



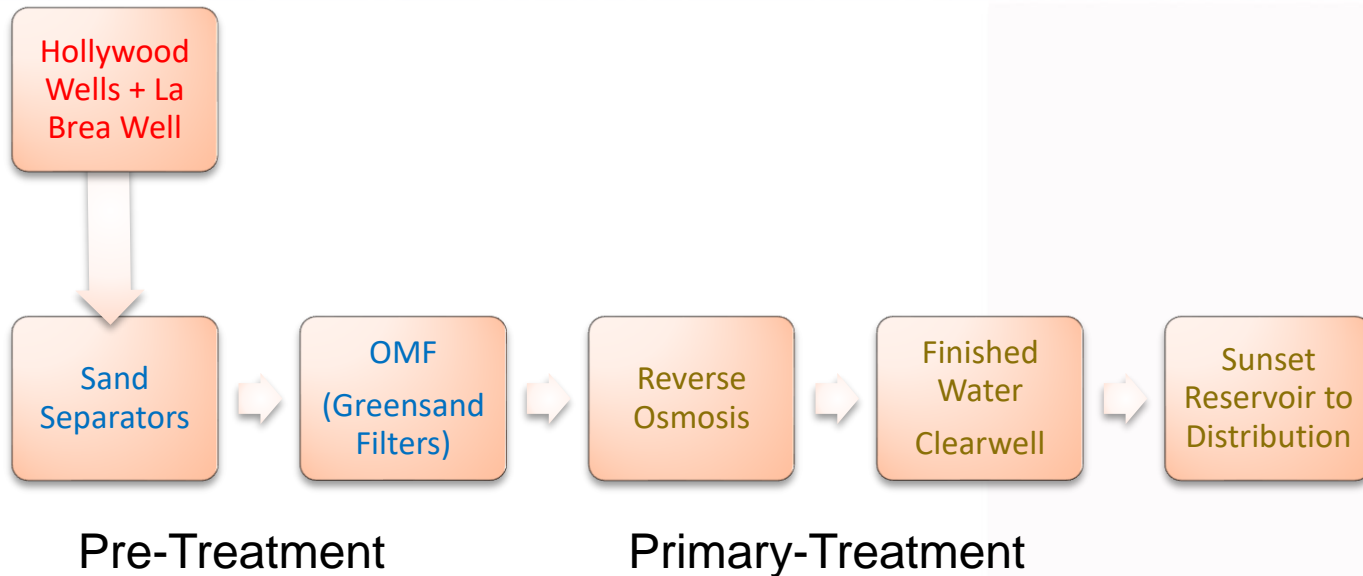
# Water Treatment Plant Update

(January 2023 – March 2023)

Public Works Commission Meeting  
May 11, 2023



# Treatment Process Overview





# Definitions / Terminology

- Primary Maximum Contaminant Level (MCL) – Health Related
- Secondary Maximum Contaminant Level (SMCL) – Aesthetic Related
- TDS = Total Dissolved Solids
- T.O.N. = Threshold Odor No.
- ACU = Actual Color Units
- NTUs = Nephelometric Turbidity Units
- PPM = Parts per Million
- PPB = Parts per Billion



# Raw Water Quality (Jan. 2023 – Mar. 2023)

Water Quality Constituents	Units	MCL Or SMCL	Well 2	Well 4	Well 5	Well 6	Maple 1	Maple 2	LCW-1
TDS	ppm	1000	560 -850	570 -640	530 - 620	560	930 - 960	920-1000	650
Iron	ppm	0.3	ND	ND-34	60 - 110	73	ND	ND	ND
Manganese	ppb	50	ND - 8.8	29 -30	24 -63	110	85 - 120	160 - 200	14
Color	ACU	15	5	3	ND	12	ND	ND	ND
Odor	TON	3	4	4	10	3	ND	ND	14
<b>Arsenic</b>	<b>ppb</b>	<b>10</b>	<b>1.8 – 1.9</b>	<b>4.5 – 5.2</b>	<b>0.75 – 5.2</b>	<b>ND</b>	<b>1.5 - 1.7</b>	<b>1.4 – 1.6</b>	<b>ND</b>



# Finished Water Quality (Jan. - Mar. 2023)

Plant Effluent	Units	MWD	MCL Or SMCL	Jan	Feb	March
TDS	ppm	599 - 609	1000	410	390	320
Turbidity	NTU	0.04		0.15	0.10 - 0.15	0.10
Color	ACU	1 - 2	15	ND	ND	ND
Odor	TON	1	3	ND	ND	ND
Iron	ppm	NA	0.3	ND	ND	ND
Manganese	ppb	NA	50	ND	ND	ND
Total Sulfides	ppm	NA		ND	ND	ND
Arsenic	ppb	NA	10	0.5 – 1.9	0.55 – 1.0	ND- 0.84

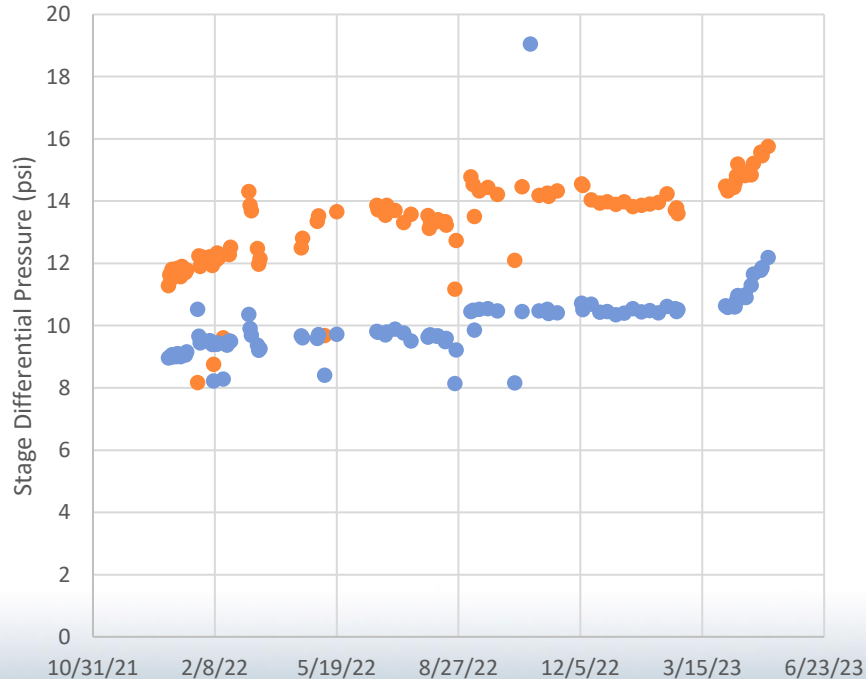


# OMF / RO Operation & Performance

- Oxidant Media Filters removed iron & manganese to Non-Detect levels
- Arsenic levels reduced (0.5 - 2.3 ppb)
- RO further removed arsenic to Non-Detect Levels
- Arsenic levels of finished water after blending with RO permeate below MCL of 10 ppb (<.50 ppb to 1.9 ppb)



# RO Operation



- Minimal accumulation in differential pressure
  - Clean in Place conducted in October 2022
  - Clean in Place to be Scheduled Q2 2023
- Silt Density Index -  $\ll 3$  mg/L (target); Actual:  $<1$  mg/L
- Average: 80% recovery rate



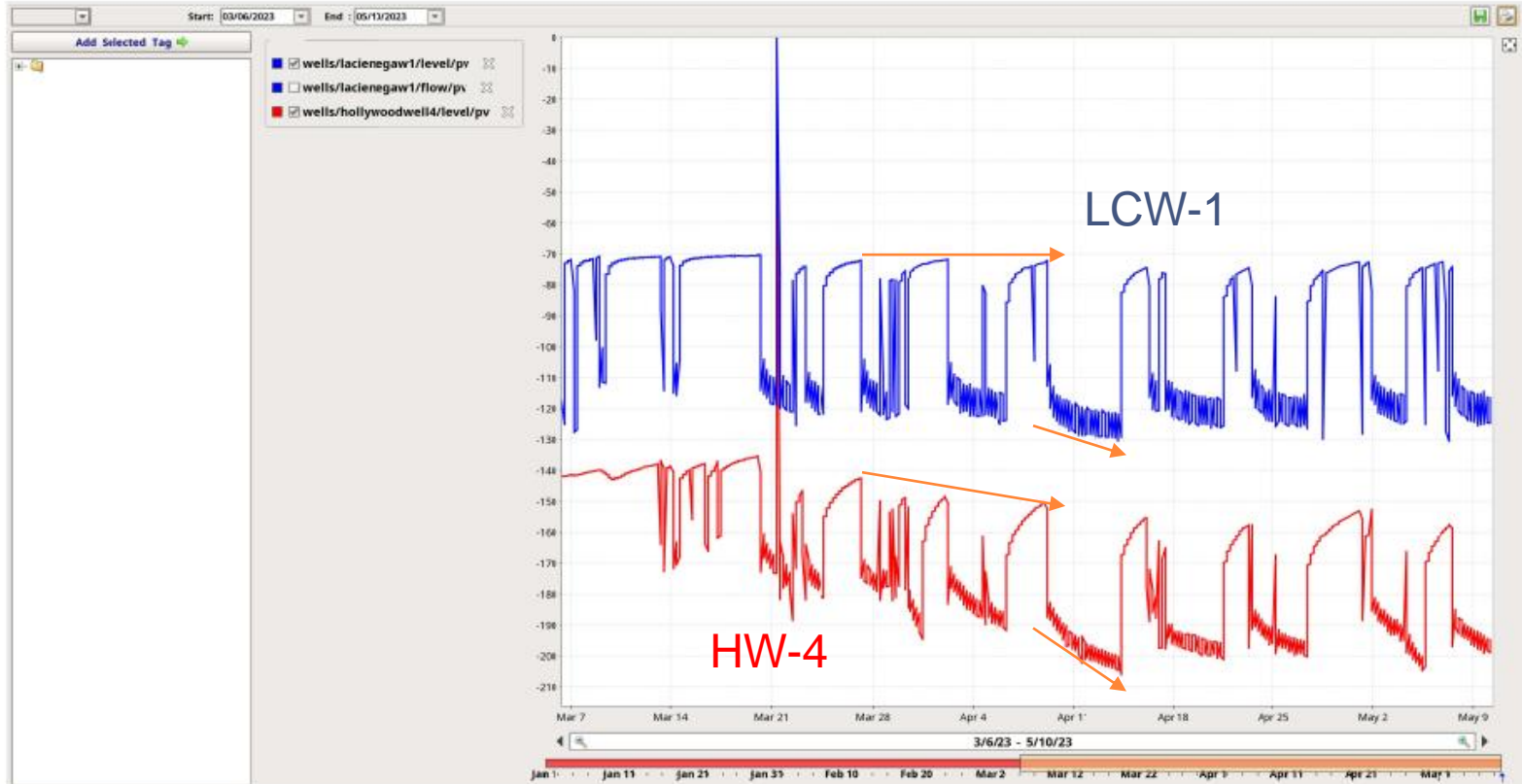
# WTP Production







# Well Level Trends





# WTP Operations

- Combination of continuous running / resting wells from two basins
- Declining water table with minimal recharge despite rainfall
- Equipment & Warranty Planned Work
  - Replacement & retrofitting of chemical feed equipment
  - Anticipated planned WTP shutdown
  - Title 22 Sampling for Wells 6 & LCW-1

# Questions

