Council Agenda Report

Item 6f

Department: Utilities
Cost Center: 6001
For Agenda of: 5/20/2025
Placement: Consent
Estimated Time: N/A

FROM: Aaron Floyd, Utilities Director
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SUBJECT: 2025 WATER SUPPLY AND DEMAND ASSESSMENT

RECOMMENDATION

Receive and file the City's 2025 Water Supply and Demand Assessment

POLICY CONTEXT

The *2025 Water Supply and Demand Assessment* was prepared in accordance with the General Plan, Water and Wastewater Management Element, Policy A5.3.1 and Water Code §10632.1.

On July 3, 2024, the State Water Resources Control Board (SWRCB) adopted the Making Conservation a California Way of Life regulation, establishing unique water conservation goals for each urban water supplier in California.[1] Water conservation is important to the resilience of the City's water resources; therefore, the City will continue to work to meet or exceed the State's water conservation targets.

The City also remains committed to the sustainable use of groundwater from the San Luis Obispo Valley Groundwater Basin. In collaboration with the County, the City submitted the *San Luis Obispo Valley Groundwater Basin Water Year 2024 Annual Report* to the State in March 2025. The City is also completing the Groundwater Contamination Characterization Project Implementation Phase, which will drill and construct two new groundwater production wells – serving to remove and treat contaminated groundwater from the groundwater basin, but to also provide a new source of drinking water to the community.

REPORT-IN-BRIEF

Results of the state-mandated *2025 Water Supply and Demand Assessment* (Attachment A, Reading File) and the City's Water Projection Model show that the City has more than

[1] The Making Conservation a California Way of Life regulation can be accessed at: https://www.waterboards.ca.gov/conservation/regs/docs/2024/final-text-conservation-way-of-life.pdf

ten years of water available under a drought scenario[2] with current water supply and demand conditions and future predictions concerning build-out population and associated water demand. Monthly water supply surpluses signify that the City would not need to enter a water shortage emergency in any month during the Current Year[3] (Fiscal Year 2025) or during a following hypothetical Dry Year (Fiscal Year 2026)[4,5].

DISCUSSION

Background

The City's *2025 Water Supply and Demand Assessment* (Attachment A) was prepared in accordance with the General Plan, Water and Wastewater Management Element (WWME), Policy A5.3.1. and meets the State's reporting requirements (Water Code §10632.1). The *2025 Water Supply and Demand Assessment* provides an update on the City's current water supply and water demands and assesses the potential of a water supply shortage for a hypothetical dry year.

Current Water Supply Status

The City's water supply reservoirs (Nacimiento, Salinas, and Whale Rock) are located in different local watersheds in northern San Luis Obispo County and along the north coast (Figure 1). Having geographically diverse reservoirs allows the City to maximize the capture of rainfall at various locations within San Luis Obispo County (Figure 1 and Table 1), providing benefits to the City's water supplies beyond just rainfall received within the City. As shown in Table 1, all watersheds that provide water to City reservoirs received rainfall that was comparable to the 2013-2024 median.

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[2] *A "drought scenario" is a period when rainfall is less than normal for several weeks, months, or years, the flow of streams and rivers declines, water levels in lakes and reservoirs fall, and the depth to water in wells increases.*

[3] *The Current Year for this Water Supply Assessment covers the twelve months from July 2024 through June 2025.*

[4] *A "Dry Year" is one in which precipitation is as low as the driest year on record.*

[5] *The Current Year and Dry Year periods for this Water Supply Assessment are concurrent with the City's 2025 and 2026 Fiscal Year periods, respectively.*

Figure 1: Map of reservoirs and rain gauge locations.

Table 1: Rainfall during the 2024 and 2025 Water Years (in inches)[1]

Rainfall Measurement Location	Watershed	Median Rainfall[2]	WY 2024 Total Rainfall	WY 2025 Total Rainfall[3]
Rocky Butte	Nacimiento Reservoir	28.93	71.31	34.74
Hwy 46 W 7 Mile	Whale Rock Reservoir	15.54	23.66	12.48
SLO Reservoir	San Luis Obispo Creek	15.17	24.24	14.09
Salinas Dam	Salinas Reservoir	14.33	28.52	14.24

Notes:

1. Water Year is October 1 to September 29.
2. Calculated using data from water years 2013 through 2024.
3. For the dates October 1, 2024, to April 1, 2025.

Reservoir storage volumes as of April 1, 2025, are shown below in Table 2. The consecutively wet winters have resulted in Nacimiento Reservoir being above 65-percent storage capacity, and Salinas and Whale Rock Reservoirs being near capacity.

Table 2: Current Reservoir Storage and Change in Volume from Fiscal Year 2024

Reservoir	Reservoir Storage		City Allocation (acre-feet)[1]	Change from FY 2024	
	Current Volume[1] (acre-feet)	Total Percent Capacity		Storage (acre-feet)	% Capacity
Nacimiento	259,033	68%	5,482	(93,433)	(25%)
Whale Rock	36,116	93%	21,451	(2,851)	(7%)
Salinas	22,034	99%	19,386	(2,456.6)	(11%)

Notes:
1. As of April 1, 2025.

As shown in Table 3, the City's FY 2024 demand was 4,969 acre-feet. The total per-capita demand during this period was 91 gallons per capita per day (GPCD). Ninety-four percent (94%) of this demand was supplied by Whale Rock and Salinas Reservoirs, and 6% was supplied by recycled water; water deliveries from Nacimiento Reservoir were unavailable due to pipeline repairs.

Table 3: City Water Supply Used by Source during Fiscal Year 2024 (in acre-feet[1])

Nacimiento Reservoir	Whale Rock Reservoir [2]	Salinas Reservoir	Recycled Water	Groundwater [3]	Total City Water Demand
-	3,409	1,251	309	0	4,969
0%	69%	25%	6%	0%	100%

Notes:
1. Values are rounded.
2. Water delivered to Cal Poly State University is excluded from the City's water demand, as Cal Poly has its own water storage and water diversion rights in Whale Rock Reservoir.
3. Groundwater was not used for potable purposes during Fiscal Year 2024.

Available Supply

Water Resource Availability is calculated based on WWME, Section 3. Using this method, the Water Resource Availability for FY 2025 is 10,246 acre-feet (Table 4), which includes 5,482 acre-feet of dependable yield from Nacimiento Reservoir, 4,910 acre-feet of safe annual yield from Salinas and Whale Rock Reservoirs, 354 acre-feet of Recycled Water (2024 calendar-year usage) and subtracts 500 acre-feet due to estimated reservoir capacity losses from siltation (WWME Policy A 4.2.2).

Table 4: Estimated Fiscal Year 2024-2025 Available Water Resources

Water Resource	Acre-Feet	Description
Nacimiento Reservoir	5,482	Dependable Yield [1]
Salinas & Whale Rock Reservoirs	4,910	Safe Annual Yield [2]
Recycled Water	354	2024 Annual Usage [3]
Siltation from 2010 to 2060	(500)	WWME Policy A 4.2.2 [4]
	10,246	**Total Availability[5]**

NOTES:

1. Dependable Yield is the contractual amount of water the City has rights to from Nacimiento Reservoir.
2. The City's Safe Annual Yield model was updated in 2018.
3. The quantity of recycled water included (354 AF) is the actual prior year's usage (calendar year 2024) per *General Plan Water and Wastewater Management Element* Policy A 7.2.2.
4. Reservoir siltation is a natural occurrence that reduces storage capacity over long periods, resulting in the reduction of safe annual yield.
5. Preliminary estimate that can change with regulatory variability, climate conditions, and other factors that may affect the City's water supplies and customer water uses.

Per WWME, Section 5, the City divides the total Water Resource Availability (Table 4) to account for water supplies necessary to meet three specific community needs (Table 5):

- *Primary water supply* – is the amount needed to meet the General Plan build-out of the City, which is the amount of water needed to serve the City's current and future residential and non-residential water demand.
- *Reliability reserve* – the buffer for future unforeseen or unpredictable long-term water supply impacts.
- *Secondary water supply* – the amount of water needed to meet peak water demand periods or short-term loss of City water supply sources.

Table 5: Fiscal Year 2024 Annual Water Supply Availability (in acre-feet)[1]

Total Water Availability	Primary Water Supply	Reliability Reserve	Secondary Water Supply
10,246	7,496	1,276	1,474

NOTES:

1. Total Water Availability = Primary Water Supply + Reliability Reserve + Secondary Water Supply

Because our policies determine the supplies described above using the maximum per capita water use allowed by State regulations (117 GPCD), the supply volumes can be considered conservative estimations of actual demand. Using conservative estimates allows the flexibility to respond to unforeseen impacts to water supply, or greater than anticipated increases in demand.

Water Supply Disruptions

High streamflow in the Salinas River corresponding to a large precipitation event on January 9, 2023, exposed and damaged the pipeline that delivers water from Nacimiento Reservoir to the City, disrupting delivery of water to the City. At the date that this report was published, deliveries of water from Nacimiento Reservoir to the City were expected to resume in July 2025. This disruption in delivery of water from Nacimiento Reservoir has required greater than anticipated utilization of water from Whale Rock and Salinas Reservoirs to meet water demands. As both Whale Rock and Salinas Reservoirs remain near capacity, the actual impacts of this are currently minimal. The Water Supply and Demand Assessment provides details on how the City will meet estimated demands while ensuring that the reservoirs remain a reliable long-term water supply.

Water Demand

During FY 2024, the City registered 4,548 acre-feet of water use at metered locations (Table 6). The largest demand for water in FY 2024 was for residential use (64%) and the second largest demand for water was for commercial, industrial, and institutional uses (24%). Demand for potable irrigation, non-potable (recycled water) irrigation, and recycled water for construction purposes were each less than 10% of the total demand. About 372 acre-feet of potable water (8% of the City's Water Potable Supply) were lost to distribution system leaks and other distribution system processes. The City's water loss is less than the national average of about 15%.

Staff have begun migrating water meter reading from contract operations to an Advanced Metering Infrastructure (AMI) system. AMI systems allow water consumption data to be collected by digital water meters and transmitted to an online portal through a low-frequency cellular transmission device, which will allow staff and community members more visibility and accuracy of water meter reads via smart devices and will be available on smaller timescales (by the minute instead of monthly). This will result in improved leak detection and water budgeting.

Year-to-date (July-February) metered data for FY2025 show similar demand patterns as FY 2024. The breakdown of metered water uses in the City by sector is as follows:

Table 6: City Water Demand by Sector During the 2024 and 2025 Fiscal Years (in acre-feet)

Fiscal Year	Residential	Commercial, Industrial, Institutional	Landscape Irrigation (Potable)	Landscape Irrigation (Recycled)	Construction (Recycled)	Total Metered Use
FY 2024	64%	24%	7%	5%	< 1%	4,548
FY 2025 (year-to-date)[1]	64%	23%	8%	6%	<1%	3,146

Notes:

1. July 2024 through February 2025.

Water Shortage Assessment

The City utilizes a Water Projection Model to test both hypothetical and actual water demand scenarios and to forecast how long water supplies will sustain the community under specific conditions. The Water Projection Model accounts for the storage in the City's surface water reservoirs, other available resources, current and projected demands, and climate data. The model uses historical hydrologic information (rainfall, evaporation, inflow) based on the average for the worst drought period (2012 to 2014). Per the City's *2020 Water Shortage Contingency Plan* (WSCP), the *2025 Water Supply and Demand Assessment* will utilize the Water Projection Model to determine current demand, future demand, and any associated water shortages. Results of the Water Projection Model show that the City has more than ten years of water available under a drought scenario with current water supply and demand conditions.

Additionally, Water Code Section 10632.1 requires the City to evaluate water supply and demand on a monthly time-step for the current fiscal year (FY 2024) and a hypothetical dry year so that potential seasonal water shortages are highlighted and accounted for. The City does not expect to enter a water shortage emergency in any month during the Current Year or following hypothetical Dry Year.

Water Conservation

The City's Utilities Department has improved water conservation by increasing public outreach and communication, providing personalized assistance to community members in detecting and resolving leaks, providing rebates for water-efficient plumbing fixtures and appliances, promoting water-efficient landscaping and irrigation, and proactively identifying and repairing leaks in the water distribution system. Water conservation efforts undertaken by the community have reduced long-term water use by over 15% community wide since the late 1980s. A comprehensive review of the City's past, present, and future water conservation efforts is detailed in the *2023 Water Conservation and Efficiency Plan* (Attachment B).

The City's efforts to develop a robust and effective water conservation program have positioned the City to meet or exceed the State's water conservation goals. On July 3, 2024, the State Water Resources Control Board (SWRCB) adopted the Making Conservation a California Way of Life regulation, establishing unique water conservation goals for each urban water supplier in California. These goals reflect efficient use of water for residential indoor demands; residential outdoor demands; outdoor irrigation at commercial, institutional, and industrial properties; and water loss. Projection of City water demands indicate that the City will continue to meet the State's water conservation goals as they become increasingly more stringent through the year 2040.

In addition to meeting State water conservation regulations, the City is also working to prepare for regulations aimed at eliminating irrigation of non-functional turf. Assembly Bill 1572 was approved by the Governor on October 13, 2023. This bill prohibits the use of potable water for the irrigation of nonfunctional turf located on commercial, industrial, and

institutional properties, with some exceptions. Nonfunctional turf includes grass areas that are **not** used for human recreation or other practical purposes. Functional turf areas that will still be permitted to use potable water for irrigation include playing fields, recreational areas, and areas used for community events or pet relief. The timeline for the implementation of these regulations is as follows:

1. All properties owned by the Department of General Services, beginning January 1, 2027.
2. All properties owned by local governments, local or regional public agencies, and public water systems, except those specified in paragraph (5) below, beginning January 1, 2027.
3. All other institutional properties and all commercial and industrial properties, beginning January 1, 2028.
4. All common areas of properties of homeowners' associations, common interest developments, and community service organizations or similar entities, beginning January 1, 2029.
5. All properties owned by local governments, local public agencies, and public water systems in a disadvantaged community, beginning January 1, 2031, or the date upon which a state funding source is made available to fund conversion of nonfunctional turf on these properties to climate-appropriate landscapes, whichever is later.

The City will develop rules and guidance to facilitate compliance with these regulations. This information will be shared with the community through workshops, community events, handouts, social media, and other communication platforms beginning in January 2026.

Continued Communication Related to Weather Extremes and Local Conditions

The Utilities Department continues to revise its communication related to weather whiplash (drought and flooding) and water supply topics to be able to provide succinct information that is easily accessible to the community. While the wet winters have provided the City with full reservoirs, it is important to ensure that the community is aware of local water-supply conditions and that water conservation is equally important in wet or dry years to ensure that water supplies are available to meet current and future demands.

Groundwater Management

The City and County, working together as separate Groundwater Sustainability Agencies (GSAs) for the San Luis Obispo Valley Groundwater Basin, published the *San Luis Obispo Valley Groundwater Basin Water Year 2024 Annual Report* and submitted it to the California Department of Water Resources (DWR) in March 2025. Pursuant to the SGMA regulations, an annual report must be submitted to DWR by April 1 of each year following the adoption of the Basin's Groundwater Sustainability Plan (GSP). This is the fourth Annual Report and documents data for Water Year 2024 (October 1, 2023, through September 30, 2024). The annual report conveys monitoring and water use data to DWR

and basin stakeholders on an annual basis to gauge performance of the Basin relative to the sustainability goals set forth in the GSP.

Water Year 2024 was a wet year with slightly above-average rainfall and groundwater levels throughout the basin generally remained steady from the previous year. Groundwater measurements in the representative monitoring sites, as defined by the GSP, ranged from about 38 feet higher to 20 feet lower than fall 2023. Overall, there was an increase in total groundwater storage in the basin.

Use of available groundwater resources would improve resiliency in the City's water supply portfolio. Based on estimates published in the San Luis Obispo Valley Basin GSP, the City anticipates about 700 acre-feet of groundwater is available for use each year. The City does not currently use groundwater as a drinking water source but considers groundwater as a valuable water resource that will help the City meet its future water supply resiliency goals. To utilize this groundwater resource, the City is completing the Implementation Phase of the Groundwater Contamination Characterization Project, a larger project which in its entirety aims to design, drill, and equip groundwater wells with treatment systems capable of removing tetrachloroethylene (PCE) contamination, and to put the City's available groundwater to beneficial use as a drinking water source. The project is funded through a mix of grant funding from the State of California Proposition 1 Groundwater Grant Program and City funding. Completion of the Implementation Phase is expected in Spring 2026, at which time the City will begin using groundwater as an additional source of supply.

Previous Council or Advisory Body Action
City Council adopted the *2024 Water Supply and Demand Assessment* on June 4, 2024.

Public Engagement
The City will provide communications regarding current water supply conditions and the results of the Water Supply and Demand Assessment by posting information and documents on the Utilities Department website. Additionally, this information will be incorporated into future public communications material (social media posts, radio ads, and Farmers Market handouts) and into future water supply planning. A copy of this report and the Water Supply and Demand Assessment will be sent to the City Planning Commission upon receival by City Council.

ENVIRONMENTAL REVIEW

The 2025 Water Supply and Demand Assessment is not a "project" under the California Environmental Quality Act (CEQA), because the action does not involve any commitment to a specific project which may result in a potentially significant physical impact on the environment, as defined by State CEQA Guidelines, Section 15378.

FISCAL IMPACT

The action to receive and file the 2025 Water Supply and Demand Assessment does not create a fiscal impact.

Budgeted: N/A Budget Year: N/A
Funding Identified: N/A

Fiscal Analysis:

Funding Sources	Total Budget Available	Current Funding Request	Remaining Balance	Annual Ongoing Cost
Total	**$0**	**$0**	**$0**	**$0**

ALTERNATIVES

Council could decide not to receive and file the 2025 Water Supply and Demand Assessment and provide direction to staff on desired modifications. Should Council select this alternative, delays beyond the July 1, 2025, due date caused by revisions may result in noncompliance with California Water Code §10632.1.

ATTACHMENTS

A - 2025 Water Supply and Demand Assessment
B - 2023 Water Conservation and Efficiency Plan