

**State Engineer Presentation
to the
Legislative Finance Committee
Storrie Lake and Area Water Needs**

Mike A. Hamman, P.E., State Engineer
August 22, 2023



Water Rights Setting in the Gallinas System

- Gallinas River Adjudication – Final decree expected by Sept. 2023
- City of Las Vegas Rights – 1,200 afy with 1835 priority, 2,400 afy 1888
- The City has off-stream storage permits for Peterson Dam for 211 af with 1881 priority, Bradner Dam for 294 af with 1949 priority.
- The Rio Gallinas Acequia Assoc has direct flow rights that are settled as a result of the Las Vegas Remand on June 21, 2022 and a payment of \$1.7M from the City to RGAA.
- Storrie Project Water Users Assoc. (SPWUA) has a junior diversion right and a storage permit with a 1909 priority date.
- The City obtained up to 2,300 af of storage rights currently capped at 800 af in Storrie Lake through agreement with SPWUA.

2022 Fire Disaster Response - City Water

- Under normal conditions, a pristine surface water supply is diverted in the canyon providing very clear water with low particulate matter (NTUs) and treatable with City's surface water treatment plant.
- In April and May a multi-agency response to protect the City and surrounding communities from the Calf Canyon/Hermit's Peak fire with protective measures in anticipation of burn scar runoff damages rendering their water system inoperable.
- Fears of catastrophic post-fire ash, sediment and debris runoff required quick action to preserve what water was available as well as protecting existing infrastructure.
- Protective measures were taken to prevent runoff entering Bradner and Peterson reservoirs as well as installation of coffer dams and barrier nets by Corps of Engineers at key sites.
- The OSE coordinated closely with water users to first preserve the existing water supplies and SPWUA water users agreed to limit releases from Storrie Lake to preserve the 3,200 acre-feet for fire response and a reserve supply for the City's water system.
- State Engineer Order 194 was issued on May 6th that restricted releases for agricultural uses and for the Las Vegas National Wildlife Refuge providing only for use for protecting public safety and on October 3, 2022, Order 196 rescinded all restrictions.

2022 Fire Disaster Response - City Water

- OSE, DHSEM, NMDOT, City of Las Vegas, San Miguel County, US Corps of Engineers, FEMA and SPWUA turned attention to burn scar runoff impacts to the Gallinas River to balance City flooding impacts with storing water.
- The 102 years old heading had inoperable gates requiring heavy equipment to lower and raise them. Concerns that high ash content water allowed into Storrie Lake would degrade the quality beyond treatable conditions.
- SPWUA agreed to close the gates to by-pass poor quality water but also agreed to re-open if high flood causing flows required diversions to mitigate flood damages in the City that occurred in 2013.
- Several moderate rain events in the watershed created high ash laden and debris runoff that was by-passed at the dam and only caused minor flooding issues downstream. It is estimated that SPWUA lost approximately 7,000 ac-ft of storable water during the summer monsoon period.





Storrie Project Canal Heading before new gate installation

- Gates inoperable
- Unsafe operating conditions
- OSE river gate used to control releases for downstream water users
- All other excess water flows through Storrie canal heading

Storrie Lake Heading on the Rio Gallinas

- High ash laden flows from a moderate monsoon event.
- Approximately 1,800 cubic feet per second flow rate.
- OSE river gate is below the yellow handrails and is totally inundated with ash and sediment.









CHALLENGES, CONSTRAINTS AND SOLUTIONS

- The initial threats to the City's water supply have been addressed to the extent possible with a number of protective measures that include an investment of over \$250,000 by the OSE in rebuilding the Storrie Project diversion heading to help prevent heavy ash and sediment loads from entering the Lake while providing for emergency flood relief for the City if needed.
- The watershed is expected to produce sediment and debris with high monsoon events for years to come so these proactive measures will require continuing annual maintenance for the City on top of its normal workload providing high quality water to its citizens. The OSE, through its Water Mater, will continue to operate and maintain the metering and gate operators going forward.
- For the City's long-term water supply, the OSE has encouraged the leadership to negotiate with the Board of SPWUA and/or its individual members additional water leases to fill its storage space in Storrie Lake for an emergency and future growth.
- The OSE has funding available from its 2022 ARPA allocation of \$33M to assist in a short-term emergency supply for an additional 400 acre-feet or more. **There is a two-year draft agreement just executed between the City and a large share holder to provide this additional volume for approximately \$1M per year.**
- Long-term, the City, OSE and SPWUA will be engaging in discussions that will be best for the region. The OSE encouraged SPWUA to apply to the Water Trust Board to improve the delivery canal below Storrie Lake as it now loses 50% due to seepage. They were awarded a \$13M grant.

Time to take action toward building a resilient water future!

