



Council Agenda Report

Department Name: Utilities
Cost Center: 6001
For Agenda of: April 13, 2021
Placement: Study Session
Estimated Time: 45 Minutes

FROM: Aaron Floyd, Utilities Director
Prepared By: Mychal Boerman, Deputy Director - Water
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SUBJECT: 2020 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN

RECOMMENDATION

1. Receive a presentation on the 2020 Urban Water Management Plan and Water Shortage Contingency Plan; and
2. Provide comments and direction to guide final Water Shortage Contingency Plan development.

REPORT-IN-BRIEF

As an urban water supplier serving more than 3,000 water service connections, the City is required to adopt and submit to the state Department of Water Resources (DWR) an Urban Water Management Plan (UWMP) every five years. The City Council adopted the 2015 UWMP on June 14, 2016 and is scheduled to consider the 2020 UWMP for adoption on June 15, 2021.

In this Study Session, staff will present 2020 UWMP and Water Shortage Contingency Plan (WSCP) requirements, including a new requirement for a six-stage WSCP. Focus areas for City Council discussion include water shortage management actions by stage, enforcement actions, exemptions, and requirements for new development.

DISCUSSION

Current City Water Supply Status

With the recent rains, the City has over 17,000 acre-feet of water in storage at Salinas Reservoir and its proportional share of Whale Rock Reservoir is 15,553 acre-feet. The City has also requested its full contractual allocation of 5,482 acre-feet of water from Nacimiento Reservoir for 2021. Although the region has seen below average rainfall recently, the City has a diverse and reliable water supply with more than ten years of water available under today's water supply and demand conditions.

Table 1 - Reservoir Storage

Reservoir	Current Volume (Acre-Feet)	Percent of Capacity
Salinas	17,285	72.5%
Whale Rock	30,450	78.5%
Nacimiento	154,400	40.9%

NOTES: Reservoir volumes are as of 3/14/2021.

Background

The California Urban Water Management Planning Act is a part of California Water Code sections §10610-10656 and §10608 and requires urban water suppliers to adopt and submit an updated plan to DWR every five years. Urban water suppliers are defined as agencies that provide water for municipal purposes to more than 3,000 customers or supply more than 3,000 acre-feet of water annually (the City meets both criteria).

The City adopted its first UWMP in November 1994 and updated the UWMP in 2000, 2005, 2010, and 2016.¹ The City Council adopted the 2015 UWMP by Resolution 10726 (Attachment A) on June 14, 2016. By adopting a technically compliant UWMP, the City remains eligible for State grants, low interest loans, and other assistance.

2020 UWMP Requirements

State legislation adopted in 2018 established new requirements for 2020 UWMPs, including standardized requirements for water shortage contingency planning and drought risk assessments. Under the State requirements, water suppliers must now plan for a dry period that lasts for five consecutive years, an increase from the previous requirement of three years. Other required elements of UWMPs include:

1. Assessment of the reliability of water supply sources over a 20-year time frame
2. A description of demand management measures, also known as conservation measures
3. A discussion of local water supplies, with a long-term forecast for each source, including climate change
4. Demonstrated compliance with - Senate Bill X7-7 2020²
5. A lay person's description of water reliability
6. Incorporation of projected land use changes in demand forecasting
7. Seismic risk assessment and mitigation
8. A water energy analysis
9. Water savings from codes/standards/etc.
10. Five previous years of system water losses

The California Water Code requires that 2020 UWMPs are consistent with Groundwater Sustainability Plans (GSP) in areas where those plans have been completed. As the City's Groundwater Sustainability Plan is not scheduled to be complete until 2022, and the City does not depend on groundwater at this time, staff plans to include a schedule for GSP completion within the 2020 UWMP, as well as the link to the City's SGMA website.

Projecting Water Demand

To comply with State requirements, the City's 2020 UWMP will look ahead twenty years to project water demand through 2040. As this period extends beyond the 2035 horizon of the City's General Plan, staff will use population projections from the City's Land Use Element of 57,200 persons in 2035 and assume a one percent population growth annually for five years to 2040. This projection yields a future population of 60,118 in 2040.

¹ For the 2015 UWMP, the state legislature extended the filing deadline to July 1, 2016.

² Senate Bill X7-7 is a California state law that requires the state to reduce urban water consumption by 20 percent by the year 2020.

Consideration of Climate Change

To comply with State requirements, the 2020 UWMP must consider climate change as it relates to water use, water supply, resiliency, and drought risk. The City is well positioned to meet these requirements by utilizing prior work efforts. The City first declared Climate Action a Major City Goal during its 2017-19 Financial Plan.

On May 15, 2018, the City Council adopted Resolution 10893 amending the General Plan WWME to reflect a 2,030-acre-foot per year reduction in available City water supply. The amendment was a result of the 2018 update to the City's safe annual yield computer model for Whale Rock and Salinas Reservoirs which updated the model with climatic data from the drought that ended in 2016 and local impacts of climate change³, consistent with WWME program A 3.3.2⁴ and program A 3.3.3⁵.

Although this was a significant reduction in safe annual yield, the City has a multi-source water supply capable of meeting the City's future water demand (primary water supply and reliability reserve) under the City's General Plan. This analysis will be reflected in the 2020 UWMP as it relates to climate change.

Water Shortage Contingency Plan (WSCP)

As part of the 2015 UWMP, the City modified its WSCP (Attachment B) which had not been updated since 2000. The existing WSCP includes a monitoring stage and a five-staged demand management response with each stage requiring more stringent Water Shortage Response Actions (i.e., escalating water demand reductions). While the City's WSCP is an important tool to help plan for period of drought or loss of supply, it provides the flexibility for Council to take the appropriate type and level of action needed in relation to the specifics of any type of water shortage.

It is anticipated that as conservation programs mature, sources of supply are expanded, and the community is engaged regarding drought, the WSCP will provide guidance on how to appropriately respond to a water shortage. A specific scenario may require a mix of actions contained within the plan or actions not considered within this plan.

The WSCP describes the City's use of a water projection model to test both hypothetical and actual water demand scenarios, to analyze current water storage at each reservoir, and to predict how long the water supplies are available. The model accounts for the storage in the three reservoirs, in conjunction with other available resources, needed to meet the City's water demand. The model uses historical hydrologic information based on the worst drought period (2012 to 2014).

³ The City analyzed three climate change scenarios as part of the 2018 update to the safe annual yield model by the U.S. Environmental Protection Agency, San Luis Obispo Council of Governments, and Nature Communications. Each climate projection was applied to the historical dataset for Whale Rock and Salinas reservoir's inflow, precipitation, and evaporation. The City's 2018 model was then used to calculate a revised safe annual yield assuming these conditions had prevailed during the historical period of record.

⁴ WWME program A 3.3.2 states *"The City will update the safe annual yield computer model for Salinas and Whale Rock Reservoirs following severe drought periods to determine if any changes are necessary to the safe annual yield amount."*

⁵ WWME program A 3.3.3 states *"The City will monitor ongoing research on the potential for long-term impacts associated with climate change to water supply resources."*

The Water Code now includes standardized requirements for the 2020 WSCP including the following:

1. A Water Supply Reliability Analysis
2. Annual Water Supply and Demand Assessment Procedures
3. Six Standard Water Shortage Stages⁶
4. Shortage Response Actions
5. Communication Protocols
6. Legal Authority, Compliance, and Enforcement
7. Financial Consequences of WSCP
8. Monitoring and Reporting
9. WSCP Update Procedures
10. Special Water Feature Distinction
11. Plan Adoption, Submittal, and Availability

The City's existing WSCP will need to be modified to comply with the 2020 requirements. As shown in Table 3, staff proposes the addition of an Alert stage and the alignment with State required reduction stages.

Table 2 - Proposed WSCP Stages in Alignment with State Requirements

WSCP Stages from 2015 UWMP	Proposed WSCP Stages	State Required WSCP Stages (% Reduction in available water supply)	Available City Water Supplies
Monitor (5+ Years)	Monitor	-	> 5 years of water supply remains
Watch (< 5 Years)	Watch	10%	5 years or less ⁷
Warning (< 4 Years)	Warning	20%	4.5 years or less
Severe (< 3 Years)	**Proposed Stage** Alert	30%	4 years or less
Extreme (< 2 Year)	Severe	40%	3.5 years or less
Critical (< 1 Year)	Extreme	50%	3 years or less
	Critical	>50%	2.5 years or less

FOCUS AREAS FOR COUNCIL DISCUSSION

Although many of the legal mandates found in the UWMP and WSCP are highly prescriptive in nature, the City has control over many elements of the two plans. Below are suggested focus areas for City Council discussion at the Study Session.

⁶ Like in the 2015 UWMP, the City's Monitor Stage is in place at all times to continue to monitor the City's compliance with water conservation mandates and goals.

⁷ General Plan, Water and Wastewater Management Element, Policy A 6.3.2 related to Short-term Water Shortages states that "Mandatory water conservation measures as described in the City's Water Shortage Contingency Plan, included in the City's Urban Water Management Plan, may be implemented when the City's water supplies are projected to last five years or less."

Equitable Water Shortage Management Actions

When the City has less than five years of water available the WSCP requires Water Shortage Management Actions (Management Actions) that increasingly reduce the community's water demand as water supplies are further stressed. Management Actions can also include bringing new water supplies online such as an expansion of the City's groundwater pumping program or recycled water system expansion. The City has focused on Management Actions that are equitable between residential and non-residential customer classes while ensuring that new development being considered during drought periods does not further reduce the City's available water supplies. A comprehensive list of Management Actions, as well as additional details about the proposed Water Shortage Contingency Plan, can be found in (Attachment C).

During the "Watch" and "Warning" stages, which occur when less than five and less than four and one-half years of water supplies remain, the City focuses efforts on increased public outreach and water conservation messaging to the community. Concurrently, the City implements internal measures to ensure adequate staffing levels, budgets, rates, and work programs are in place leading into the next four stages. The main differentiation between the "Watch" and "Warning" stages is the implementation of time of use irrigation restrictions (No irrigation between 7:00 AM and 7:00 PM) and the option to begin the Water Demand Offset Program (Offset Program) within the "Warning" stage. The Offset Program requires development projects that have not yet been through the entitlement process to offset their water demand prior to connecting to the City's water system. More detail on the Offset Program can be found within the "New Development" focus item below.

The "Alert" stage, which is designated when the City has less than four years of available water supply, provides additional irrigation restrictions. Specifically, this stage limits outdoor irrigation to four days per week and requires new development that has not been through the entitlement process to either defer landscape installations or to install landscaping that provides a 50 percent or greater reduction in Maximum Applied Water Allowance (MAWA). This stage also includes large public outreach efforts to the community as staff prepare for more restrictive measures in the final three stages.

The "Severe" stage occurs when the City's available water supplies provide less than three and one-half years of water to the community. During this stage, major changes include a reduction in allowable watering days from four days per week to three days per week, the option for Council to require a more stringent Offset Program (1.5:1 or 2:1 offset ratio), and the initiation of the City's Water Allotment Program. The Water Allotment Program sets a maximum water use for each residential property based on the number of residents living in that home and allows businesses to reduce water use by a percentage based on their business category or to a "baseline consumption". The intent of the initial stage of the Water Allotment Program is to restrict the water use of the City's most inefficient water users. It is important to understand that this program does not give a larger volume of water to properties with larger yards or more irrigation but rather ties the allotment to the number of people living within the home.

The “Extreme” stage occurs when the City has less than three years of water supply available. Notable actions in this stage include a reduction in allowable watering days from three days a week to two days a week and a smaller per-person water allotment. A reduced per-person water allotment would be based upon already achieved demand reduction and specific rainfall forecasts and time of year.

The final stage of the WSCP, the “Critical Stage” occurs when the City has two and one-half years or less of available water supply. Notable actions within this stage include the option to cease outdoor irrigation and prohibit new connections to the City’s water system, as well as a reduction in the City’s Water Allotment Program, allowing each residential property the minimum amount of water to ensure the health and safety of the occupants.

Community Priorities and Water Shortage Action Exemptions

As the community was impacted by the 2011-2015 drought and irrigation restrictions were put into place, community members advocated for certain exemptions related to water use restrictions. Staff believes that a series of minor exemptions will help ensure the health and well-being of the community while not making a substantial impact on available water supplies. Staff supports the following water use restriction exemptions and variances:

Sites Using Recycled Water

Per the existing WSCP, sites utilizing recycled water are exempt from irrigation restrictions. These sites include major City parks, such as Damon Garcia Park, French Park, Islay Park, Laguna Lake Park, Laguna Hills Park, De Vault Park, the Laguna Lake Golf Course, and Laguna Middle School, as well as many multifamily and commercial properties. It is important to acknowledge that all of the City’s recycled water customers are located on the southern side of the City due to delivery limitations of the City’s recycled water system, thus not providing equal opportunities for safe play and recreation across the community.

Irrigation Exceptions at Specific Facilities

During the most recent drought, Public Works Parks Maintenance staff and community members provided feedback that City parks with inadequate irrigation allotments could lead to hazardous conditions at recreation and play environments. To address these concerns, and to provide communal spaces for recreation during times when many homes allowed landscapes to die, in 2016 the City Council approved an amendment to Chapter 13.07.030 of the Municipal Code, allowing for daily irrigation at designated City facilities during turf renovation, and three times per week thereafter (Attachment D). Staff recommends that this exemption be expanded to include schools within the City’s boundaries as they are used for recreation in a similar manner to City parks, specifically during school hours. As proposed, this exemption would only go into place in the stages of the WSCP when irrigation days are restricted. It is anticipated that this exemption would constitute a net increase of under 75 acre-feet per year versus no exemption. This constitutes approximately 1.5 percent of the City’s total water use.

Irrigation of Trees

During the 2011-2015 drought, the City heard from many customers who opted to cease irrigation of their trees to reduce their water demand. Unlike turf, shrubs, and other groundcover, trees take a great amount of time to grow and provide substantial ecological, environmental, practical, and economic value to the community. Staff recommends an exemption to irrigation restrictions to allow for the use of a hose and shutoff nozzle to hand water trees.

Hospitals, Healthcare Facilities, and other Specific Business Types

Staff proposes that hospitals, healthcare facilities, and other businesses requiring water for the health and safety of at-risk people may apply for an exemption or allocation adjustment for indoor water use on a case-by-case basis. This exemption may be granted at the discretion of the Utilities Department Director or his/her/their designee.

New Development

The City utilized water demand offset programs in the past to continue to permit new development during periods of restricted water availability. Water offset programs require new development to conduct water savings projects within the City in order to offset the new demand that is created by the project. An example of a highly successful water offset program was the toilet retrofit offset program implemented by the City in the 1990s. As a result of this highly successful program, most toilets in the City today meet low-flow requirements, thus limiting the potential of future toilet retrofit offset programs.

While water offsets are identified in the City's existing WSCP, staff is proposing an offset program that begins as a "net neutral" water savings program in which new water demand must be offset at a 1:1 ratio. During later stages of the WSCP staff recommends that the City Council retain the ability to require a 1.5:1 and 2:1 "net benefit" water offset ratio. Examples of water offsets include an in-lieu fee to support the City's water supply expansion projects, indoor water fixture replacements, and turf replacements. During the Critical stage of the WSCP, staff recommends that no new connections to the City's water system be permitted since water offsets do not technically create more water, they simply expedite water supply and water conservation programs, essentially making them happen sooner. The City must meet Water Code Section 350 and Government Code Section 65858 requirements to trigger a cessation in new connections, otherwise commonly referred to as a "building moratorium". While legally complex, for a building moratorium to be legally sound, specific findings must be made to demonstrate a "current and immediate threat to the public health, safety, or welfare, and that the approval of additional subdivisions, use permits, variances, building permits, or any other applicable entitlement for use which is required in order to comply with a zoning ordinance would result in that threat to public health, safety, or welfare."

Outreach to the Community

Communication on water resources remains important both during times of adequate water availability and during water shortages. The community will benefit equally during robust water supply periods, and any possible water shortage periods that may be experienced. Broadened communication will be accomplished through expanded public outreach programs aimed at educating and informing the public about the City's water supplies and water resource availability, planning and housing policies, and water resource and infrastructure resiliency.

Methods staff utilize for public outreach include use of the City's website and social media platforms, attendance at community events such as Farmers' Market, the SLO Home Exposition, the Disaster Preparedness Exposition, and Earth Day, and in-person meetings with community members to help them meet their water conservation goals. Additionally, staff will include regular outreach on video and audio streaming services, television, radio, and through other paid advertising and direct mail pieces such as the Resource Newsletter.

When entering periods of drought or water shortage, one of the most essential roles the City plays is to ensure that the community has an overall awareness of the current situation and the need for voluntary conservation measures in order to avoid more strict mandatory measures. During a water shortage, defined as the City having less than five years of water available, the City would expand its existing outreach program and more directly focus this outreach on customer classes and water users with the largest potential for water savings. Increased outreach is a time intensive activity and would require additional funding associated with this expanded work effort.

Examples of the type of measures the City would take to increase outreach to the community include but are not limited to the following:

- Increased presence at public events (Home Expo, Farmers Market, Earth Day, etc.)
- Increased direct contact with residential advocacy groups, business advocacy groups, and irrigation industry groups
- Increased use of printed advertising such as newspapers, billing inserts, direct mail
- Use of radio and digital audio streaming service advertising (Spotify/Pandora)
- TV and digital video streaming advertising (YouTube)
- Use of visual cues such as banners, flyers, and signs in public spaces such as parks and City offices

Enforcement Actions

Utilities Department staff is seldom required to assess financial penalties to customers who are in violation of the City's Municipal Code as most violations are not intentional and are easily resolved. However, as the City learned in the 2011-2015 drought, more stringent restrictions can result in customers choosing to not follow the City's more restrictive demand reduction measures during a water shortage, especially in the stages that require significant reductions in outdoor irrigation.

The current process for reaching out to customers who are in violation is as follows:

First Violation (Courtesy Notification): Customer receives a "courtesy notification" by staff regarding the violation that was observed, and the Water Shortage Response Actions currently in place. The customer is provided with educational material and resources to help them comply with the requirements, if possible. Examples of a "courtesy notification" include door tags containing educational information, educational pamphlets, mailed letters, and/or a phone call by staff.

Second Violation (Issuance of Notice of Violation): Customer is issued a written notice of violation (NOV), which describes the specific violation, date, and time the violation was observed, and consequences of subsequent violations.

Subsequent Violations (Penalty/Fine): Customer may be issued a penalty/fine for violation in accordance with the City's Municipal Code.

As water supply declines and the community has more opportunity to understand and implement new restrictions, staff recommends a penalty structure in which penalties for violations double within the final two WSCP stages. Staff also recommends ceasing the use of a "Courtesy Notification" during the final two WSCP stages.

Policy Context

The City's General Plan Water and Wastewater Management Element Program A 5.3.3 requires the City to *"Prepare and update the Urban Water Management Plan every five years as required by the State."*

The requirements for UWMPs are found in two sections of California Water Code, §10610-10656 and §10608, which are available at the links below:

https://leginfo.legislature.ca.gov/faces/codes_displayexpandedbranch.xhtml?lawCode=WAT&division=6.&title=&part=2.6.&chapter=1.&article=&goUp=Y

https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=10608.&lawCode=WAT

The 2020 UWMP and WSCP are consistent with the City's Charter and General Plan. Added in 1996, Section 909 ("Use of Reliability Reserve") of the City's Charter states:

As identified in the Water Management Element of the General Plan, the City shall strive to acquire additional water supplies as a "reliability reserve" to protect the City from future water shortages. Once the City has acquired a portion or all of the reliability reserve, the additional water supply shall only be used to meet City needs during unpredictable changes such as a new worst-case drought, loss of one of the City's water sources, contamination of a source, or failure of a new source to provide projected yield, and not to allow additional development.

The City's General Plan, Water and Wastewater Management Element, Policy A 5.2.3 provides the methodology for determining the City's reliability reserve. The policy states *"The City will establish a reliability reserve that is 20-percent of the water use rate established in Policy A 5.2.1⁸ multiplied by the current population. The water supply designated as the reliability reserve may not be used to serve future development."*

⁸ General Plan, Water and Wastewater Management Element, Policy A 5.2.1 states *"The City will utilize the per capita water use rate allowed by Senate Bill X7-7 for projecting future potable water demand established as 117 gallons per capita per day."*

Previous Council Action

On June 14, 2016, Council adopted the City's 2015 UWMP by Resolution 10726 (Attachment B).

Public Engagement

The City's water planning documents including the 2015 Urban Water Management Plan, 2020 Water Resources Status Report, and General Plan Water and Wastewater Management Element are provided on the Utilities Department webpage, under Documents and Files, at the link below:

<https://www.slocity.org/government/departments-directory/utilities-department/documents-and-files>

This study session intends to serve as an opportunity to receive feedback from the City Council and the community regarding the UWMP and WSCP. The Utilities Department will place a link to the draft WSCP and study session material on its website once the agenda material is made publicly available. A complete draft of the City's 2020 UWMP is expected to be released in early June 2021. The City Council is expected to consider adoption of the final plan in June 2021. The 2020 plans must be submitted to the state by July 1, 2021.

CONCURRENCES

Utilities staff have worked with Community Development, Parks and Recreation, and Public Works Department staff on aspects of the 2020 UWMP and WSCP. Those staff concur with the approach described in this report.

ENVIRONMENTAL REVIEW

No environmental review is required for this study session. Per California Water Code §10652, urban water management planning is statutorily exempt from the California Environmental Quality Act (CEQA).

FISCAL IMPACT

Budgeted: Yes

Budget Year: 2020-21

Funding Identified: Yes

Fiscal Analysis:

There is no fiscal impact associated with Council participation in this study session. Budget for the preparation of the UWMP is funded by the Water Fund and, similar to the City's prior UWMPs, the 2020 UWMP is being prepared by in-house Utilities Department staff.

Funding for the on-going implementation of the UWMP was approved as part of the 2019-2021 Financial Plan in the Water Fund, Water Administration and Water Resource Program section operating budgets. Any project or program that would stem from the information contained in the City's 2020 UWMP would be brought back to the City Council for approval as appropriate.

ALTERNATIVES

Council could provide feedback in areas other than the focus areas listed above.

Attachments:

a - Resolution No. 10726 (2016 Series) - Approving the 2015 Urban Water Management Plan

b - 2015 Urban Water Management Plan - Water Shortage Contingency Plan

c - 2020 Water Shortage Contingency Plan

d - COUNCIL READING FILE - Council Agenda Report dated 11/15/2016 amending Municipal Code 13.07.030

RESOLUTION NO. 10726 (2016 Series)

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SAN LUIS
OBISPO, CALIFORNIA, ADOPTING THE REVISED URBAN WATER
MANAGEMENT PLAN**

WHEREAS, the California Legislature enacted Assembly Bill 797 during the 1983-1984 Regular Session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan (the "Plan"); and

WHEREAS, the City is an urban supplier of water providing water to approximately 15,000 customers; and

WHEREAS, the Plan shall be periodically reviewed at least once every five years, and that the City shall make any amendments or changes to its plan which are indicated by the review; and

WHEREAS, the Plan must be adopted, after public review and hearing, and filed with the California Department of Water Resources within thirty days of adoption; and

WHEREAS, the City has therefore prepared for public review a draft Urban Water Management Plan, and a properly noticed public hearing regarding the Plan was held by the City Council on June 14, 2016.

NOW, THEREFORE, BE IT RESOLVED, by the Council of the City of San Luis Obispo that the Urban Water Management Plan, consisting of text with tables, figures and appendices presented to the Council on June 14, 2016, on file in the City Clerk's Office, is hereby adopted and staff is hereby authorized to make any necessary changes to make the Urban Water Management Plan internally consistent with changes to Table 1.

BE IT FURTHER RESOLVED that the Utilities Director is hereby directed to distribute the Urban Water Management Plan to the California State Library, the County of San Luis Obispo and make available for public review as prescribed by state law.

Upon motion of Council Member Ashbaugh, seconded by Council Member Rivoire, and on the following roll call vote:

AYES: Council Members Ashbaugh, Christianson and Rivoire,
Vice Mayor Carpenter and Mayor Marx
NOES: None
ABSENT: None

R 10726

The foregoing resolution was adopted this 14th day of June 2016.



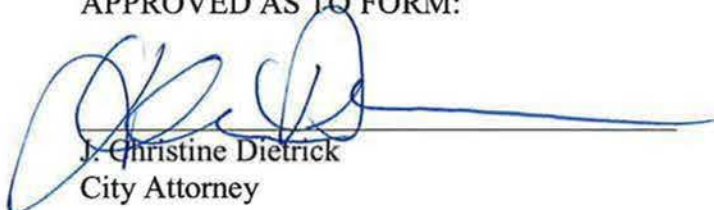
Mayor Jan Marx

ATTEST:



Lee Price, MMC
Interim City Clerk

APPROVED AS TO FORM:



J. Christine Dietrick
City Attorney

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the City of San Luis Obispo, California, this 27th day of June, 2016.



Lee Price, MMC
Interim City Clerk

Chapter 8: Water Shortage Contingency Plan

Developing and maintaining a multi-source water supply portfolio to increase resiliency against water shortages has been a City priority for many years. A water shortage occurs when water supplies are insufficient to support demand. A water shortage could occur due to drought, earthquake, infrastructure failure, or other emergency. Droughts occur with unpredictable frequency, intensity, and duration. The Department of Water Resources defines drought as “*A deficiency of precipitation over an extended period of time resulting in a water shortage for some activity, group, or environmental sector.*”

This Water Shortage Contingency Plan (WSCP) provides the foundation for a staged response to worsening water shortage conditions. A draft Water Conservation Ordinance, to update Chapter 13.07 of the City's Municipal Code, is proposed to establish the regulations and procedures for implementing this Plan. The draft Water Conservation Ordinance is provided in Appendix VI.

8.1 WATER SHORTAGE DETERMINATION

The degree of the water supply shortage determines the necessary level of response from the City and customers. When determining a water shortage stage the City evaluates the following:

- Water demand across customer categories
- Water availability at each supply source
- Available water supply options including supplemental water supplies

The City utilizes a water projection model, testing both hypothetical and actual water demand scenarios, to analyze current water storage at each reservoir and to predict how long the water supplies are available. The model accounts for the total storage in the three reservoirs, in conjunction with other available resources, needed to meet the City's water demand. The model uses historical hydrologic information based on the average for the worst drought period (2012 to 2014). Other data included in the model are:

- Water Entitlement (contractual or percentage)
- Current reservoir level
- Gallons per capita per day water demand
- Rainfall
- Temperature
- Evaporation
- Existing population
- Future population growth

Utilizing a water projection model as part of its water supply management enables the City to foresee whether a water supply shortage is anticipated in any given year, and the severity of a shortage based on the availability of the City's different sources of supply and water demand trends. The City uses the model to study the potential impacts of climate change using increased temperature and evaporation rates, along with decreased precipitation.



Whale Rock Reservoir.

8.2 WATER SHORTAGE RESPONSE

A water shortage response relies on the City's ability to temporarily augment supply and/or reduce water demand. The City's water shortage response would combine a variety of elements from outreach to enforcement, each increasing in intensity as the shortage persists. The City's demand reduction targets focus on water use limits and prohibitions that will reduce non-essential use, such as imposition of restrictions on outdoor irrigation. Implementation of these restrictions is necessary to conserve the City's water supply for the greatest public benefit regarding domestic use, sanitation and fire protection. This section reviews the general strategies the City will employ to mitigate the impacts of water shortage on the community.

Voluntary Reduction Measures

All customers may be asked to voluntarily reduce their water usage during a water shortage. The City may provide water conservation tips and suggestions through various public outreach methods, encourage and distribute conservation devices such as low flow shower heads and faucet aerators, discourage excessive outdoor watering, and encourage landscaping with drought tolerant plants. Voluntary reductions measures are described in more detail in Section 8.3

Mandatory Reduction Measures

The City may place mandatory reduction measures on certain uses, such as restricting outdoor watering to prescribed times and number of days per week beginning in the Watch Stage, with days and times for landscape watering further limited in later stages. Mandatory reduction measures may limit specific methods of irrigation (i.e., sprinkler ban).

The seasonal increase in water demand underscores the importance of implementing outdoor landscape-focused reduction programs. An average of approximately 50 percent of residential water use in San Luis Obispo is for landscape irrigation. Therefore, restrictions on outdoor water use are generally highly effective in reducing water demand. Outdoor uses are typically considered to be discretionary or nonessential for health and safety purposes, are highly visible and relatively easy to monitor, and often are a substantial component of water demand, particularly during the summer months when drought conditions are often most severe.

Prohibitions

Prohibitions will vary by drought stage, with the fundamental purpose of prohibiting non-essential uses not required for basic health and safety. During a declared water shortage, specific prohibitions would be described in a Water Shortage Ordinance adopted by the City Council. In the Critical Stage, all non-essential outdoor water use, except recycled water or grey water, may be prohibited.

The City will adopt regulations at the appropriate water shortage stage that require customers to take certain measures to promote water conservation, such as posting signage at various establishments, undergoing a water audit to maximize or demonstrate water conservation, and prescribing to customer-specific water budgets.

Supplemental Water Supply Options

During a water shortage emergency, the City may also utilize supplemental water supply options, or acquiring a new supply as warranted by the current situation. Currently, this might include requesting all 5,482 afy of the City's Nacimiento Reservoir allocation. In the future, this may include utilizing more groundwater and/or utilizing highly treated wastewater in a potable reuse system. These water supply options may be less desirable during normal operations due to increased operation costs.

8.3 WATER SHORTAGE STAGES

The goals of the City's Water Shortage Contingency Plan are to extend the City's available water resources long enough to gain another winter rainfall period which could serve to add to reservoir storage. Extending available water resources through water demand reduction provides time for the City to bring on supplemental water supplies to meet demand. It is the City's goal to implement water demand reduction programs that will achieve measurable water savings without affecting customers' lifestyles. In the higher water shortage stages lifestyle and habit changes will be necessary.

This section identifies the measures that may be taken at each stage to achieve desired water use reduction levels. The purpose of establishing water shortage stages is to clearly define the severity of the shortage and establish appropriate targets for demand reductions. Defining these stages allows the City to respond to worsening conditions, with each stage “triggering” different actions. The multi-stage approach provides different levels of response for a water shortage event ranging from a ten percent supply deficiency up to a 50 percent or greater deficiency.

Table 32 provides a quick reference guide to the City’s Water Shortage Contingency Plan, though City Council may adopt variations of these stages, independent from the stage resulting from the use of the Water Projection Model, to strategically address the current water shortage situation. Each stage describes increasing levels of water demand reduction and water supply augmentation methods. As stated previously, during an actual water shortage emergency, other measures may be imposed.

Water Shortage Response Stage: MONITOR

San Luis Obispo has made water conservation an integral part of the community’s culture and policy context for managing its water resources. The community has demonstrated a high commitment to reducing its water usage during water shortages. Although not a true declaration of a water shortage, the Water Shortage Contingency Plan’s Monitor Stage remains in place at all times along with voluntary conservation and implementation of the California Urban Water Conservation Council’s Best Management Practices. A complete description of the City’s water conservation program is included in Chapter 7.

This stage is focused on achieving voluntary compliance, as opposed to a mandatory demand reduction programs. To ensure the City is using water responsibly and remains in compliance with the SB X7-7 requirement to not exceed 117 gpcd, the City continually assesses available water supply levels, monitors customer water demand trends, conducts water loss audits, and evaluates potential supplemental supplies. The following are examples of measures that may be taken to facilitate water conservation consistent with CUWCC best management practices:

- Implement public outreach and communication programs (bill stuffers, social media, etc.)
- Participate in trade shows, home shows, and special community events
- Identify largest water users in each sector and offer complementary water audits
- Identify and notify customers of possible leaks and inefficient uses of water
- Encourage the use of drip irrigation and drought tolerant plants
- Implement school (K-12) education programs related to water conservation
- Enforce the toilet retrofit upon sale program
-

Actions at the Monitor Stage would also include active enforcement of the City’s water waste prohibitions, such as those adopted by the Governor in 2016, from Chapter 13.07 of the City’s Municipal Code, which defines water waste as follow (See also Table 32):

13.07.020 – Water runoff prohibited.

- A. *No person shall cause any water delivered by the city water system to flow away from property owned, occupied or controlled by such person in any gutter, ditch or in any other manner over the surface of the ground, so as to constitute water waste runoff.*
- B. *“Water waste runoff” means water flowing away from property and which is caused by excessive application(s) of water beyond reasonable or practical flow rates, water volumes or duration of application. (Ord. 1089 § 1 (part), 1987)*

**TABLE 32: Water Shortage Response Stages
Quick Reference Guide**

STAGE	WATER SUPPLY STATUS ¹	CITY ACTIONS	PER CAPITA GOAL (GPCD)
Monitor	5+ years of available water supply	City maintains conservation messaging at levels that ensure compliance with SB X7-7 maximum of 117 gpcd.	117 ²
Watch	< 5 years of available water supply	City increases conservation messaging. City examines available alternative water sources (groundwater, Nacimiento full allocation, etc.) and takes action based on current circumstances to meet demand. City may implement mandatory conservation measures to meet per capita reduction target.	107
Warning	< 4 years of available water supply	City implements mandatory conservation measures including outdoor irrigation restrictions (examples: 3 or 2 days a week watering and only serving water upon request at restaurants) and consider a Water Offset Program for new connections.	95
Severe	< 3 years of available water supply	City implements Water Allotment Program. Water Offset Program for new connections may be increased. Additional outdoor irrigation restrictions may be added (such as no spray irrigation). Outdoor irrigation may be prohibited for all uses. Cessation of all new connections may be considered.	90
Extreme	< 2 years of available water supply	City continues to implement a Water Allotment Program with reduced levels. Water Offset Program for new connections may be increased. Outdoor irrigation may be prohibited for all uses. Cessation of all new connections may be considered.	85
Critical	< 1 year of available water supply	City continues to implement a Water Allotment Program at further reduced levels (minimum for public health and safety). Outdoor irrigation prohibited for all uses. Water Offset Program to cease and no new connections permitted.	75

NOTES:

1. The City's Water Supply Status is informed by the Water Projection Model and per Section 8.2 of Chapter 8.
2. The City's per capita goal of 117 gpcd is the City's SB X7-7 2020 Target, see Chapter 3.
3. Recycled water is not subject to demand reduction programs, water allocations or other drought response programs. The City's recycled water program is described in further detail in Chapter 5.

Water Shortage Response Stage: WATCH

When the City's available water supply would provide less than five years of water, a recommendation would be made to the City Council that a water shortage be declared. The City Council would be asked to adopt a resolution declaring the City enter the Watch Stage and urge the public to reduce water use by approximately 8.5 percent from 117 gpcd to 107 gpcd.

During the "Watch" Stage, the demand management measures utilized during the Monitor Stage above will increase along with a continued focus on voluntary compliance. The City will also increase public outreach, implement system and operational changes, increase enforcement actions, and undertake other administrative actions. These program expansions and changes may include:

Water Demand Reduction Programs:

- Accelerate water audit programs for all customer classes
- Identify largest water users in each sector and contact for complementary water audits
- Increase water waste patrols
- Conduct water use surveys
- Implement rebate programs
- Consider the use of irrigation limitations

Public Outreach Programs:

- Issue a press release following Watch Stage declaration
- Include information in quarterly Resource Newsletter
- Update City website and create a page dedicated to information on details of WSCP Watch Stage
- Consider use of billing inserts to notify public of current situation and needs
- Coordinate with regional partners on messaging and outreach
- Develop outreach program for City staff to promote consistent messaging related to water supply and water conservation
- Increase outreach at public events such as Farmers Market, SLO Home Show, and home owners association board meetings
- Focus social media platforms on issues consistent with needed demand reductions

System and Operational Changes:

- Reduce water usage for main flushing and hydrant flushing
- Reduce distribution system pressure where feasible
- Increase leak detection, water meter testing, and water meter replacement
- Decrease allowable time for repairing leaks in distribution system
- Require use of non-potable water sources for all street sweeping and hydrocleaning
- Activate the Drought Taskforce

Enforcement Actions:

- Actively enforce water waste prohibitions
- Update online forms for reporting water waste and move forms to front page of website
- Continue to follow City's policy for code violations and issue Notices of Violation and Administrative Citations where deemed necessary

Other Administrative Actions:

- Begin drafting ordinance revisions and code changes that would go into effect in subsequent water shortage stages
- Plan for the funding and implementation of specific conservation programs launched in subsequent water shortage stages

- Review potential fiscal impacts of drought (i.e., increased water supply, operational, and capital costs); and demand reductions (reduced revenue)
- Prepare for implementation of next water shortage stage
- Identify and plan for the need for additional staff. In planning for additional staff, consideration should be given to funding, available office space, vehicles, training, and other needed supplies and support
- Consider need for drought surcharge to stabilize revenue
- Consider deferring previously scheduled capital projects as necessary to invest in acquisition of needed water supply sources and demand reductions
- Review available supplemental water supply options, such as increased use of groundwater, utilization of potable reuse, and implementation of a recycled water filling station

Water Shortage Response Stage: WARNING

When the City's available water supply would provide less than four years of water, a recommendation would be made to the City Council to move to the next water shortage stage. The City Council could be asked to adopt a resolution declaring the City enter the Warning Stage and urge the public to reduce water use by an additional approximately 11 percent from 107 gpcd to 95 gpcd including mandatory conservation measures.

The water conservation measures described in the Monitor and Watch Stages above may increase during the Warning Stage, with an increased focus on limiting outdoor water uses. System and operational changes would remain in place. These increases and additions to programs may include:

Water Demand Reduction Programs:

- Continue implementation of and possible increase of all demand reduction programs listed in Watch Stage
- Limit outdoor watering to two or three days a week and only between the hours of 7:00 p.m. and 7:00 a.m.
- Defer landscape installations for new development or require development to install landscaping that provides a significant reduction in water demand (e.g. a minimum of 50%) as compared to a conventional drought tolerant landscaping during normal water years
- Require hotels/motels/inns to offer the option to opt out of laundry services
- Require restaurants to only serve water upon request
- Restrict use of decorative water features and fountains
- No watering within 48 hours of measureable rainfall
- No washing down of sidewalks, driveways, parking lots or other hardscape areas unless necessary to protect public health and safety
- No exterior washing of buildings, dwelling and other structures, except for pre-approved uses
- No vehicles washing except at commercial car washing facilities or by use of a bucket and/or hose equipped with a shut off nozzle

Public Outreach Programs:

- Continue implementation of and possible increase of all public outreach programs listed in Watch Stage
- Issue a press release following Warning Stage declaration
- Target outreach to customers with large landscapes regarding irrigation restrictions
- Use of billing inserts, postcards, and direct mail pieces to inform customers of new requirements and prohibitions
- Coordinate with local business groups such as the Chamber of Commerce and landscaping associations to help encourage conservation among commercial customers

- Coordinate with home owners associations, property rental agencies, and other local groups to help encourage conservation among residential customers

Increased Enforcement Actions:

- **First Violation:** Customer notification and education
Customer will be notified by staff of the particular violation observed, and the demand reduction programs currently in place. The customer will be provided with needed resources to help them comply with requirements. Examples of notification include: door tags containing violation information, mailed letter, and/or personal phone call by staff
- **Second Violation:** Issuance of Notice of Violation
Customer will be issued a written notice of violation (NOV), notifying the customer of specific violation, date and time the violation was observed, and consequences of subsequent violations
- **Subsequent Violations:** Customer may be issued a penalty/fine for violation

Other Administrative Actions:

- Continue implementation of and possible increase of all other administrative actions listed in Watch Stage
- Prepare utility billing system and bill format for water allocations and reductions listed in subsequent stages.
- Establish appeals committee for customers who exceed allotments in subsequent stages or receive fines from violating water waste prohibitions
- Increase utility billing training and support to address additional requirements of Warning Stage and future stages
- Begin preparing for Severe Stage

Implementation of a Water Demand Offset Program:

During the Warning Stage, the City may consider implementing a water demand offset program. Water demand offset programs are designed to require new development that causes increased water demand to offset such demand through conservation or acquisition/development of new supplies. The goal of an offset program is to ensure that a new development does not increase current and future water demands.



At the Warning stage the City may choose to implement a neutral offset program, requiring that new demands offset usage at a rate of 1:1. Future stages of the WSCP may suggest a more aggressive, "net positive" water demand offset program. A "net positive" water demand offset program would require a positive offset of a project's water demand. An example of this would be a project required to offset its water demand at a ratio higher than 1:1, such as 1.5:1 or 2:1.

There are several types of offset programs in use across California and the United States. Examples of potential offset programs are listed below.

- Toilet replacements
- Smart irrigation controllers
- Onsite reuse systems
- Submetering
- In-lieu fee
- Irrigation system retrofits
- Waterless urinals
- Rainwater capture

Water Shortage Response Stage: SEVERE

When the City's available water supply would provide less than three years of water, a recommendation would be made to the City Council to move to the next water shortage stage. The City Council would be asked to adopt a resolution declaring the City enter the Severe Stage and urge the public to reduce water use by an additional approximately five percent from 95 gpcd to 90 gpcd.

At this water shortage response stage, the City would continue implementation of demand reduction, public outreach, and enforcement programs described in prior stages. System and operational changes would remain in place. At the Severe Stage, a water offset program may increase to a "net positive" program, such as 1.5:1 or 2:1 and the City may implement a water allotment program. The following allotment method may be used:

Customer Classification	Severe Stage Allotment
Single Family Residential and Multi-family Residential	A per capita allotment of 64 gpcd, verification of persons per household may be requested
Commercial and Institutional	Baseline allocation or allocation based on percent reduction from normal usage
Landscape Meters	Allocation based on percent reduction from normal usage; the City could consider prohibiting outdoor irrigation

Excessive water use penalties may be imposed as outlined in the City's Municipal Code.

At this stage, due to the limited water supplies that remain, the City could consider prohibiting outdoor irrigation and the cessation of new connections to the water distribution system.

Water Shortage Response Stage: EXTREME

When the City's available water supply would provide less than two years of water, a recommendation would be made to the City Council to move to the next water shortage stage. The City Council would be asked to adopt a resolution declaring the City enter the Extreme Stage and urge the public to reduce water use by an additional approximately five percent from 90 gpcd to 85 gpcd.

At this water shortage response stage, the City would continue implementation of demand reduction, public outreach, and enforcement programs described in prior stages. System and operational changes would remain in place. At the Extreme Stage, a "net positive" water offset program may continue to be offered and outdoor irrigation may be prohibited. The following allotment method may be used:

Customer Classification	Extreme Stage Allotment
Single Family Residential and Multi-family Residential	A per capita allotment of 56 gpcd, verification of persons per household may be requested
Commercial and Institutional	Baseline allocation or allocation based on percent reduction from normal usage

Excessive water use penalties may continue to be imposed as outlined in the City's Municipal Code.

At this stage, due to the limited water supplies that remain, the City could consider the cessation of new connections to the water distribution system.

Water Shortage Response Stage: CRITICAL

When the City's available water supply would provide less than one year of water, a recommendation would be made to the City Council to move to the next water shortage stage. The City Council would be asked to adopt a resolution declaring the City enter the Critical Stage and urge the public to reduce water use by an additional approximately 12 percent from 85 gpcd to 75 gpcd.

At this water shortage response stage, the City would continue implementation of demand reduction, public outreach, and enforcement programs described in prior stages. System and operational changes would remain in place. At the Critical Stage, a water offset program may no longer be offered and outdoor irrigation may continue to be prohibited. The following allotment method may be used:

Customer Classification	Critical Stage Allotment
Single Family Residential and Multi-family Residential	A per capita allotment of 48 gpcd, verification of persons per household may be requested
Commercial and Institutional	Baseline allocation or allocation based on percent reduction from normal usage

Excessive water use penalties may continue to be imposed as outlined in the City's Municipal Code.

At this stage, due to the limited water supplies that remain, the City would consider the cessation of new connections to the water distribution system.

8.4 REVENUE AND EXPENDITURE IMPACTS

During a water shortage, revenues from water sales can be reduced but the City's operations and maintenance costs would not reduce accordingly. In fact, during the these periods, the City's operations budgets can increase due to the implementation of water demand reduction measures, public outreach, enforcement, groundwater exploration, water quality concerns, and other actions taken by the City during the crisis. The reduction in revenues resulting from decreased water use may result in the need to raise water rates during that period.

Under the City's water rate structure, bills are based mainly on customer usage choices and resulting demand on the water systems. Water Fund revenue is collected from multiple sources, but approximately 90 percent of revenue is directly tied to water service charges including the base fee.

To minimize the need to raise rates during water shortages, the City has a policy that requires a minimum reserve of twenty percent of the Water Fund's operating budget. While this is a minimum amount, the reserve amount is typically above this minimum policy level.

City staff provides ongoing tracking of revenues and evaluates the potential impacts associated with changes in water demand assumptions used in the Annual Water Fund Analysis. The City Council considers the water rates necessary to provide water service to the community on an annual basis and approves water rate changes as needed.

As part of the 2015-17 Financial Plan, the City included a base fee and tiered drought surcharge as water demand was projected to reduce by 12 percent as a result of State water use reduction mandates. The surcharge was proposed to offset the loss in revenue associated with the State order as the City was still responsible for the costs of the City's multi-source water supply and debt payments. In addition to water supply, Water Fund revenue supports ongoing maintenance and operating programs needed to ensure

that the water treatment and delivery systems meet all federal and state water treatment regulations and are operated and maintained to provide safe and reliable service.

8.5 CATASTROPHIC WATER SUPPLY INTERRUPTION

The City has an Emergency Response Plan to cover a variety of potential disasters including: earthquakes, floods, wildland fires, etc. The Plan identifies resources available to the City from other agencies or private companies in the area. Additionally, the City of Morro Bay and the Whale Rock Commission (of which the City of San Luis Obispo is a member) executed an agreement in June of 2000 which provides for Mutual Aid between the agencies during disruption of water deliveries or lack of available water supplies. The agreement provides a general framework for exchanging water between agencies in the event of emergencies or other water disruptions. The agreement is voluntary based on each agency's ability to assist at any point in the future.

In relation to providing water service, the City would utilize portable generators to minimize water disruptions during an extended power outage. These generators are maintained and available to the City at any time and are stored at the City Corporation Yard.

The City is a member of the Water Agency Response Network (WARN). WARN is a statewide organization of water agencies and companies that have entered into a mutual aid agreement to assist other water agencies during emergencies or other water related situations. The agreement provides the frame work for providing assistance and provides a key contact to initiate a multiple agency response to a water emergency situation.

8.6 MINIMUM SUPPLY NEXT THREE YEARS

Consistent with section 6.6, Water Supply Reliability Analysis, in Chapter 6, the City's multiple dry year scenario was determined to be 2012 to 2014 as the combined rainfall total for those three years was the lowest on record. Available water supplies during this period assume the City's safe annual yield from Salinas and Whale Rock Reservoirs, contractual supply from Nacimiento Reservoir, and recycled water supply are available totaling 12,622 acre feet of available supply, as shown in Table 33.

As directed by DWR, this section was prepared based on what is known by the City at the time the UWMP was prepared. After the current drought has a "bookend" the safe annual yield of Salinas and Whale Rock reservoirs will be recalculated. Related changes to safe annual yield will be incorporated into planning scenarios.

TABLE 33: Minimum Supply Next Three Years

	2016	2017	2018
Available Water Supply	12,622	12,622	12,622

NOTES:

1. Department of Water Resources, Table 8-4.
2. Units are in acre-feet per year.
3. Volume available includes the City's contractual supply to Nacimiento Reservoir, Safe Annual Yield from Salinas and Whale Rock Reservoirs, and recycled water.

Source: City of San Luis Obispo Utilities Department, 2016.

8.7 REQUIRED UWMP STANDARDIZED TABLES:

Stages of Water Shortage Contingency Plan		
Stage	Complete Both	
	Percent Supply Reduction ¹	Water Supply Condition
Monitor	0	City maintains conservation messaging at levels that ensure compliance with maximum 117 gallons per capita per day (gpcd).
Watch	10	City increases conservation messaging. City examines available alternative water sources (groundwater, Nacimiento full allocation, etc.) and takes action based on current circumstances to meet demand. City may implement mandatory conservation measures to meet per capita reduction target.
Warning	20	City implements mandatory conservation measures including outdoor irrigation restrictions (examples: 3 or 2 days a week watering and only serving water upon request at restaurants) and consider a Water Offset Program for new connections.
Severe	30	City implements Water Allotment Program. Water Offset Program for new connections may be increased. Additional outdoor irrigation restrictions may be added (such as no spray irrigation). Outdoor irrigation may be prohibited for all uses. Cessation of all new connections may be considered.
Extreme	40	City continues to implement a Water Allotment Program with reduced levels. Water Offset Program for new connections may be increased. Outdoor irrigation may be prohibited for all uses. Cessation of all new connections may be considered.
Critical	50	City continues to implement a Water Allotment Program at further reduced levels (minimum for public health and safety). Outdoor irrigation prohibited for all uses. Water Offset Program to cease and no new connections permitted.
¹ One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.		
NOTES: Table 8-1 R.		

Restrictions and Prohibitions on End Uses		
Stage	Restrictions and Prohibitions on End Users	Penalty, Charge, or Other Enforcement?
Monitor	Landscape - Restrict or prohibit runoff from landscape irrigation	Yes
Monitor	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Yes
Monitor	Other - Prohibit use of potable water for construction and dust control	Yes
Watch	Other - Require automatic shut of hoses	Yes
Warning	Landscape - Limit landscape irrigation to specific times	Yes
Warning	Landscape - Limit landscape irrigation to specific days	Yes
Warning	Water Features - Restrict water use for decorative water features, such as fountains	Yes
Warning	CII - Lodging establishment must offer opt out of linen service	Yes
Warning	CII - Restaurants may only serve water upon request	Yes
Warning	Water Features - Restrict water use for decorative water features, such as fountains	Yes
Critical	Landscape - Other landscape restriction or prohibition	Yes
NOTES: Table 8-2 (R).		

Stages of Water Shortage Contingency Plan - Consumption Reduction Methods	
Stage	Consumption Reduction Methods by Water Supplier
All	Expand Public Information Campaign
Watch	Offer Water Use Surveys
Watch	Provide Rebates on Plumbing Fixtures and Devices
Watch	Provide Rebates for Landscape Irrigation Efficiency
Watch	Decrease Line Flushing
NOTES: Table 8-3 R.	

Minimum Supply Next Three Years			
	2016	2017	2018
Available Water Supply	12,622	12,622	12,622
NOTES: Table 8-4 R.			

Draft 2020 Water Shortage Contingency Plan

Developing and maintaining a multi-source water supply portfolio to increase resiliency against water shortages has been a City priority for many years. A water shortage could occur due to drought, earthquake, infrastructure failure, or other emergency. Droughts may occur with unpredictable frequency, intensity, and duration. The Department of Water Resources defines drought as “A deficiency of precipitation over an extended period of time resulting in a water shortage for some activity, group, or environmental sector.”

This Water Shortage Contingency Plan (WSCP) provides the foundation for a staged response to worsening water shortage conditions. A draft Water Conservation Ordinance, to update Chapter 13.07 of the City's Municipal Code, will be proposed to establish the regulations and procedures for implementing this Plan.

1. WATER SUPPLY RELIABILITY ANALYSIS

Assessing water supply reliability is the fundamental purpose of the City's Urban Water Management Plan (UWMP). Water service reliability is the City's ability to meet the water needs of its customers under varying conditions. Chapter 6 of the City's UWMP assesses water supply reliability by analyzing plausible hydrological variability, regulatory variability, climate conditions, and other factors that may affect the City's water supplies and customer water uses. The analysis looks beyond the City's past experience and considers what could be reasonably foreseeable in the future.

2. ANNUAL WATER SHORTAGE ASSESSMENT

The City performs a water shortage assessment each year, and more frequently in drought conditions, to review available water supplies and confirm its approach for the coming year. The degree of the water supply shortage determines the necessary level of response from the City and customers, if any. This assessment includes evaluation of the following:

- a. Current year water demand across customer categories
- b. Water availability at each supply source
- c. Available supplemental water supply options
- d. Infrastructure considerations, including planned maintenance, repairs, and upgrades

The City utilizes a water projection model, testing both hypothetical and actual water demand scenarios to analyze and predict how long the water supplies will be available under specific conditions. The model accounts for the storage in the three reservoirs, in conjunction with other available resources, needed to meet the City's water demand. The model uses historical hydrologic information based on the average for the worst drought period (2012 to 2014). Other data included in the model is:

- a. Water Entitlement (contractual or percentage)
- b. Current reservoir levels
- c. Average gallons per capita per day community water demand
- d. Rainfall
- e. Temperature
- f. Evaporation
- g. Existing population
- h. Population growth

Utilizing a water projection model as part of its water supply management enables the City to foresee whether a water supply shortage is anticipated in any given year, and the severity of a shortage based on the availability of the City's different sources of supply and water demand trends. The City uses the model to study the potential impacts of various intensities of drought conditions, including increased temperature and evaporation rates, along with decreased precipitation.

In accordance with new UWMP requirements, each year the City will prepare a water supply and demand assessment, present it to the City Council for review, and submit its annual Water Shortage Assessment

Report to DWR. The Assessment will be conducted based on the use of the City's water projection model and the key data inputs described above to characterize near-term water supply conditions (i.e., for the next 12 months).

3. WATER SHORTAGE RESPONSE

A water shortage response is dependent on the City's ability to temporarily augment supply and/or reduce water demand. The City's water shortage response would combine a variety of elements from outreach to enforcement, each increasing in intensity as the shortage persists. The City's demand reduction targets focus on water use limits and prohibitions that will reduce non-essential use, such as imposition of restrictions on outdoor irrigation. Implementation of these restrictions is necessary to conserve the City's water supply for the greatest public benefit regarding domestic use, sanitation, and fire protection. This section reviews the general strategies the City will employ to mitigate the impacts of water shortage on the community.

Voluntary Reduction Measures

All customers may be asked to voluntarily reduce their water usage during a water shortage. The City may provide water conservation tips and suggestions through various public outreach methods, encourage and distribute conservation devices such as low flow shower heads and faucet aerators, discourage excessive outdoor watering, and encourage landscaping with drought tolerant plants. Voluntary reductions measures are described in more detail in Section 3.

Mandatory Reduction Measures

The City may place mandatory reduction measures on certain uses, such as restricting outdoor watering to prescribed times and number of days per week beginning in the Warning Stage, with days and times for landscape watering further limited in later stages. Mandatory reduction measures may limit specific methods of irrigation (i.e., sprinkler ban).

The seasonal increase in water demand underscores the importance of implementing outdoor irrigation-focused reduction programs. An average of approximately 50 percent of residential water use in San Luis Obispo is for landscape irrigation. Therefore, restrictions on outdoor water use are generally highly effective in reducing water demand. Many outdoor uses are considered discretionary, or nonessential for health and safety purposes, are highly visible and relatively easy to monitor, and often are a substantial component of water demand, particularly during the summer months when drought conditions are often most severe.

Water Use Prohibitions

Water use prohibitions will vary by drought stage, with the fundamental purpose of restricting or prohibiting non-essential uses that are not required for basic health and safety. During a declared water shortage, specific prohibitions would be described in a Water Shortage Ordinance adopted by the City Council. In the Critical Stage, all non-essential outdoor water use, except recycled water or grey water, may be prohibited.

The City will adopt regulations at the appropriate water shortage stage to promote water conservation, such as posting signage at various establishments, offering water audits to maximize water conservation, and prescribing to customer-specific water budgets (i.e., water allocations).

Supplemental Water Supply Options

During a declared water shortage emergency, the City may also utilize supplemental water supply options, or acquire a new supply as warranted by the current situation. This may include utilizing more groundwater and/or utilizing highly treated wastewater in a potable reuse system. These water supply options may be less desirable during normal operations due to increased operational costs.

4. WATER SHORTAGE STAGES

The goals of the WSCP are to extend the City's available water resources long enough to gain another winter rainfall period which could serve to add to reservoir storage. Extending available water resources through water demand reduction provides time for the City to bring on supplemental water supplies to meet demand. It is the City's goal to implement water demand reduction programs that will achieve measurable water savings without requiring customers to make significant lifestyle changes. In the more advanced water shortage stages lifestyle and habit changes will be necessary.

This section identifies the measures that may be taken at each stage to achieve desired water use reduction levels. The purpose of establishing water shortage stages is to clearly define the severity of the shortage and establish appropriate targets for demand reductions. Defining these stages allows the City to respond to worsening conditions, with each stage "triggering" different actions. The multi-stage approach provides different levels of response for a water shortage event ranging from a ten percent supply deficiency up to a 50 percent or greater deficiency.

Table 1 provides a quick reference guide to the WSCP, though City Council may adopt variations of these Water Shortage Response Actions, independent from the stage resulting from the use of the Water Projection Model, to strategically address the current water shortage situation. Each stage describes increasing levels of water demand reduction and water supply augmentation methods. As stated previously, during an actual water shortage emergency, other measures may be imposed.

**TABLE 1: Water Shortage Response Stages
Quick Reference Guide**

STAGE	WATER SUPPLY STATUS ¹	CITY ACTIONS
Monitor	5+ years of available water supply	City maintains existing water conservation staffing levels and budget that supports meeting internal water efficiency goals and regulatory requirements for water conservation, including ongoing public outreach.
Watch	< 5 years of available water supply	City increases programs that encourage voluntary water conservation including public outreach, rebate programs, and water efficient fixture giveaways. City examines available alternative water sources (groundwater expansion, recycled water filling stations, water purchase agreements, etc.), City modifies internal operations to focus on decreasing water loss and prepares for subsequent WSCP stages.
Warning	< 4.5 years of available water supply	City implements time of use irrigation restrictions (7:00 PM – 7:00 AM). City increases staffing, budget, and outreach to achieve additional voluntary conservation savings while preparing for Alert-Critical stages.
Alert	< 4 years	City requires mandatory conservation measures including outdoor irrigation restrictions (four day a week watering) and considers a Water Offset Program for new connections.
Severe	< 3.5 years of available water supply	City implements Water Allotment Program. Water Offset Program for new connections may be increased (1.5:1 or 2:1 offset ratio). Allowable irrigation reduced to three days per week.
Extreme	< 3 years of available water supply	City continues to implement a Water Allotment Program with reduced allotment levels. Water Offset Program for new connections may be increased (1.5:1 or 2:1 offset ratio). Allowable irrigation reduced to two days per week with optional additional measures related to turf and spray irrigation.
Critical	< 2.5 year of available water supply	City continues to implement a Water Allotment Program at further reduced levels (minimum for public health and safety). Irrigation no longer permitted. Water Offset Program to cease and no new connections permitted.

NOTES:

1. The City's Water Supply Status is informed by the Water Projection Model described in section 2, Annual Water Shortage Assessment, of this WSCP.

Water Shortage Response Stage: MONITOR

San Luis Obispo has made water conservation an integral part of the community's culture and policy context for managing its water resources. The community has demonstrated a high commitment to reducing its water usage during water shortages. Although not a true declaration of a water shortage, the Water Shortage Contingency Plan's Monitor Stage remains in place at all times along with voluntary conservation.

This stage is focused on achieving voluntary water savings, as opposed to a mandatory demand reduction programs. To ensure the City is using water responsibly and remaining in compliance with water efficiency goals are regulations, the City continually assesses available water supply levels, monitors customer water demand trends, conducts water loss audits, and evaluates potential supplemental supply projects. The following are examples of measures that may be taken to maintain water use efficiency goals:

1. Implement public outreach and communication programs (bill stuffers, social media, etc.)
2. Participate in trade shows, home shows, and special community events
3. Offer complimentary water audits
4. Identify and notify customers of possible leaks and inefficient uses of water
5. Encourage the use of drip irrigation and drought tolerant plants
6. Implement school (K-12) education programs related to water conservation
7. Enforce the water efficiency retrofit program (toilet retrofit upon sale program)

Actions at the Monitor Stage would also include active enforcement of the City's water waste prohibitions, such as those from Chapter 13.07 of the City's Municipal Code, which defines water waste as follow (See also Table 1):

City of San Luis Obispo, Municipal Code

13.07.020 – Water runoff prohibited.

- A. *No person shall cause any water delivered by the city water system to flow away from property owned, occupied or controlled by such person in any gutter, ditch or in any other manner over the surface of the ground, so as to constitute water waste runoff.*
- B. *"Water waste runoff" means water flowing away from property and which is caused by excessive application(s) of water beyond reasonable or practical flow rates, water volumes or duration of application. (Ord. 1089 § 1 (part), 1987)*

Water Shortage Response Stage: WATCH

When the City's available water supply would provide **less than five years** of water, a recommendation would be made to the City Council that a water shortage be declared. The City Council would be recommended to adopt a resolution declaring the City enter the Watch Stage and urge the public to reduce water use by approximately ten percent.

During the "Watch" Stage, the demand management measures utilized during the Monitor Stage above will increase along with a continued focus on voluntary water use reduction. The City will also increase public outreach, implement system and operational changes, increase enforcement actions and patrols, and undertake other administrative actions. These program expansions and changes may include:

1. Water Demand Reduction Programs:

- A. Accelerate water audit programs for all customer classes
- B. Identify largest water users in each sector and contact for complementary water audits
- C. Increase water waste patrols
- D. Conduct water use surveys
- E. Implement rebate programs
- F. Consider the use of irrigation limitations

2. Public Outreach Programs:

- A. Issue a press release following Watch Stage declaration
- B. Include information in quarterly Resource Newsletter
- C. Update City website and create a page dedicated to information on details of WSCP Watch Stage
- D. Use billing inserts to notify public of current situation and needs
- E. Coordinate with regional partners on messaging and outreach
- F. Increase outreach at public events such as Farmers Market, SLO Home Show, homeowners association board meetings, etc.
- G. Focus social media platforms on issues consistent with needed demand reductions

3. System and Operational Changes:

- A. Reduce water usage for water main flushing and hydrant flushing
- B. Reduce distribution system pressure where feasible
- C. Increase leak detection, water meter testing, and water meter replacement
- D. Require use of non-potable water sources for all street sweeping and hydrocleaning
- E. Activate the Drought Taskforce

4. Enforcement Actions:

- A. **First Violation:** Customer notification and education

Customer will be notified by staff of the particular violation observed, and the demand reduction programs currently in place. The customer will be provided with needed resources to help them comply with requirements. Examples of notification include: door tags containing educational information, mailed letter, and/or personal phone call by staff.

- B. **Second Violation:** Issuance of Notice of Violation

Customer will be issued a written notice of violation (NOV), notifying the customer of specific violation, date and time the violation was observed, and consequences of subsequent violations

- C. **Subsequent Violations:** Customer may be issued a penalty/fine for violation

5. Other Administrative Actions:

- A. Begin drafting ordinance revisions and code changes that would go into effect in subsequent water shortage stages
- B. Plan for the funding and implementation of specific conservation programs launched in subsequent water shortage stages
- C. Review potential fiscal impacts of drought (i.e., increased water supply, operational, and capital costs); and demand reductions (reduced revenue)
- D. Identify and plan for the need for additional staff. In planning for additional staff, consideration should be given to funding, available office space, vehicles, training, and other needed supplies and support
- E. Consider need for drought surcharge to stabilize revenue
- F. Consider deferring previously scheduled capital projects as necessary to invest in acquisition of needed water supply sources and demand reductions

- G. Review available supplemental water supply options, such as increased use of groundwater, utilization of potable reuse, and implementation of a recycled water filling station

Water Shortage Response Stage: WARNING

When the City's available water supply would provide **less than 4.5 years** of water, a recommendation would be made to the City Council to move to the Warning water shortage stage. The City Council could be recommended to adopt a resolution declaring the City enter the Warning Stage and urge the public to reduce water use by an additional 10 percent including mandatory conservation measures.

The water conservation measures described in the Monitor and Watch Stages above may increase during the Warning Stage, with an increased focus on limiting outdoor water uses. System and operational changes would remain in place. These increases and additions to programs may include:

1. Water Demand Reduction Programs:

- A. Continue implementation of and possible increase of all demand reduction programs listed in Watch Stage
- B. Limit outdoor watering to between the hours of 7:00 p.m. and 7:00 a.m.
- C. Require restaurants to only serve water upon request
- D. Restrict use of decorative water features and fountains

2. Public Outreach Programs:

- A. Continue implementation of and possible increase of all public outreach programs listed in Watch Stage
- B. Issue a press release following Warning Stage declaration
- C. Target outreach to customers with large landscapes regarding irrigation restrictions
- D. Use of billing inserts, postcards, and direct mail pieces to inform customers of new requirements and prohibitions
- E. Coordinate with local business groups such as the Chamber of Commerce and landscaping associations to help encourage conservation among commercial customers
- F. Coordinate with homeowners associations, property rental agencies, and other local groups to help encourage conservation among residential customers

3. Enforcement Actions (Same as previous stage)

4. Other Administrative Actions:

- A. Continue implementation of and possible increase of all other administrative actions listed in Watch Stage
- B. Begin preparing for the Alert Stage.

5. Optional Implementation of a Water Demand Offset Program:

During the Warning Stage, staff will begin updating the Water Demand Offset Program and messaging about the program to the development community. The City may consider implementing a water demand offset program during this stage. Water demand offset programs are designed to require new development that causes increased water demand to offset such demand through conservation or acquisition/development of new water supplies. The goal of an offset program is to ensure that new development does not increase current water demands. It should be noted that offset programs simply expedite water efficiency measures and thus create water savings in the short term. Depending on the nature of the offset, long-term savings may not be realized.

At the Warning stage the City may choose to implement a "net neutral" offset program, requiring that new demands offset usage at a rate of 1:1. Future stages of the WSCP may suggest a more aggressive,

“net positive” water demand offset program. A “net positive” water demand offset program would require a positive offset of a project’s water demand. An example of this would be a project required to offset its water demand at a ratio higher than 1:1, such as 2:1 or 3:1.

There are several types of offset programs in use across California and the United States. Examples of potential offset programs are listed below.

- A. Toilet replacements
- B. Smart irrigation controllers
- C. Submetering
- D. In-lieu fees (fees are used to support new water supply projects)
- E. Irrigation system retrofits
- F. Waterless urinals
- G. Rainwater capture
- H. Recycled Water Retrofit Projects

Water Shortage Response Stage: ALERT

When the City’s available water supply would provide **less than four years** of water, a recommendation would be made to the City Council to move to the Alert water shortage stage. The City Council could be recommended to adopt a resolution declaring the City enter the Alert Stage and urge the public to reduce water use by an additional 10 percent including mandatory conservation measures.

The water conservation measures described in the Stages above may increase during the Alert Stage, with an increased focus on limiting outdoor water uses. System and operational changes would remain in place. These increases and additions to programs may include:

1. Water Demand Reduction Programs:

- A. Limit outdoor watering to **four days a week** and only between the hours of 7:00 PM and 7:00 AM.
- B. Defer landscape installations for new development or require development to install landscaping that provides a 50 percent reduction in Maximum Applied Water Allowance (MAWA). This would not apply to sites irrigated with recycled water.

2. Public Outreach Programs:

- A. Continue implementation of and possible increase of all public outreach programs listed in previous stages
- B. Issue a press release following Alert Stage declaration
- C. Utilize water use allocation software to identify inefficient water users and make direct contact with these properties.

3. Enforcement Actions (Same as previous stage)

4. Other Administrative Actions:

- A. Continue implementation of and possible increase of all other administrative actions listed in prior stages
- B. Prepare utility billing system and bill format for water allocations and reductions listed in subsequent stages.
- C. Establish appeals committee for customers who exceed allotments in subsequent stages, request health and safety variances, or receive fines from violating water waste prohibitions
- D. Increase utility billing training and support to address additional requirements of future stages
- E. Begin preparing for Severe Stage

Implementation of a Water Demand Offset Program:

At the Alert stage the City may choose to implement a “net neutral” offset program or increase a previously approved program to a “net positive” program (ex: 1.5:1 or 2:1 offset ratio). Future stages of the WSCP may suggest a more aggressive, “net positive” water demand offset program.

Water Shortage Response Stage: SEVERE

When the City’s available water supply would provide **less than 3.5 years** of water, a recommendation would be made to the City Council to move to the Severe water shortage stage. The City Council would be recommended to adopt a resolution declaring the City enter the Severe Stage and urge the public to reduce water use by an additional approximately 10 percent.

At this water shortage response stage, the City would continue implementation of demand reduction measures, public outreach, and other responses and programs described in prior stages. System and operational changes would remain in place. At the Severe Stage, a water offset program may increase to a “net positive” program, such as 1.5:1 or 2:1 ratio.

Previous Water Demand Reduction Programs should be increased to include:

- Limit outdoor watering to **three days a week** and only between the hours of 7:00 PM and 7:00 AM.

During the Severe, Extreme, and Critical stages of the WSCP the City may adopt a Water Allotment Program, restricting the water use on an account-by-account basis. The following allotment method may be used:

Customer Classification	Severe Stage Allotment
Single Family Residential and Multi-family Residential	A per capita allotment allowing for indoor use and a minimal outdoor irrigation budget. Verification of persons per household may be requested
Commercial and Institutional	Baseline allocation or allocation based on percent reduction from normal usage
Landscape Meters	Allocation based on percent reduction from normal usage;

Water Shortage Response Stage: EXTREME

When the City's available water supply would provide **less than three years** of water, a recommendation would be made to the City Council to move to the Extreme water shortage stage. The City Council would be recommended to adopt a resolution declaring the City enter the Extreme Stage and urge the public to reduce water use by an additional 10 percent.

At this water shortage response stage, the City would continue implementation of demand reduction measures, public outreach, and other responses and programs described in prior stages. System and operational changes would remain in place. At the Severe Stage, a water offset program may increase to a "net positive" program, such as 1.5:1 or 2:1 ratio.

Previous Water Demand Reduction Programs should be increased to include:

- Limit outdoor watering to **two days a week** and only between the hours of 7:00 PM and 7:00 AM.
- Optional implementation of additional restrictions on turf and/or spray irrigation.

Customer Classification	Extreme Stage Allotment
Single Family Residential and Multi-family Residential	A per capita allotment allowing for indoor use and a reduced outdoor irrigation budget versus the Severe stage. Verification of persons per household may be requested
Commercial and Institutional	Reduced baseline allocation or allocation based on percent reduction from normal usage
Landscape Meters	Reduced allocation based on percent reduction from normal usage;

At this stage, due to the limited water supplies that remain, the City could consider removal of the "courtesy notification".

Water Shortage Response Stage: CRITICAL

When the City's available water supply would provide **less than 2.5 years of** water, a recommendation would be made to the City Council to move to the Critical water shortage stage. The City Council would be recommended to adopt a resolution declaring the City enter the Critical Stage and urge the public to reduce water use by an additional approximately 10 percent.

At this water shortage response stage, the City would continue implementation of demand reduction measures, public outreach, and other responses and programs described in prior stages. System and operational changes would remain in place. At the Severe Stage, a water offset program may increase to a "net positive" program, such as 1.5:1 or 2:1 ratio.

Previous Water Demand Reduction Programs should be increased to include:

- Cessation irrigation for all customers, minus specific exemptions.

Customer Classification	Critical Stage Allotment
Single Family Residential and Multi-family Residential	A per capita allotment allowing for indoor water use. Irrigation not permitted.

	Verification of persons per household may be requested
Commercial and Institutional	Reduced baseline allocation or allocation based on percent reduction from normal usage. Irrigation not permitted.
Landscape Meters	Not Permitted

At this stage, due to the limited water supplies that remain, the City would consider the cessation of new connections to the City's water system.

5. WSCP EXEMPTIONS AND APPEALS

As the community was impacted by the 2011-2015 drought and irrigation restrictions were put into place, community members advocated for certain exemptions related to water use restrictions. The following series of exemptions will help ensure the health and well-being of the community while not making a substantial impact on available water supplies.

Sites using Recycled Water for Irrigation

Sites utilizing recycled water are exempt from irrigation restrictions due to their reliance on recycled water in place of potable water. These sites include major City parks, such as Damon Garcia Park, French Park, Islay Park, Laguna Lake Park, Laguna Hills Park, De Vault Park, the Laguna Lake Golf Course, and Laguna Middle School, as well as many multifamily and commercial properties.

Irrigation Exceptions at Specific Facilities

During the recent drought City staff and community members provided feedback that City parks with inadequate irrigation allotments could lead to hazardous conditions at recreation and play environments. To address these concerns, and to provide communal spaces for recreation during times when many homes allowed landscapes to die, in 2016 the City Council approved an amendment to Chapter 13.07.030 of the Municipal Code, allowing for daily irrigation at designated City facilities during turf renovation, and three times per week thereafter. This exemption is recommended to be expanded to include schools within the City's boundaries as they are used for recreation in a similar manner to City parks. This exemption would only go into place in stages of the WSCP requiring irrigation restrictions.

Irrigation of Trees

During the 2011-2015 drought, the City heard from many residents who opted to cease irrigation of their trees in order to reduce their water demand. Unlike turf, shrubs, and other groundcover, trees take a great amount of time to grow and provide substantial ecological, environmental, practical, and economic value to the community. An exemption to irrigation restrictions allowing for the use of a hose and shutoff nozzle to hand water trees will allow the community to preserve this precious multi-benefit resource.

Hospitals, Healthcare Facilities, and other Specific Business Types

Hospitals, healthcare facilities, and other businesses requiring water for the health and safety of at-risk people may apply for an exemption on a case by case-basis. This exemption may be granted at the discretion of the Utilities Director or his/her/their designee.

Appeals

Appeals related to water use restrictions within the WSCP and associated penalties may be appealed to the Utilities Director or his/her/their designee.

6. REVENUE AND EXPENDITURE IMPACTS

During a water shortage, revenues from water sales can be reduced but the City's operations and maintenance costs would not reduce accordingly. In fact, during these periods, the City's operations budgets can increase due to the implementation of water demand reduction measures, public outreach, enforcement, groundwater exploration, water quality concerns, and other actions taken by the City during the crisis. The reduction in revenues resulting from decreased water use may result in the need to raise water rates during that period.

Under the City's water rate structure, bills are based predominately on customer usage and resulting demand on the water system.

To minimize the need to raise rates during water shortages, the City has a policy that requires a minimum reserve of twenty percent of the Water Fund's operating budget.

City staff provides ongoing tracking of revenues and evaluates the potential impacts associated with changes in water demand assumptions used in the Water Fund Analysis. The City Council considers the water rates necessary to provide water service to the community on an annual basis and approves water rate changes as needed.

In addition to securing water supplies, Water Fund revenue supports ongoing maintenance and operating programs needed to ensure that the water treatment and delivery systems meet all federal and state water treatment regulations and are operated and maintained to provide safe and reliable service.

7. MONITORING, REPORTING, AND REFINEMENT PROCEDURES

The City reads water meters monthly to ensure water consumption data is collected for tracking, analysis, and to meet state reporting requirements. Monitoring and reporting key water use metrics is fundamental to water supply planning and management. Monitoring is also essential to ensure that the response actions are achieving their intended water use reduction purposes, or if new actions need to be considered. Compliance tracking is also necessary for an effective enforcement program.

To evaluate the functionality of the WSCP and ensure strategies are effective, staff will monitor community response to water demand reduction measures, public outreach, enforcement, and other administrative actions at each water shortage response stage. This will include review of monthly water consumption data for each customer class and monitoring associated fiscal and expenditure impacts. Staff will make recommendations on program refinements to the City Council with water shortage stage progression.

8. CATASTROPHIC WATER SUPPLY INTERRUPTION

The City has an Emergency Response Plan to cover a variety of potential disasters including earthquakes, floods, wildland fires, etc. The Plan identifies resources available to the City from other agencies or private companies in the area. Additionally, the City of Morro Bay and the Whale Rock Commission (of which the City of San Luis Obispo is a member) executed an agreement in June of 2000 which provides for Mutual Aid between the agencies during disruption of water deliveries or lack of available water supplies. The agreement provides a general framework for exchanging water between agencies in the event of emergencies or other water disruptions. The agreement is voluntary based on each agency's ability to assist at any point in the future.

In relation to providing water service, the City would utilize electrical portable generators to minimize water disruptions during an extended power outage. These generators are available to the City at any time.

The City is a member of the Water Agency Response Network (WARN). WARN is a statewide organization of water agencies and companies that have entered into a mutual aid agreement to assist other water agencies during emergencies or other water related situations. The agreement provides the framework for providing assistance and provides a key contact to initiate a multiple agency response to a water emergency situation.