Water Shortage Contingency Plan Final Draft

June 1, 2021

Prepared for:

Las Virgenes Municipal Water District

Prepared by:

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As part of the Urban Water Management Plan (UWMP), Water Code Section 10632 requires Suppliers to prepare and adopt a Water Shortage Contingency Plan (WSCP). The Las Virgenes Municipal Water District (LVMWD) WSCP aligns with the Metropolitan Water District of Southern California (MWD) WSCP to ensure continuity, collaboration, and efficiency. The WSCP also draws upon lessons learned from the 2012-2016 drought, California's driest period on record. The following discussion presents the various stages and basis for implementation.

Water Supply Reliability Analysis

The primary source of water supply for LVMWD has been water imported from MWD. The imported water is primarily treated water from the Sacramento-San Joaquin River Delta in Northern California, which is conveyed via State Water Project (SWP) facilities. In 2020, LVMWD supplied a total of 20,533 AF from imported water purchased from MWD, which was 78 percent of the total water supply including recycled water. Groundwater and recycled water are discussed further in the UWMP Chapter 4.

Annual Water Supply and Demand Assessment Procedures

As an urban water supplier, LVMWD must prepare and submit an Annual Water Supply and Demand Assessment (Annual Assessment). The following information provides the procedures LVMWD will undertake to complete and approve the Annual Assessment.

Decision-Making Process

MWD will prepare their Annual Assessment by June of each year and present to their Board of Director's. This presentation will also include appropriate triggers for recommendations regarding specific shortage response actions as a result of the assessment. LVMWD will utilize the information provided by MWD to prepare their Annual Assessment to be presented to LVMWD's Board of Directors for approval and submission to DWR by July 1.

Data and Methodologies

The following provides a description of the key data inputs and methodologies that will be used in the Annual Assessment.

Evaluation Criteria

LVMWD will utilize the MWD Annual Assessment process and monthly Water Surplus and Drought Management reporting to evaluate their annual assessment for imported water supplies. MWD will monitor emerging supply and demand conditions throughout the year and take appropriate actions consistent with the flexibility and adaptability inherent to the WSCP.

Water Supply

LVMWD receives approximately 78 percent of their water supply from MWD. LVMWD will rely upon MWD's evaluation of water supply sources as part of their annual water supply and demand assessment procedures for imported water supplies.

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Unconstrained Customer Demand

LVMWD will need to evaluate expected water needs for the coming year or "unconstrained demand" per the Water Code Section 10632. It is anticipated customer water use will be evaluated based on billing records as used in the UWMP Chapter 4 analysis.

Planned Water Use for Current Year Considering Dry Subsequent Year

LVMWD will evaluate anticipated supplies for the coming year, while anticipating that the following year will be dry. LVMWD will continue to review MWD's planned water supplies for making decisions involving water shortage responses.

Infrastructure Consideration

Throughout each year, LVMWD and MWD regularly carry out preventive and corrective maintenance of facilities. MWD plans and performs shutdowns to inspect and repair pipelines and facilities and support capital improvement projects. These shutdowns involve a high level of planning and coordination within MWD, as well as with member agencies, other affected organizations, contractors, and the community. For LVMWD planned outages, they will bring Westlake Filtration Plant online to supply the west end of the District's service area and connect to LADWP (Kittridge + Germain) to supply the east end during planned maintenance periods.

Six Standard Water Shortage Stages

As required by California Water Code (CWC) §10632(a)(3)(A), the WSCP is framed around six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. Urban water suppliers shall define these shortage levels based on the suppliers' water supply conditions, including percentage reductions in water supply, changes in groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use. Shortage levels shall also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, and other potential emergency events.

In 2016, LVMWD created a WSCP that established four stages of escalating response to a water shortage caused by droughts and/or emergencies. Each stage may be triggered by a declaration from federal or state authorities, MWD, or LVMWD to address events that result in a water shortage. The stages and description are summarized in Table 1 and matched to the six standard UWMP shortage levels.

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Table 1. Water Shortage Contingency Plan Comparison

Shortage Level	Percent Shortage Range		Shortage Level	Percent Supply Reduction	Water Supply Condition
1	Up to 10%		1 Water Shortage Alert	0 to 10%	Stage 1 is a condition resulting in a 0 to 10% water shortage necessitating a voluntary water use reduction. The District will initiate a public information campaign to increase awareness of water conservation measures specified in the Administrative Code Section 3-4.404. Customers are expected to perform voluntary water use reductions and adhere to on-going water conservation measures.
2	Up to 20%		2 Water Shortage Warning	10-20%	Stage 2 is a condition resulting in a 10 to 20% water shortage necessitating a higher level of voluntary water use reduction. The District will expand the public information campaign and step up enforcement of water conservation measures. Customers are expected to re-double voluntary water use reductions and strictly adhere to water conservation measures
3	Up to 30%		3 Water Shortage Emergency	20-50%	Stage 3 is a condition resulting in a 20 to 50% water shortage necessitating mandatory water use reductions. Depending on the severity of the shortage, the District will intensify the public information campaign and expand enforcement of water conservation measures. Additionally, the Board will determine the appropriate drought factor for water budgets if necessary.
4	Up to 40%	 /1	4 Critical Water Shortage Emergency	>50%	Stage 4 is a condition resulting in a 50% or higher water shortage necessitating prohibition of outdoor water use for irrigation, pools and fountains. The District will implement crisis communications and activate its Emergency Operations Center. Customers shall be required to terminate all outdoor use except as necessary to protect public health and safety. Additionally, the Board will determine reduction in indoor water budgets if necessary.
5	Up to 50%				
6	>50%				

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Shortage Response Actions

The following section specifies the types of shortage response actions that may be undertaken before and during a shortage declaration. Note that shortage response actions will align with and are in part dictated by MWD. Table 2 below provides a summary of the shortage stage and the suite of response actions MWD and LVMWD may take.

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Table 2. Shortage Stages and Response Actions

Shortage	Shortage	Response Actions				
		Trigger	Actions			
1	Up to 10%	 Federal, state or local disaster declaration that may impact water supplies State or MWD declaration due to drought or system maintenance LVMWD Board of Directors determination Unplanned LVMWD water system maintenance 	 <u>MWD</u> Take from storage Execute Flexible Supplies Implement Water Supply Allocation Plan (WSAP) <u>LVMWD</u> Initiate public information campaign with large water users, cities, and County Commence enforcement of conservation measures 	MWD • 0 to 100% m • 0 to 100% m • 0 to 50% of LVMWD • 0 to 20% met • 0 to 50% met		
2	Up to 20%	See Stage 1 triggers. The difference is the severity and/or maintenance repair time.	 <u>MWD</u> Take from storage Execute Flexible Supplies Implement Water Supply Allocation Plan <u>LVMWD</u> Initiate public information campaign with large water users, cities, and County Commence enforcement of conservation measures 	MWD • 0 to 100% m • 0 to 100% m • 0 to 50% of LVMWD • 0 to 20% met • 0 to 50% met		
3	Up to 50%	 Federal, state or local disaster declaration that may impact water supplies State or MWD determination due to drought or significant system failure State outdoor irrigation restriction; and/or MWD Water Supply Allocation Plan (5-50% of baseline allocation) LVMWD Board of Directors determination Unplanned LVMWD water system failure or emergency (Westlake Filtration Plant, Dam and/or Backbone System) 	MWD • Take from storage • Execute Flexible Supplies • Implement Water Supply Allocation Plan LVMWD • Take from storage • Intensify public information campaign • Expand enforcement of conservation measures • Implement State and MWD required reductions • Provide regular media, city councils, and County briefings • Activate emergency connections with mutual aid agencies	MWD 0 to 100% m 0 to 100% m 0 to 50% of LVMWD 0 to 100% met 0 to 20% met 0 to 50% met		
4	>50%	 Federal, state or local disaster declaration that may impact water supplies Sacramento to Delta/SWP failure State or MWD determination due to drought or significant system failure LVMWD Board of Directors determination Natural or human-caused catastrophe disrupting delivery of water to, or within the service area Severe LVMWD water system failure (Westlake Filtration Plant, Dam and Backbone System) 	MWD • Take from storage • Execute Flexible Supplies • Implement Water Supply Allocation Plan LVMWD • Take from storage • Activate Emergency Operations Center and implement crisis plan • Implement State and MWD required reductions • Install flow restrictors on meters as necessary • Terminate potable water supplement to the recycled water system • Recall all temporary meters and activate water fill stations	MWD • 0 to 100% m • 0 to 100% m • 0 to 50% of LVMWD • 0 to 100% me • 0 to 20% met • 0 to 50% met		

Shortage Met

net by storage net by Flexible Supplies total base demand met by WSAP implementation

t by demand reduction t by water shortage allocation

net by storage net by Flexible Supplies total base demand met by WSAP implementation

t by demand reduction t by water shortage allocation

net by storage net by Flexible Supplies total base demand met by WSAP implementation

et by short-term storage (3 months max.) t by demand reduction t by water shortage allocation

net by storage net by Flexible Supplies total base demand met by WSAP implementation

et by short-term storage (3 months max.)

- t by demand reduction
- t by water shortage allocation

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Demand Reduction

LVMWD implements many conservation programs and initiatives annually including public outreach. LVMWD's demand reduction actions are listed in Table 3 and discussed in more detail below. Taken collectively, LVMWD expects these demand reduction measures to reduce the shortage gap by 0 to 20 percent.

Landscape Demand Reductions

The LVMWD Board has adopted the following water conservation measures as it relates to landscape demand reduction:

- Irrigation is <u>not</u> allowed between the hours of 10 a.m. and 5 p.m.
- Irrigation may not occur during periods of rain or in the 48 hours following measurable rainfall.
- Irrigation may not run off the property into streets, gutters or onto adjacent properties.
- Using potable water to wash down sidewalks, parking areas and driveways is <u>not</u> permitted.
- A trigger nozzle is required on hoses used for home car washing.

These actions listed above are water use restrictions as of April 2021. All of these measures would be in effect under Stages 1 through 4. As the water shortage increases, so would LVMWD patrol and enforcement of these measures. There is one landscape measure that only applies to Stage 4 though and that is the prohibition of all landscape water use except in the case of public health and safety purposes.

Commercial Demand Reductions

The LVMWD Board has adopted the following water conservation measures as it relates to commercial demand reduction:

- Hotels and motels must give multi-night guests the option to retain towels and linens during their stay.
- Restaurants may only serve water upon request.

All of these measures would be in effect under Stages 1-4. As the water shortage increases, so would LVMWD patrol and enforcement of these measures.

Special Water Features Demand Reductions

The LVMWD Board has adopted a water conservation measure as it relates to special water features demand reductions: terminate filling or refilling of pools and fountains. The first measure only applies to Stage 4.

Other Demand Reductions

LVMWD's primary method for demand reduction is through a variety of water conservation programs such as the weather based irrigation controller giveaway program and the rain barrel giveaway program. Based on the LVMWD Comprehensive Water Conservation Plan Fiscal Years 2018-2020, LVMWD was able to report water savings of 34 percent when compared to water usages in 2013. More information on these programs can be found in UWMP Chapter 9 or on the District's website.

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Table 3: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
1 - 4	Landscape - Limit landscape irrigation to specific times	0-20%*	Between hours of 10 AM and 5 PM	Yes
1 - 4	Landscape - Restrict or prohibit runoff from landscape irrigation	0-20%*		Yes
1 - 4	Landscape – Irrigation may not occur during periods of rain or in the 48 hours following measurable rainfall	0-20%*		Yes
1 - 4	Landscape – Restrict potable water to wash off hard surfaces	0-20%*		Yes
1 - 4	Landscape – Trigger nozzle is required	0-20%*	For car washing	Yes
4	Landscape – Prohibit all landscape irrigation	0-20%*	Outdoor water use only allowed for public health and safety purposes	Yes
1 - 4	Commercial – Only serve water upon request	0-20%*		Yes
1 - 4	Commercial – Hotels & Motels must give option to refuse linen service	0-20%*		Yes
4	Other – Water feature or swimming pool restriction	0-20%*	Outdoor water use only allowed for public health and safety purposes	Yes
1-4	Other	0-20%*	Water conservation programs	No
NOTES: * When taken collectively, the demand reduction measures will reduce the shortage gap up to 20 percent. LVMWD has not assessed these actions on an individual basis but as a whole.				

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Supply Augmentation

LVMWD has the following supply augmentation measures as listed in Table 4 and described below.

Table 4: Supply Augmentation Actions			
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference
3-4	Stored Emergency Supply	0 to 100%	Short-term action (3 month max.) from Las Virgenes Reservoir
NOTES: N/A			

Stored Emergency Supply

LVMWD can supply up to 100 percent of their customer demands from Las Virgenes Reservoir. However, this is a short-term action (a maximum of 3 months) and would only be used during a Stage 3 or 4 shortage.

Operational Changes

During all water shortage stages, LVMWD would decrease line flushing to reduce water demand. In addition, LVMWD would implement the following under a Stage 4 Critical Water Shortage Emergency:

- Terminate potable water supplement to the recycled water system
- Install flow restrictors on meters as necessary
- Recall all temporary meters and active water fill stations

Additional Mandatory Restrictions

LVMWD does not have additional mandatory restrictions outside of those listed in the Demand Reduction Measures section.

Emergency Response Plan

LVMWD maintains an active emergency preparedness program, last published in October 2019 and to be updated in summer 2021, that includes an emergency plan that will help manage the District's critical functions during any emergency and protect the safety of staff. The District will coordinate the emergency plan, function, and response with those responders from other public and private entities and organizations charged with emergency duties.

The Emergency Response Plan (ERP) defines an emergency and has plans, procedures, policies, and agreements for various emergencies. These include water contamination, power outage, earthquake, and water supply interruption, among others and may trigger a Level 4 Water Shortage. Metropolitan Water District of Southern California is a prime contact when issues of potable water quality are in question and

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LVMWD can utilize their emergency intertie with them. In addition, MWD is the primary contact during a major emergency throughout Southern California. If the MWD intertie is not available, LVMWD has two interties with LADWP that can be used in emergency situations.

Seismic Risk Assessment and Mitigation Plan

The Malibu Coast fault system includes the Malibu Coast, Santa Monica, and Hollywood faults. The system begins in the Hollywood area, extends along the southern base of the Santa Monica Mountains, and passes offshore a few miles west of Point Dume.

The Malibu Coast fault system runs south of the LVMWD service area while the Northridge Hills fault and the Chatsworth fault run north of the LVMWD service area as shown in Figure 1. Being in close proximity to the Malibu Coast fault system, the Northridge Hills fault, and the Chatsworth fault makes LVMWD's facilities susceptible to a disruption in the event of an earthquake. LVMWD's facilities are prone to liquefaction but also surface faulting and landslides given their proximity to the Malibu Coast fault system, the Northridge Hills as described in the 2019 Las Virgenes Municipal Water Hazard Mitigation Plan (see UWMP Appendix H).

Although LVMWD has a connection to the LADWP system used during scheduled MWD outages, following a major earthquake, the Las Virgenes Reservoir would be the only source of supply that LVMWD could rely on.

A catastrophic event, such as an earthquake damaging the aqueducts that transport imported water supplies could result in an unplanned interruption in MWD supplies, which LVMWD depends on. In recognition of the possibility of such unplanned events, MWD has invested in emergency storage facilities located within and outside of the region to facilitate continued supplies. In the event of a SWP outage, water stored in surface water reservoirs and groundwater basins under MWD's emergency storage program would be made available to meet demands by MWD member agencies, which includes LVMWD. In the case of extreme water shortages within the MWD service area, MWD will implement the Water Supply Allocation Plan (WSAP). The WSAP provides methodologies for allocating supply to each of MWD's retail and wholesale customers on an equitable needs-basis, and establishes surcharges for excess water use. The WSAP was originally adopted by the MWD Board in 2008 and was revised in 2014 and 2020. These efforts increase the reliability of supplies on a region-wide basis, including the LVMWD service area, even under unexpected circumstances, such as catastrophic supply interruption

2020 URBAN WATER MANAGEMENT PLAN FOR LAS VIRGENES MUNICIPAL WATER DISTRICT



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Communication Protocols

LVMWD has several communication tools and methods in place to engage customers, the public, elected officials, and other agencies. The following communication tools are used in varying degrees at all water storage levels:

- <u>LVMWD website</u>
 Local TV ads and programs
 Speakers Bureau
 Bill stuffers
 Printed media (flyers, bulletins)
 K-12 classroom events
 Email listserv
 Booths at local events
 Social medial (various)
 - "The Current Flow" newsletter Facility tours Everbridge alerts
- Conference presentations
 Newspaper ads and editorials

LVMWD's website is one of the primary means of communication and is regularly updated. It includes information about billing and emergencies, as well as water conservation resources. Much of the website content is replicated on various social media platforms and printed media. Content for all external communication is approved by the Director of Engineering and External Affairs.

The District recognizes that not all customers use or have access to the internet and use alternative methods such as billing stuffers and newspaper ads to communicate with their customers. LVMWD has begun to use translated subtitles on some important video work to ensure that those messages can be understood by Spanish-only speakers.

In the event of an emergency, the District General Manager would contact LVMWD Directors and the Communications Manager to begin the emergency response plan, as previously discussed. The District would also use the Everbridge system to communicate to both internal staff and external customers.

The tools and methods outlined above augment and compliment the efforts by MWD. Both entities have extensive communication and outreach campaigns as outlined in their WSCPs. To ensure the collaboration and continuity of these outreach efforts, staff currently attends regular meetings with MWD. In the event that a water shortage is declared, the LVMWD anticipates these meetings will increase in frequency.

Compliance and Enforcement

Section 3-4.406 of the LVMWD Code outlines enforcement actions for violations of water conservation measures. These actions are summarized in Table 5. LVMWD customers are encouraged to report water conservation violations through use of the LVMWD hotline.

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Table 5: Penalties and Charges

Violation Level	Penalties and Charges
First Violation	The customer shall be notified in writing. The notice shall include a warning that further violations could result in stricter penalties.
Second Violation	A second violation within a twelve-month period is punishable by a fine of up to \$100.
Third Violation	A third violation within a twelve-month period is punishable by a fine of up to \$200.
Fourth Violation	A fourth violation within a twelve-month period is punishable by a fine up to \$500.
Fifth Violation	A fifth violation within a twelve-month period may result in the installation of a flow restrictor or termination of service.

Legal Authorities

The Water Shortage Contingency Plan establishes four stages of escalating response to a water shortage caused by droughts and emergencies. Each stage may be triggered by a declaration from Federal or State authorities, MWD or the District to address events that result in a water shortage. The Administrative Code authorizes the General Manager to implement the appropriate actions necessary to achieve the reduction target. LVMWD adopted the WSCP with Resolution No. 2481 on January 12, 2016. This Resolution amended Section 3-4.407 of the LVMWD Code and repealed Resolution No. 2478.

LVMWD shall declare a water shortage emergency condition to prevail within the area served by LVMWD whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

MWD has stated its legal authorities within their 2020 UWMP.

Financial Consequences of WSCP

About 52 percent of LVMWD's fixed costs are covered by fixed revenues. As such, water sales do not make up the majority of the total operating revenue. LVMWD designed their rates around water budgets. This structure proved successful during the 2012-2016 drought since LVMWD was able to avoid both financial difficulties and imposing "drought rates". According to the LVMWD Fiscal Year 2020-22 Adopted Budget, reserves for the Potable Water Enterprise were rebuilt to meet all Board adopted Financial Policies. During the Fiscal Year 2020-21, LVMWD completed a new five-year rate study for implementation on March 1, 2021. Rates will be adjusted each January from 2022 through 2025.

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Monitoring and Reporting

LVWMD will utilize their new SmartMeter/ AMI program to gather monthly data. LVMWD staff will then analyze the data and generate a report. This report will be included as part of the Annual Assessment.

WSCP Refinement Procedures

The WSCP will be reviewed as part of the Annual Assessment. The WSCP may also be reviewed in the event that MWD makes substantial changes to their WSCP. To update the WSCP, LVMWD staff would make the necessary changes and go through an internal review process. LVMWD would then go before the Board for a final review and adoption.

Special Water Feature Distinction

As discussed in the Demand Reduction section, LVMWD will impose restrictions on special water features under a Stage 4 shortage. At Stage 4, outdoor water use will only be allowed for public health and safety purposes.

Plan Adoption, Submittal, and Availability

The LVMWD WSCP was developed and included in the 2020 UWMP and shall be made available to its purveyors and any city or county within which it provides water supplies no later than 30 days after adoption. Below is a description of how the WSCP will be adopted, submitted, implemented, and amended. The information provided is similar to the UWMP adoption, submittal and implementation process provided in UWMP Chapter 10. The WSCP may be periodically amended independently of the UWMP, as needed (see previous section for detail).