



Board Meeting

● ● ● | MONDAY, APRIL 8, 2024



Quorum



Public Comment Period



Open Meeting

Consent Agenda Items

1. Consideration and Possible Action on Approval of the February 05, 2024, Board Meeting Minutes – J Hollmann
2. Consideration and Possible Action to Authorize the General Manager and Chief Executive Officer to Negotiate and Execute all Documents Necessary to Implement the Southmost Regional Water Authority's Property Insurance Renewal for Policy Year 2024-2025 - E. Solorzano
3. Consideration and Approval of the Southmost Regional Water Authority's Financial Audit Report for the Fiscal Year Ending September 30, 2023 - M. Perez



Items for Individual Consideration

Consideration and Possible Action on Approval of the March 11, 2024, Board Meeting Minutes

J. HOLLMANN



General Manager's Report

- a. Operational and Financial Report - J. Garza and G. Rangel
- b. Drought Update - R. Mariscal
- c. TDS & Chemical Optimization Update - J. Galvan
- d. Discussion of the Possible Addition of a Third Stage to Existing R.O. Trains.- J. Galvan
- e. Recognition to Ralph Cowen on years of Service to Southmost Regional Water Authority - J. Hollmann



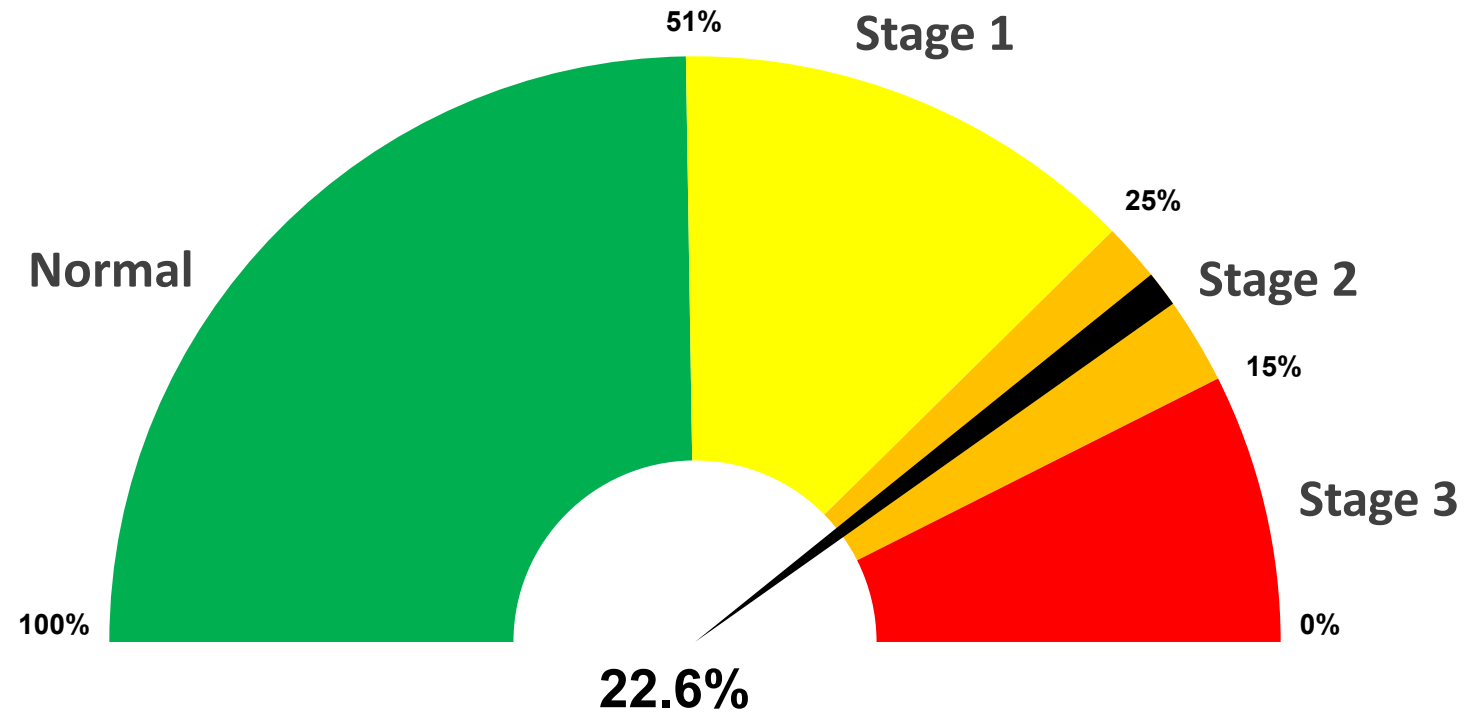
Item #2 B

Drought Update

APRIL 8, 2024

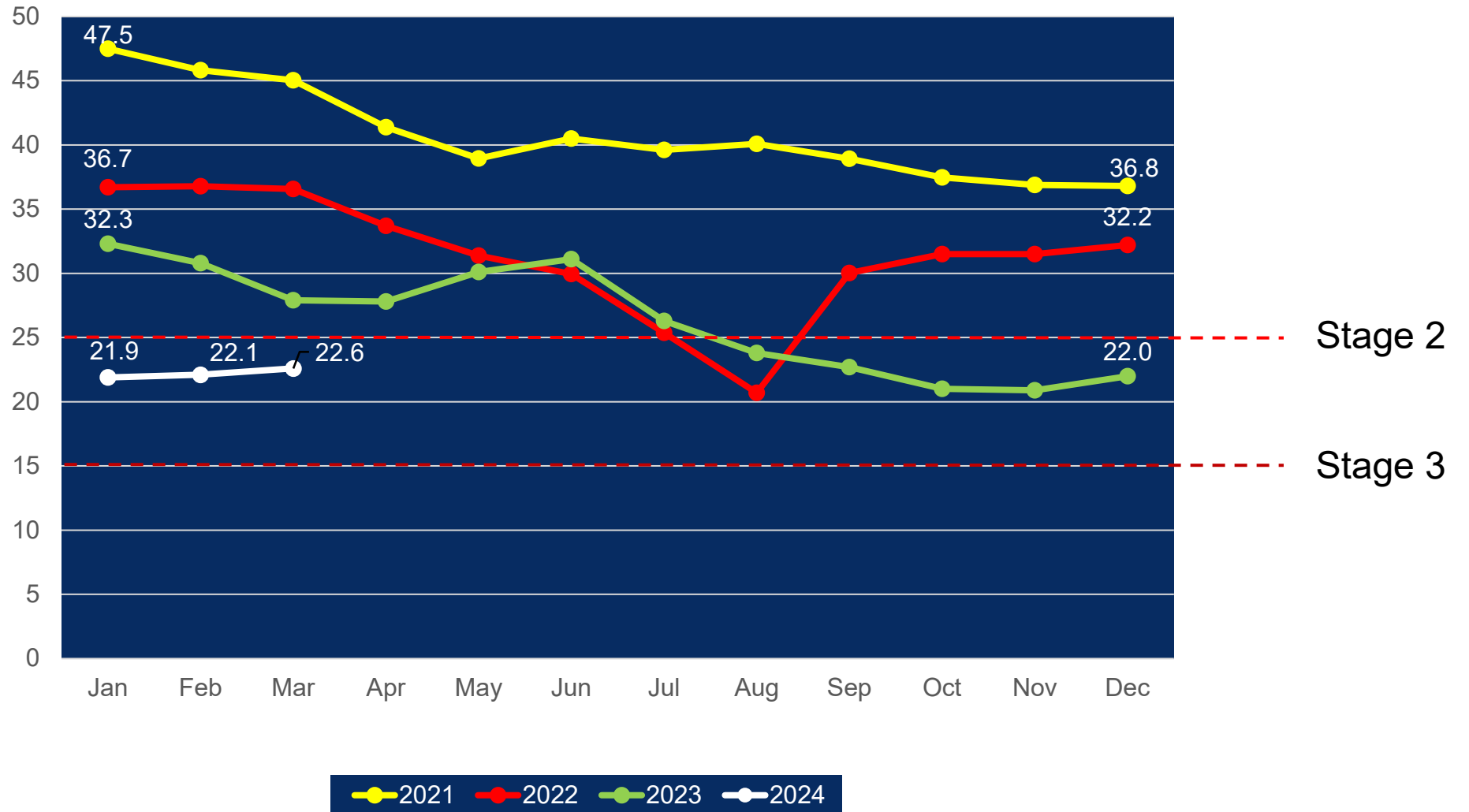
● ● ● SRWA BOARD MEETING

Drought Stage Meter



U.S. Combined ownership at Amistad and Falcon Reservoirs
March 30, 2024 = 22.6%

U.S. Combined Ownership at Amistad/Falcon



Previous 4 Readings

- 22.6% - March 23, 2024
- 22.3% - March 9, 2024
- 22.2% - March 2, 2024
- 22.1% - February 24, 2024

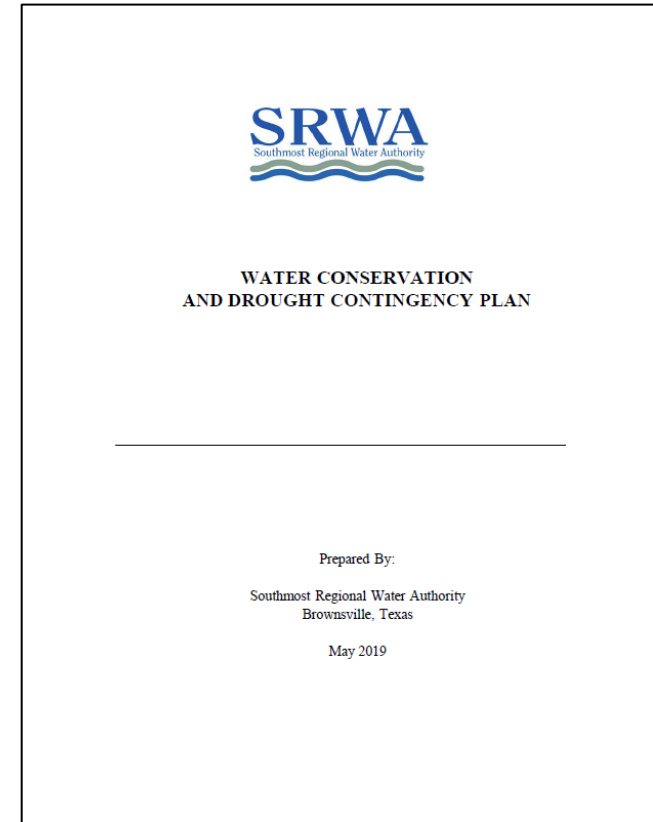
National Weather Service April to June 2024 Outlook: For the Lower Rio Grande Valley/Deep S. Texas Region

- Slight lean towards warmer than normal temperatures April- June
- Confidence is increasing on warm and dry conditions across the reservoir inflow regions through spring
- Stage 2 water conservation is likely through spring, worsening in April and May if storms are infrequent
- 100 degree days are likely to increase in June for Cameron-Kenedy County

Water Conservation & Drought Contingency Plan Update

Water Conservation & Drought Contingency Plan (WCDCP)

- WCDCP is state mandated
 - ✓ Must be updated every 5 years (30 TAC 288)
 - ✓ Submitted to Texas Water Development Board (TWDB), Texas Commission on Environmental Quality (TCEQ), Region M Water Planning Group
 - ✓ Due May 1, 2024
- Water Conservation Plan
 - ✓ Conservation goals and strategies
- Drought Contingency Plan
 - ✓ Water restrictions, surcharges, enforcement



Drought Contingency Plan

City Ordinance 2006-1134-B, Sec. 1,102-281

Purpose

- To conserve and limit the demand of water during water emergencies
- To minimize the adverse impacts of water supply shortages or other emergencies

Authority

- SRWA will follow the initiation and termination of drought stages as implemented by the BPUB General Manager
- SRWA General Manager, or their designees, initiate and terminate each stage

WCDC Plan Update Action Items

1. Obtain Board approval for updated SRWA plan
 - ✓ Current updated/redlined version
2. Submit SRWA plan to TWDB/TCEQ upon approval by SRWA Board
3. Expand in-depth review/research of water conservation and contingency measures for amended BPUB plan in collaboration with COB

WCDC Plan Update Action Items

3a. In depth review and research for amended plan to include but not limited to:

- ✓ Triggering stages
- ✓ Restrictions
- ✓ Surcharges
- ✓ Conservation ordinances
- ✓ Wholesale contracts
- ✓ Enforcement
- ✓ Contingency modeling (i.e., SRWA only source of water)
- ✓ Commercial conservation
- ✓ Xeriscape landscaping

WCDC Plan Update Action Items

4. Public hearing(s)
 - ✓ Amendments, changes, supplements to ordinance requiring public hearing
5. Update BPUB and SRWA plan with new revisions
 - ✓ Fines/fees (if needed)
 - ✓ Ordinances
6. Obtain Board approvals
7. Submit amended plans to TWDB/TCEQ



B R O W N S V I L L E
PUBLIC UTILITIES BOARD

EVERY DROP COUNTS!

Learn more about drought at:



brownsville-pub.com/drought-resources



Board Meeting

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Total Dissolved Solids

- Total Dissolved Solids (TDS) is a measure of the combined inorganic and organic materials dissolved in water.
- TCEQ identifies TDS as a drinking water secondary standard with a maximum level of 1,000 mg/l.
- A high concentration of dissolved solids is usually not a health hazard (e.g. mineral water).
- High levels of TDS in drinking water may contribute to issues related to aesthetic, cosmetic, and technical effects, such as taste and odors and potential damage to appliances.
- High levels of TDS may affect persons who are suffering from kidney and heart diseases, such as patients in dialysis centers.

TDS Analysis Methods

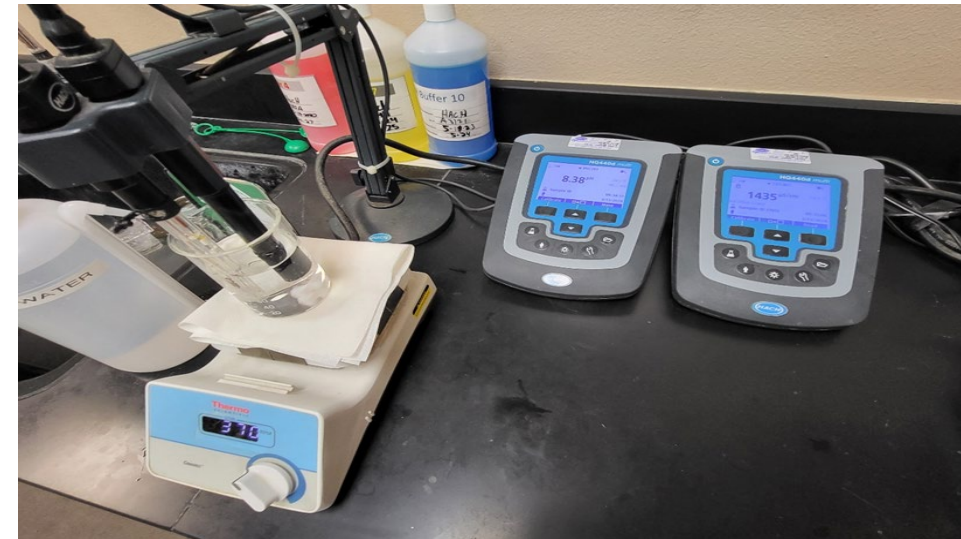
CONTRACT LABORATORY

- Use Standard Methods approved by US EPA



CONVERSION FROM CONDUCTIVITY

- Conductivity is converted to TDS by conversion factor (recommended by Hazen & Sawyer)
Ex. $1435 \text{ us/cm of conductivity} / 1.72 = 834 \text{ mg/L TDS}$



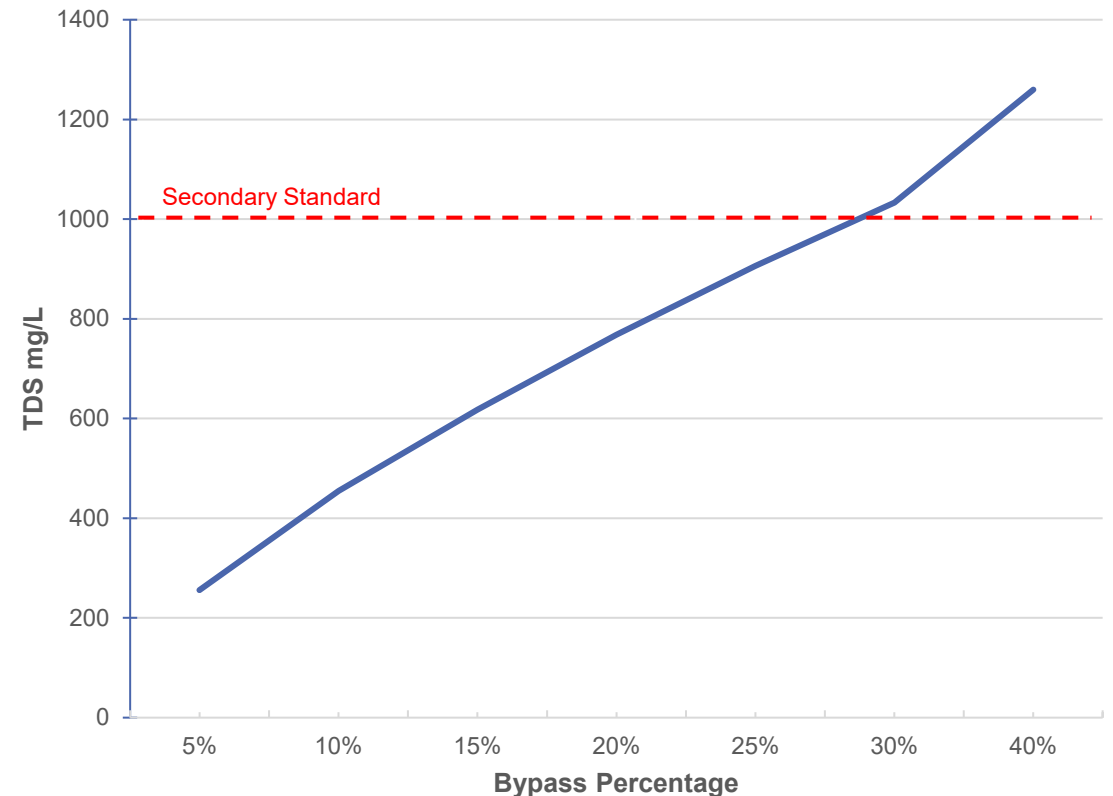
Modelled Finished Water Quality

Bypass Percentage	TDS mg/l
5%	256 mg/l
10%	455 mg/l
15%	618 mg/l
20%	768 mg/l
25%	906 mg/l
30%	1033 mg/l
40%	1260 mg/l

Note:

Brackish Water – 3,700 mg/L

Permeate Water (New Membranes) – 80 mg/L



Chemical Optimization

❖ Chemical Optimization: Savings of \$15,946 per month

Chemical	Initial Dosage - mg/L	Current Dosage - mg/L	Monthly Savings	Yearly Savings
Chlorine Dioxide	0.8	0.3	\$5,316.00	\$63,792.00
Sodium Bisulfite	1.9	1.7	\$232.00	\$2,784.00
Ferric Chloride	2	1.3	\$904.00	\$10,848.00
Scale Inhibitor	2	0.55	\$9,494.00	\$113,928.00
Total:			\$15,946	\$191,352.00





Item #2 D

Board Meeting

IMPROVING REVERSE OSMOSIS SYSTEM RECOVERY

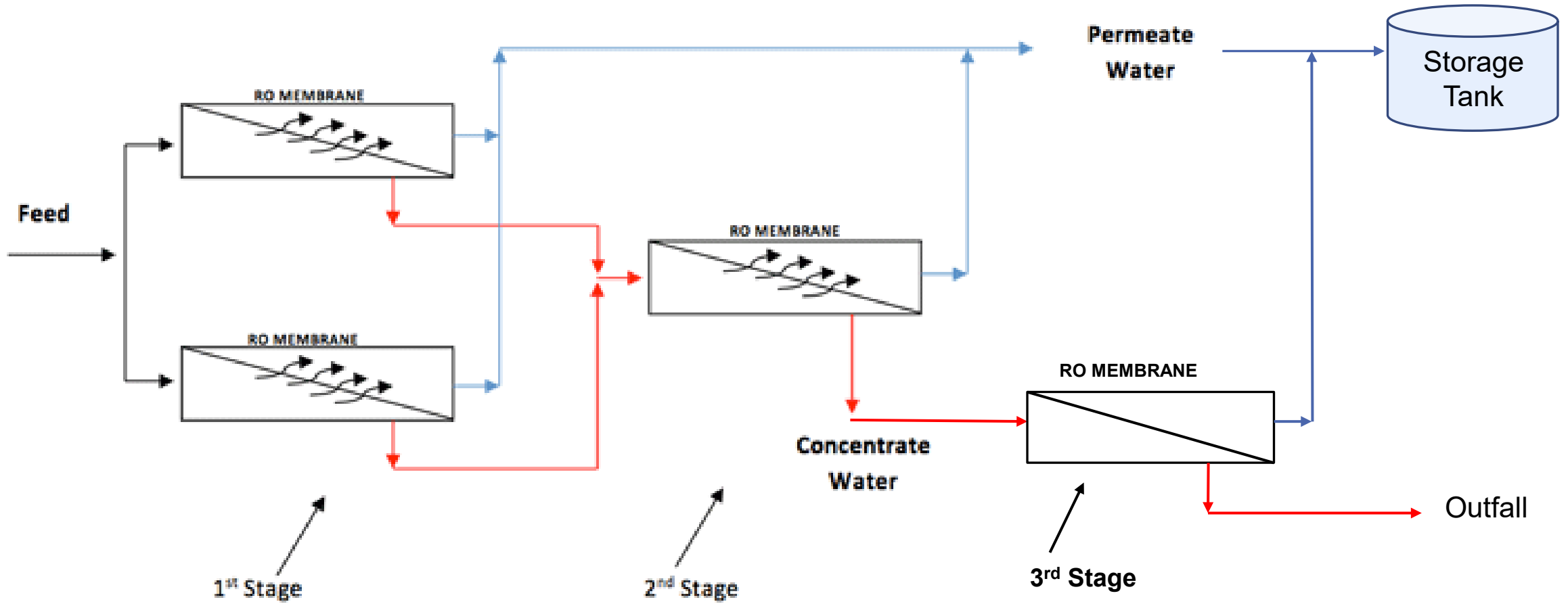
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3 stage RO system

→ Feed Water

→ Permeate Water

→ Concentrate Water

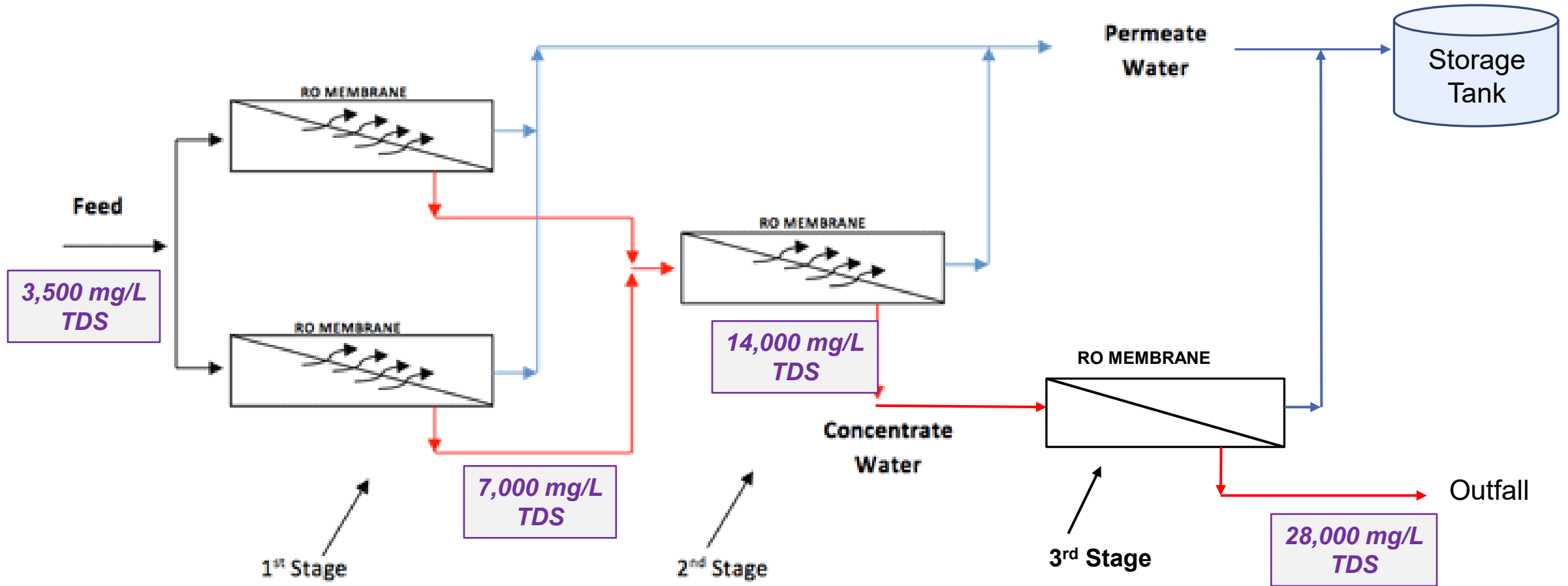


3 stage RO system

→ Feed Water

→ Permeate Water

→ Concentrate Water



Improving Reverse Osmosis System Recovery

ADVANTAGES:

- Increase water output through a higher water recovery
 - Currently design is 75% recovery
 - Potential increase up to 90% recovery
 - Potentially produce up to 1.4 MGD (based on average production of 7 MGD).

CHALLENGES:

- Require feasibility study and pilot demonstration
- Concentrate discharge permit limitations
- Capital equipment costs
- Increased O&M costs (energy, chemicals, membrane replacement)



Consideration and Possible Action for Approval for Water Conservation and Drought Contingency Plan & Resolution

M. LEAL





Discussion on Date, Time of Next Board Meeting

J. Hollmann



Adjournment
