



To: Mountain Regional Water Administrative Control Board Members

From: Sam Grenlie, District Engineer

Date: July 27th, 2026

Re: **Signal Hill Water Treatment Plant Optimization Project**
90% Workshop Review, Cost Estimates, Bidding Schedule, and Bid Alternate Recommendation

1. 90% Design Review Workshop

On July 8, 2026, District staff and Carollo Engineers conducted the 90% Design Review Workshop for the Signal Hill Water Treatment Plant (SHWTP) Optimization Project. Key topics included:

- **Temporary Membrane Trailers:** Confirmed the temporary membrane trailer layout along the raw water pond. This enables MRW to meet summer peak production while allowing the Contractor a longer construction window, which may result in lower overall project cost while ensuring quality.
- **Electrical Pre-Purchase Package:** To mitigate long equipment lead times, major electrical switchgear will be pre-purchased via a separate bid package issued in late July 2026 and assigned to the awarded Contractor.
- **Contractor Prequalification:** Prequalification Statements of Qualifications (SOQs) for General and Electrical Contractors are currently live on District Website and Utah Procurement Portal. Minimum qualifications require \$30M+ in municipal water/wastewater experience. SOQs are due August 7.

2. Cost Estimates over Time

The 90% Class 2 cost estimate submitted on July 15, 2026, places total construction costs at **\$50,823,629**.

This creates a significant financial challenge: MRW finalized its Water Infrastructure Finance and Innovation Act (WIFIA) loan funding structure based on the 30% design estimate. The 90% estimate exceeds that baseline by \$13,803,385 (+37.3%).

Milestone	Construction Cost	Cost Increase	Percent Increase	Cumulative Increase
30 Percent	\$ 37,020,244			
60 Percent	\$ 42,269,993	\$ 5,249,749	14%	14%
90 Percent	\$ 50,823,629	\$ 8,553,636	20%	37%

While analyzing estimate changes over time does not alter the current situation, they still offer useful context:

- **Detailed Electrical Design:** 30% electrical costs were based on a percentage of total project costs. At 60% a detailed evaluation led to a increased cost of +\$4.3M.
- **Rock Excavation & Site Shoring:** Geotechnical work was incorporated at 60% which led to a significant increase of rock excavation costs at +\$2.2M.
- **Mechanical Piping:** There appears to be an omission in the 60% cost estimate to capture all the required mechanical piping for modifications inside SHWTP, which were incorporated into the 90% cost estimate.
- **Temporary Membrane Filtration Trailers:** Temporary membrane trailer setup is suggested to maintain plant production while giving a longer window to the Contractor costing \$1.5M at 90%. Conceptually, this should reduce overall project cost – however, past cost estimates likely didn't correctly 'cost' the **complexity and constraints** of the SHWTP site.

3. Moving Forward, Bidding & Schedule

Pausing the project for a major value-engineering (VE) redesign is not recommended. Value-engineering evaluations were already conducted during earlier design and every major design decision has been made to control overall project costs – moving to direct filtration, for example.

Key items to consider:

- The District is contractually committed to completing plant optimization to meet wholesale delivery obligations in 2029.
- Delaying bidding schedule will eliminate remaining schedule float. Significant delays introduce risks with construction costs escalating as seen during previous years.
- Proceeding with bidding gives the District cost certainty prior to making a decision.
 - Bidding the project does not oblige the District to award the contract.
 - It provides the precise cost data needed to make an informed decision.

Current bidding schedule is as follows:

58	Task 10.2 - Bid Services	51 days	Mon 9/7/26	Mon 11/16/26	
59	Advertise Bids (MRW)	0 days	Mon 9/7/26	Mon 9/7/26	50FS+10 days
60	Bid Period (Questions, Addenda)	30 days	Mon 9/7/26	Fri 10/16/26	50FS+9 days
61	Pre-bid Meeting/Site Visit	0 days	Wed 9/23/26	Wed 9/23/26	59FS+12 days
62	Bid Opening	0 days	Fri 10/16/26	Fri 10/16/26	60FF
63	Review Bids & Recommend Award	5 days	Mon 10/19/26	Fri 10/23/26	62
64	MRW Issue NTP	0 days	Mon 11/16/26	Mon 11/16/26	63FS+16 days
65	Task 10.3 - Conformed Drawings and Specifications	30 days	Mon 10/19/26	Fri 11/27/26	60

4. Bid Alternate and Phasing

To align bids with funding, Staff and Carollo Engineers recommend eliminating several low cost **value engineering items** and altering the Contract Documents to place a few major items into a **Bid Alternate** package.

4.1. Value Engineering Items.

There are four value engineering items proposed. These are very conservative design elements and removing them does not compromise project quality, performance or operations:

- Eliminating double contained piping.
- Relying on the chemical metering pumps to eliminate chemical flow meters.
- Relying on a flow switch to eliminate sludge pressure relief system.
- Eliminating some paving.

These represent approximately \$600,000 of cost savings resulting in a revised 90% cost estimate for complete project: **\$50,200,000**.

4.2. Bid Alternate Package.

This instructs the Contractor to include two separate costs in their bid – a base bid cost that does not include the alternate bid package items, and a cost to add the alternate (additive) bid package. The bid alternate items can be clearly defined for the bidders, and represent work that can easily be constructed in a future project if necessary. Award will be given on the 'Base Bid', and the District can elect to include or not include the 'Bid Alternate':

- **Base Bid**
 - Scope:
 - Main chemical building.
 - Ultrafiltration skids.
 - Pretreatment improvements.
 - Plant influent upgrades and flash mix.
 - Essential site civil/electrical infrastructure.
 - 90% Construction Estimate for Base Bid alone:
 - **\$42,900,000.**
- **Bid Alternate**
 - Scope:
 - Granular activated carbon (GAC) building expansion.
 - New mechanical belt filter press and associated solids handling.
 - 90% Construction Estimate for Additive Bid Alternate Package:
 - **\$7,300,000.**

Structuring the bid package in this way allows the District a number of pathways after bid:

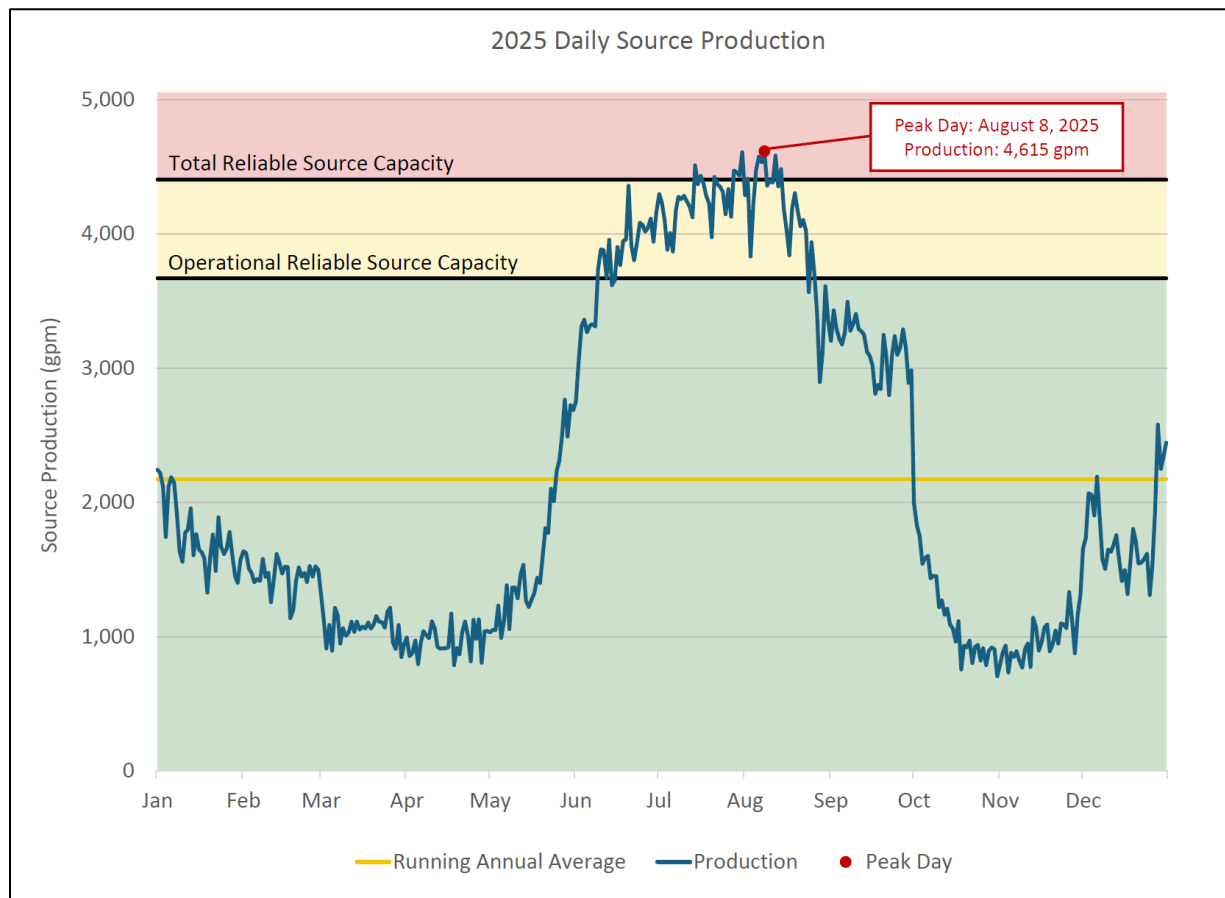
- Award both the Base Bid and Bid Alternate if market conditions yield highly competitive pricing within available funding.
- Omit Bid Alternate at award, moving forward with core plant project while planning a 'Phase 2' project.
- Award the Base Bid initially, then add the Bid Alternate via change order (and negotiated pricing adjustments) prior to project completion if funding is secured.
- Reject all bids if pricing is unfavorable.

This strategy carries very little risk for the District. MRW obtains pricing across both full and reduced scope options without delaying current project schedule.

5. Phased Projection

5.1. Baseline Peak Demand

During 2025, summer peak customer demand reached 4,615 gpm. This briefly exceeded the District's predicted limit, or Total Reliable Source Capacity (TRSC). Moving forward, the District will utilize an updated, baseline TRSC of 4,567 gpm to reflect this system performance during 2025.



Summit Water Distribution Company (SWDC) wholesale obligations expired in 2025 (which eliminates 500 gpm of continuous peak demand). As such, the District's Municipal and Industrial (M&I) peak demand will be adjusted to a planning baseline of 4,115 gpm for this evaluation.

For this evaluation Operational Source Capacity (OSC) will be used, which applies a safety factor the limits of the system (TRSC discussed above). This safety factor matches the District Master Plan and has been used internally as a planning tool between Master Plan updates.

Comparing this adjusted baseline against current operational limits underscores why source development is critical:

- Adjusted Operational Source Capacity: 3,806 gpm
- Adjusted baseline demand: 4,115 gpm
- Current operational deficit: **-309 gpm (-8.1%)**

In current conditions, customer demand may exceed OSC during a heavy irrigation year. Delaying the plant expansion comes with risk that the District will not meet its demands, and fail to provide adequate Levels of Service for our customers without a contingency plan of action.

5.2. Base Bid Expansion

Constructing the Base Bid expands capacity by approximately 700 gpm (or 1.0 million gallons per day or MGD). The limiting factor becomes the ability for SHWTP to treat organics with the GAC contactors. Being limited to four contactors (instead of the Bid Alternate of six) will lower the rated capacity of the plant to project 3.6 MGD (66% of the planned 5.4 MGD capacity).

This raises the District's Operational Source Capacity to 4,506 gpm in 2029.

In coordination with District Finance, growth projections are modeled at a 2.0% annual growth rate. This aligns directly with the growth assumptions in the District's impact fee projections and reflects the pace of development post-COVID boom. This analysis simply scales up the Baseline Demand 2% year over year.

In addition, MRW has committed to wholesale deliveries starting in 2029, in conjunction with the planned expansion.

Combining these factors into a simple projection results in the following:

Year	Growth Rate	OSC (gpm)	Projected Peak Demand (gpm)	Wholesale Delivery (gpm)	Peak Day Surplus (Deficit)	Comment
2025	Baseline	3,806	4115	500	-809	2025 production figures.
2026	2.00%	3,806	4197	0	-391	
2027	2.00%	3,806	4281	0	-475	
2028	2.00%	3,806	4367	0	-561	
2029	2.00%	4,506	4454	372	-320	Phase 1 Project completed.
2030	2.00%	4,506	4543	322	-360	
2031	2.00%	4,506	4634	285	-413	
2032	2.00%	4,506	4727	260	-481	
2033	2.00%	4,506	4821	223	-539	
2034	2.00%	4,506	4918	198	-610	
2035	2.00%	4,506	5016	161	-671	
2036	2.00%	4,506	5116	136	-747	

The Base Bid option does **not resolve the Peak Day Demand deficit** or allow the District to operate within its source production safety factor. Instead, after a 'Phase 1' project completion the District will have more source resilience than in 2025 (-809 gpm deficit).

Ultimately, this is a judgement call that must weigh significant capital costs (and associated debt) vs accepting additional risk operating above the OSC and having limited (or no) safety factor across District sources.

It is possible that these figures could be improved. MRW is currently working on a new well-source development project which is not considered in this projection. Additionally, through efficient and creative operation there are strategies to control organics in other ways:

- More frequent (capital intensive) GAC replacements and operational improvement to allow a GAC contactor to be replaced during irrigation season.
- Flushing of the distribution system and weekly monitoring for disinfection byproducts (DBPs) to combat compliance issues in Promontory.
- Active ventilation in Promontory storage tanks to combat volatile DBPs.
- Increasing capital spending on coagulant and optimizing new acid feed and membrane systems to remove organics earlier in the treatment train.

Lastly, the District also has other avenues to help control customer demands utilizing the existing Rules and Regulations. These include:

- Strict enforcement of Section 6.12 (Wasting of Water) and mandatory every-other-day irrigation schedules under Section 9.6, utilizing formal warnings, violations, and fines for non-compliance.
- Continuing to implement steep tiered block rates for residential/commercial usage and enforcing a water conservation penalty surcharge under Section 9.3.
- Utilizing Section 6.13 to declare formal water emergencies during peak stress allowing watering restrictions and restricting new connections if demands approach TRSC.

6. Conclusion

Utilizing the Bid Alternate strategy allows MRW to move forward with the bidding process and obtain price certainty to make the best decision.

The Base Bid option will improve operational deficits, safety, and redundancy at SHWTP. Many aspects of the plant project must be addressed regardless of the capacity increases analyzed in the previous section.

Deferring the Bid Alternate gives the District a window to make funding decisions and move forward with a 'Phase 2 Project' if bids exceed the District's tolerance for debt. Under this scenario, other measures to limit demands and ensure water quality must be aggressively pursued starting in 2027.