so that only 1 inch to 2 inches of grass is trimmed off. A healthier and better-looking lawn will result.

m) Use a watering can or hand water with the hose in small areas of the lawn that need frequent watering (areas near walks, driveways, or in especially hot, sunny spots).

n) Learn what types of grass, shrubbery, and plants do best in the area and in which parts of the lawn, and then plant accordingly. In a heavily shaded yard, no amount of water will make roses bloom. In especially dry sections of the region, attractive arrangements of plants that are adapted to arid or semi-arid climates should be chosen.

o) Consider decorating areas of the lawn with rocks, gravel, wood chips, or other materials that require no water at all.

p) Do not “sweep” walks and driveways with the hose. Use a broom or a rake instead.

q) Use a bucket of soapy water and use the hose only for rinsing when washing the car.

Appendix B – Flood Preparation and Safety

Before the Flood

1) Determine if your home is located in a flash flood prone area
2) Inform local emergency management systems regarding anyone with special needs i.e, disabled, elderly, or bedridden individuals, in your home
3) Stay informed on warnings, evacuation routes, and locations of emergency shelters
4) Prepare an emergency food supply
    a. Store foods that have a long shelf life on a shelf, off of the ground
    b. Require little to no cooking or refrigeration (in case utilities are interrupted)
    c. Meet the needs of babies and/or others that may have special diets
    d. Meet the needs of pets
    e. Do not store very salty or spicy foods (these foods will increase the need for water, which may be in short supply)
    f. Store kitchen and cooking utensils, manual can and bottle opener, heavy duty foil, etc.
5) Prepare an emergency water supply
    a. Store at least 1 gallon per day per person and pet in the household (consider storing more per person if you live in a hot climate, someone is pregnant, and for anyone that may be sick); Store at least a 3-day supply (minimum) for each person and pet
    b. Unopened, store-bought water is safest and most reliable (keep updated based on the expiration date on the bottle); or
    c. Use food grade water storage containers found at camping or surplus stores
        i. Wash with soap and rinse thoroughly with clean water before use
    d. Label containers as "Drinking Water" including the date of storage
    e. Replace stored water not commercially purchased every 6 months
    f. Keep stored water in a place with a fairly constant cool temperature; Do not store the water in direct sunlight or near a heating source; Do not store the water near any toxic substances (gasoline, pesticides, etc.)

During the Flood

1) Gather emergency supplies for easy access
2) Listen to the local radio and television stations for updates and warnings
3) Bring outdoor furniture and items in or tie down to prevent loss

4) Turn off main power of your house if you must evacuate

After the Flood

1) Do not drink flood water or use it to wash dishes, brush teeth, or wash/prepare food
2) Listen for boil water advisories, local authorities will let you know if your water is safe for drinking and bathing
    a. During a water advisory, use bottled, boiled, or treated water for drinking, cooking, etc.,
3) If any water bottles or food came into contact with flood water, throw it out
4) Stay out of flood water it can contain:
    a. Downed power lines
    b. Human and livestock waste
    c. Household, medical, and industrial waste
    d. Physical objects (vehicles, lumber, debris)
    e. Wild and/or stray animals such as rodents and snakes
5) Don’t let children play in flood water
6) Exposure to contaminated flood water can cause:
    a. Wound infections
    b. Skin rash
    c. Gastrointestinal illness
    d. Tetanus

Appendix C – Freeze Preparation and Safety

Before the Freeze

1) Insulate water lines that run along exterior walls or in unheated basements or crawl spaces so the water supply will be less likely to freeze; for difficult places, consult a professional on how to select and apply heat tape
2) Insulate walls and attic; caulk and weatherstrip doors and windows; replace any broken windows
3) Close off any crawl spaces and eliminate drafts
4) Repair any leaks; Know where your water shut-off valve is
5) Remove any branches from trees that hang over structures
6) Remove garden hoses from outside faucets and insulate the faucet with rags, Styrofoam, or paper
7) Cover vents around the foundation of your home to protect pipes under your home
8) Take extra precautions to protect pipes that have frozen in the past
9) Prepare an emergency food supply *See Appendix B*
10) Prepare an emergency water supply *See Appendix B*

During the Storm

1) Listen to weather forecasts regularly to be aware of any freeze updates
2) Bring pets indoors
3) Leave the tap furthest from the meter dripping continuously; in sustained sub-freezing storms, let water drip slowly from all inside faucets (10 drips per minute)
4) Open cabinet doors to allow heated air to reach pipes
5) If your pipes freeze and you run out of stored water, and no other water is available, snow can be melted; bring water to a rolling boil for 1 minute (to kill most disease-causing organisms); boiling will not remove potential chemicals that may be in the snow

After the Storm

1) If pipes freeze, shut off the water immediately, allow them to thaw slowly with warm air or a hair dryer; when pipes have thawed, turn the water back on slowly and check for cracks and leaks
2) If your pipes burst, turn the water off at the shut-off valve, contact a professional for repairs

Appendix D – Flood Resilience for Water Management Facility

1) Evaluate the system components that may be within a floodplain for 100-year and 500-year flooding events (intake, treatment, distribution lines and water crossings, storage tank, pump stations) and determine if the components are higher than the estimated elevation during each flood event.
2) Have at least a 1-week supply of treatment additive on hand.
3) Test surge protection devices where installed.
4) Identify any creek line crossings vulnerable to flood damage.
5) Have weather radios on hand for critical updates.
6) Inquire about portable generator.
7) Install UPS battery backups in all SCADA cabinets.
8) Check all sump pumps where applicable.
9) Monitor lake conditions for changes in water quality associated with rainfall.
10) Install UPS battery backup on SCADA computer.
11) Have extra fuses and other safety devices on hand.
12) Inspect and test any phase protection equipment.

Appendix E- Freeze/Sub-Freeze Preparation for Water Management Facilities

1) Create a timeline to complete this checklist **before** the onset of freezing weather.
2) Insulate all vulnerable outdoor water lines to minimize rupture risks.
3) Add weather stripping to doors and windows as needed.
4) Fill any holes in walls or doors that daylight can been seen through.
5) Check all pump facilities for signs of rodents and take measures to remove them.
6) Inspect and clean unit heaters at all locations.
7) Insulate level transmitters at tanks to prevent false readings and freeze damage.
8) Insulate pressure gages at tanks to minimize false readings and freeze damage.
9) Adjust tank filling rates to keep water moving in ESTs and standpipes.
10) Have at least a 1-week supply of treatment additives on hand.
11) Insulate any outdoor chemical feed lines especially those with high freezing points.
12) Have space heaters on hand in the event of unit heater failure.
13) Coordinate with county emergency management services and inquire about a portable generator.
14) Coordinate response plan with wholesalers.
15) Identify and mark critical valves so that they can be easily found under snow.
16) Operate critical valves **before** the onset of freezing weather to ensure operation if needed.
17) Check antifreeze where applicable especially in emergency motorized equipment.
18) Install UPS battery backups in all SCADA cabinets to keep sites operational during power failure.
19) Close all vault lids to keep winter precipitation out and heat in.
20) Insulate injection points on raw line as needed.

21) Insulate flow tubes as needed.

22) Insulate outdoor spigots.

23) Inspect fire plugs to ensure they have drained properly.

24) Have all facility owned vehicles full of fuel.

25) Install heat tape where appropriate.

26) Lubricate pad locks to all gates to ensure they function during a freeze event.

27) Ensure that all operators have the proper cold weather PPE and gear.

Appendix F- Extreme Heat Preparation for Water Management Facilities

1) Inspect VFD door fans and insure they are operating properly.
2) Clean VFD heat sync units.
3) Inspect softstart heaters and contacts.
4) Clean and check all critical A/C units.
5) Inspect and test all exhaust fans.
6) Inspect thermostats on cabinet fans if applicable.
7) Inspect all air vents on VFDs.
8) Inspect all exhaust vents and louvers for exhaust fans.