

Water Supply Alternatives Plan Request for Proposals

Board of Public Utilities

May 19, 2022



Presented by Colin Close
Senior Water Resources Planner



Outline

1. Purpose of Water Supply Alternatives Plan
2. Water supply and demand projections
3. Initial water supply goals
4. Potential sources of water supply
5. Criteria for evaluating water supply sources
6. Proposed strategy, scope or work, and timeline
7. Staff recommendation

Water Supply Alternatives Plan

Purpose

Enhance the City's long-term water supply resiliency and reliability, to adapt to climate change and reduce vulnerability to shortages in very dry periods.

Proposed Approach

Conduct a study and develop a plan.

- Work closely with Water Team.
- Engage stakeholder group for input.
- Establish long-term local water supply goals.
- Determine feasibility of potential supply sources.
- Develop portfolios of options to achieve the goals.
- Prepare and finalize the Plan.
- Implement the Plan to achieve the goals by 2045.



Existing Water Plans

- Urban Water Management Plan
- Water Shortage Contingency Plan
- Groundwater Master Plan
- Incremental Recycled Water Program Master Plan
- Santa Rosa Plain Groundwater Sustainability Plan
- Sonoma Water Resiliency Study

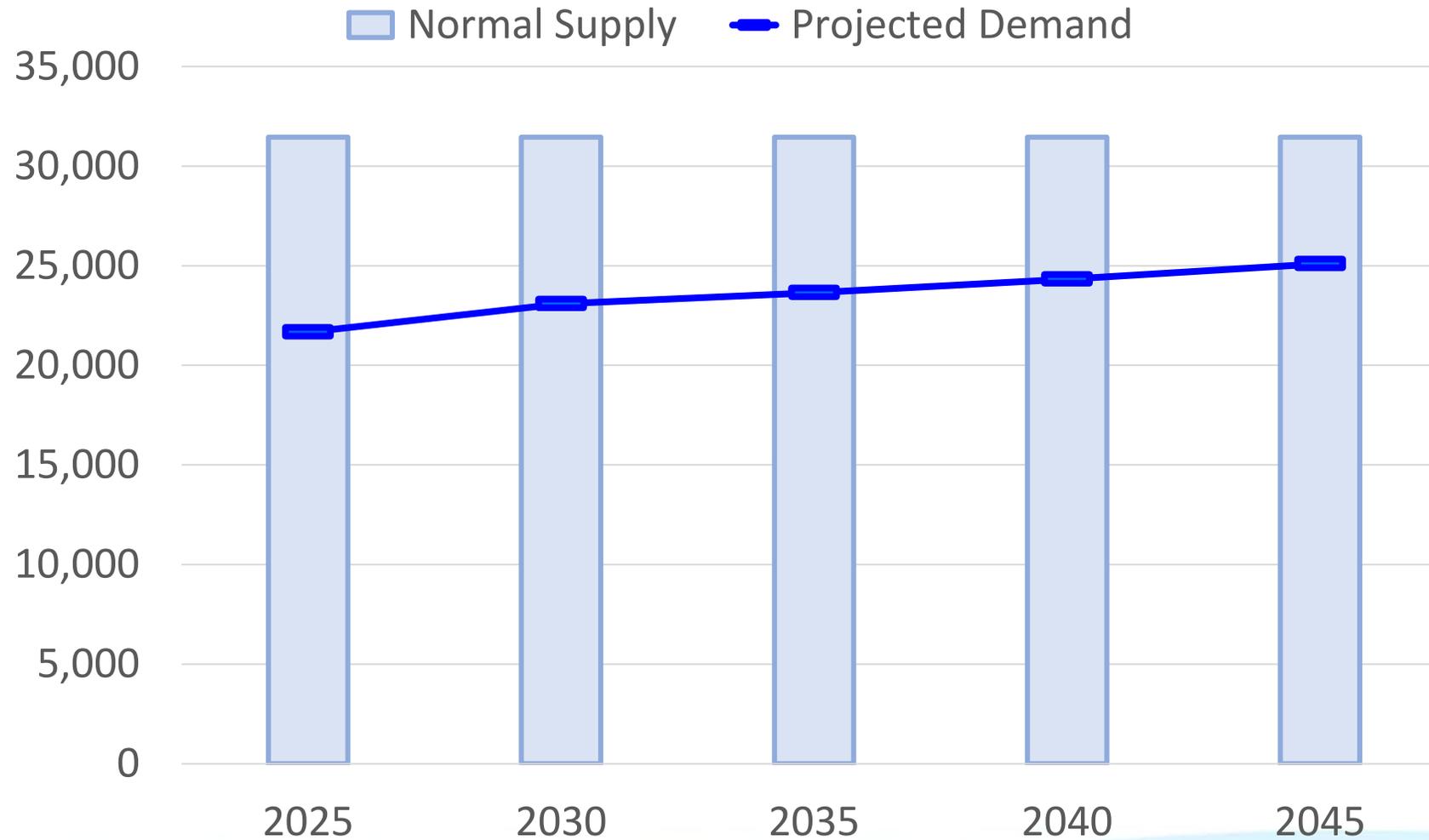


Current Supply

| | |
|------------|-------------------------|
| 29,100 AFY | Sonoma Water |
| 2,300 AFY | City Wells (Farmers Ln) |
| 140 AFY | Regional Recycled Water |
| <hr/> | |
| 31,540 AFY | Total |

AFY = acre-feet per year

Normal Water Supply (average rainfall years) Compared to Projected Demand through 2045



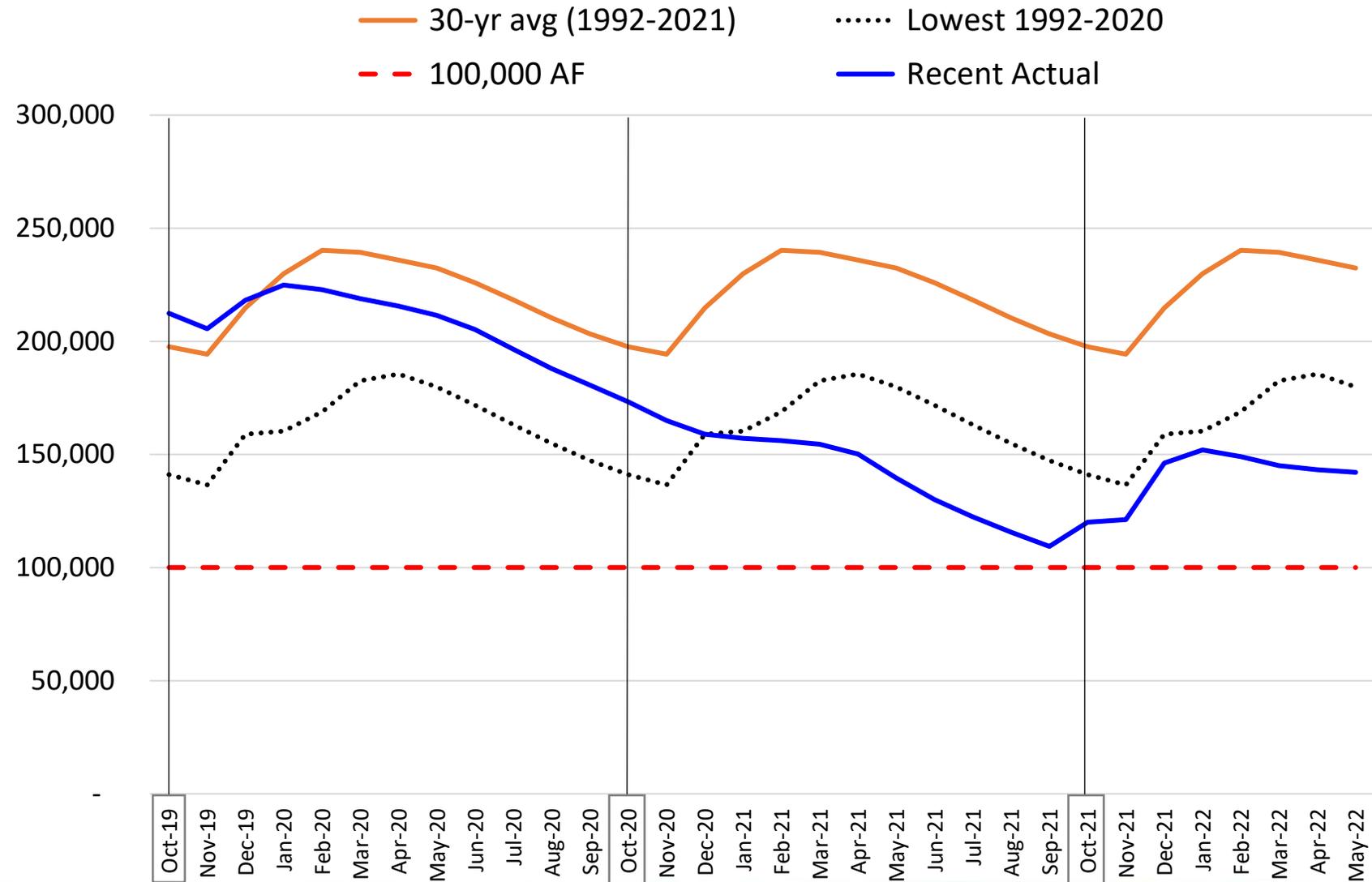
Risk of Severe Shortage

Storage in Lake Sonoma remains historically low.

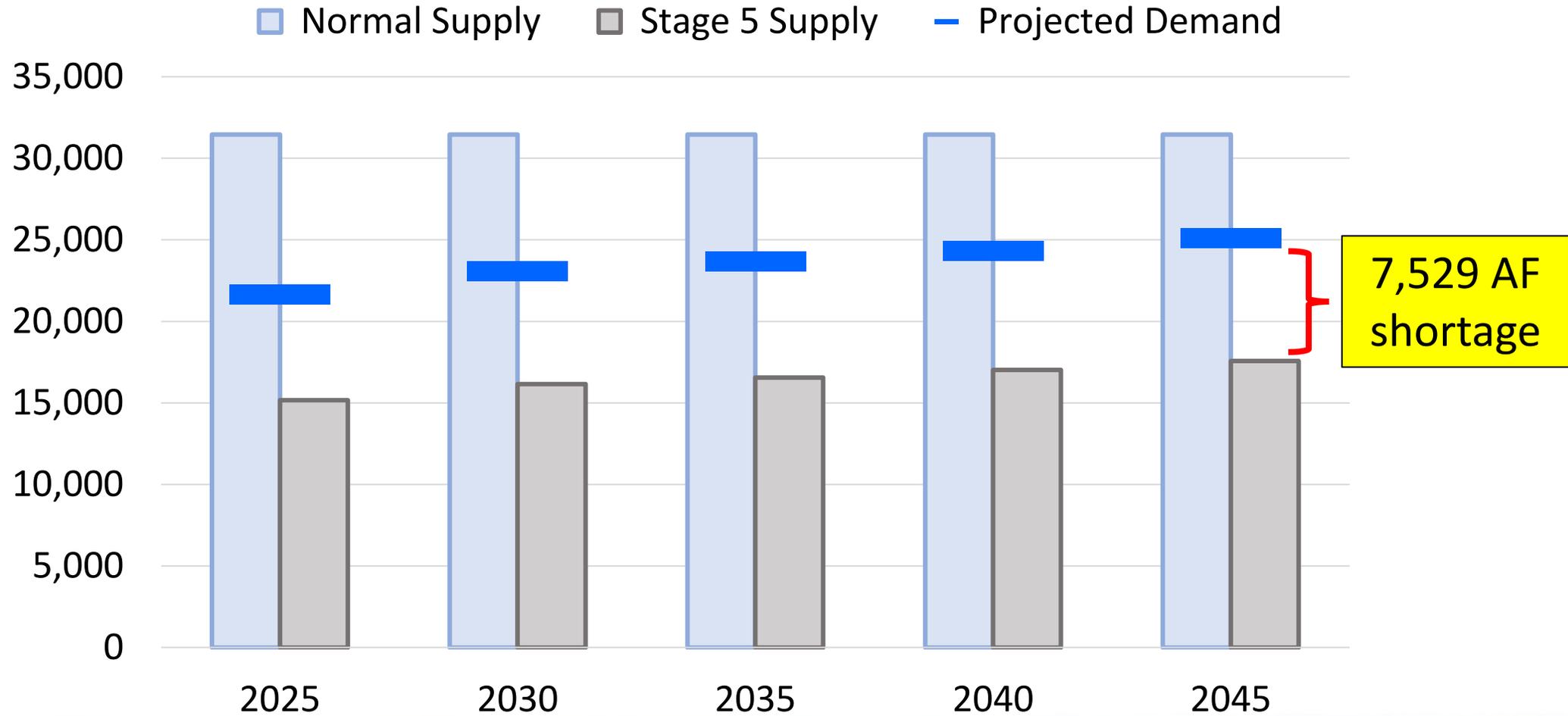
If storage drops below 100k AF, mandated reductions of 30% or more can be required.

Climate change is expected to cause more frequent and more severe droughts.

Lake Sonoma Storage – Acre Feet



30% shortage in Santa Rosa supply is Stage 5 Water Shortage Emergency.



Sonoma Water *Restructured Agreement for Water Supply* includes local production capacity goal

Section 1.15 Local Production Capacity Goal

In order to mitigate against drought, earthquakes, spills, temporary impairments, ... and other emergencies that can befall an urban water supply system, it is highly desirable that each Water Contractor achieve and maintain local water production capacity capable of satisfying approximately forty percent (40%) of the Water Contractor's average day of maximum month demand.



**Sonoma
Water**

Existing Local Supply Capacity

Potable wells for drinking water

Recycled water for urban landscapes

Current capacity (five-year averages)

- 1,382 acre-feet per year (AFY)
 - 7.8% of average annual demand
- 2.75 million gallons per day (MGD)
 - 12.5% of average peak day



Initial goals for increasing local supply

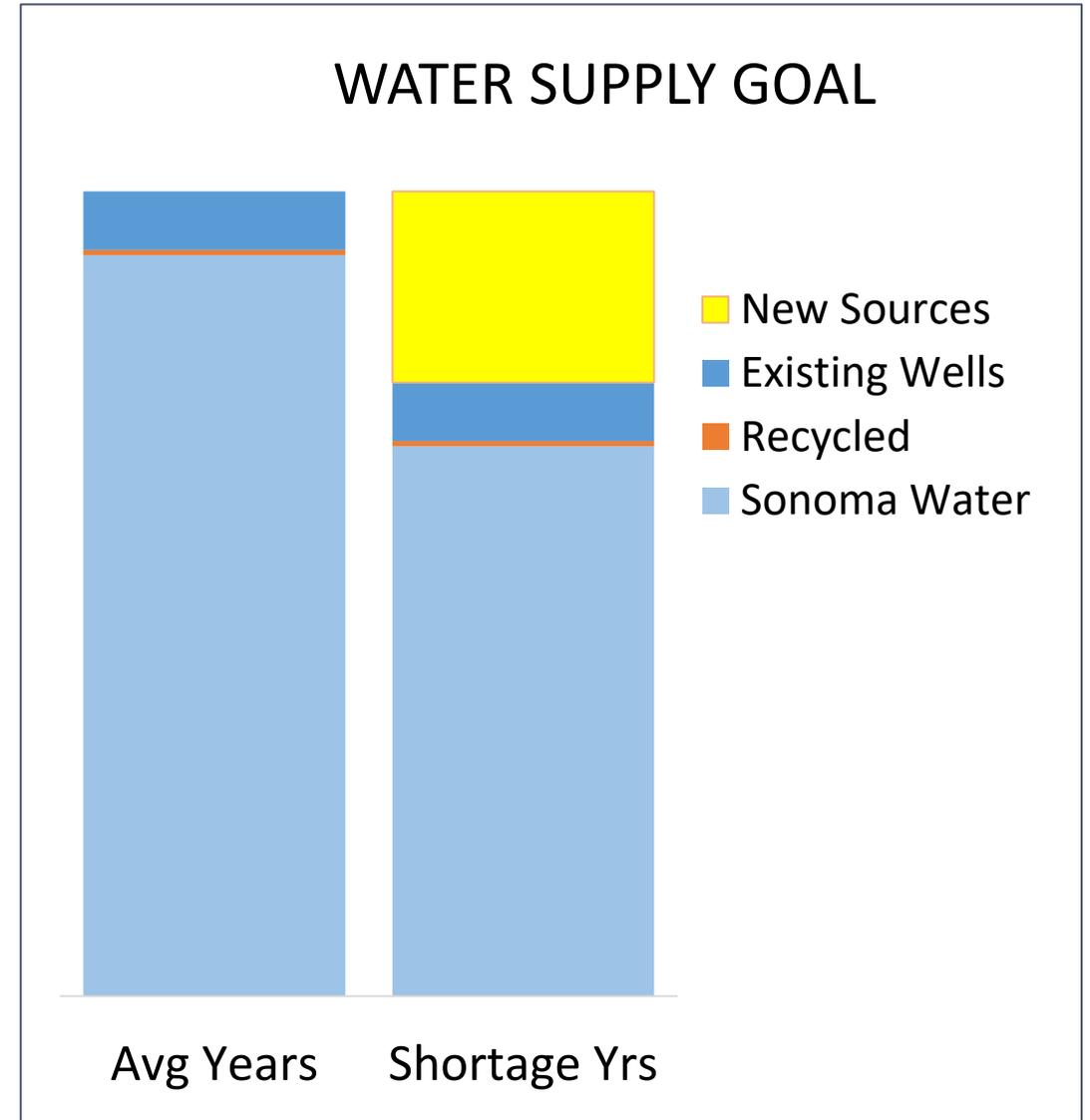
Analysis needed to establish viable water supply goals. Key drivers include:

- Reduce risk for Stage 5-8 shortages
- Respond to Restructured Agreement

Start with initial goals and revise during study:

Achieve capacity to locally produce:

- 30% of 2045 annual demand
 - 7,500 acre-feet per year
- 40% of 2045 average peak day
 - 13 million gallons per day



Potential local water supply sources

Aquifer Storage
& Recovery

Desalination

Groundwater

Interties

Reuse

Stormwater

Surface water

Water trading

Collaborative
resiliency projects
(Sonoma Water &
Contractors)

Evaluation criteria for characterizing potential water supply sources

- Ability to integrate with distribution system
- Cost (project and O&M)
- Cost effectiveness
- Environmental impacts
- Hazard/risk analysis
- Permitting and regulatory compliance
- Potential impacts on staffing needs, certifications, system designation
- Potential impacts on operations of the Water System, Wastewater Collection System, Wastewater Treatment System, and Recycled Water Distribution system
- Legal constraints (e.g., water rights, intertie agreements, water trading)
- Public education/perception
- Revenue impacts
- Scalability
- Supply source resiliency, seasonal availability, dry year impacts
- Timeline for implementation / phased approach for portfolios of alternatives
- Water chemistry/quality/treatability
- Other

Proposed strategy and scope for developing the Water Supply Alternatives Plan

Study

- Engage Water Team and Stakeholder Group.
- Establish water supply goals.
- Study feasibility of potential water supply sources.

Develop

- Prepare portfolios of options for achieving goals by 2045.
- Draft plan.
- Seek input from stakeholder group and revise draft.

Finalize

- Hold study session for broad public input on draft Plan.
- Revise as needed.
- Finalize plan.

Implement

- Fund and execute the plan over time to achieve feasible goals by 2045.

Proposed Timeline

May-Aug 2022

- Solicit proposals, select firm, and award contract.
- Similar projects in our region: ~\$250,000-\$400,000.

Sep 2022- Mar 2023

- Launch project with Water team. Engage stakeholders.
- Establish goals. Conduct study. Draft plan.

Apr-May 2023

- Hold public study session at BPU to solicit input.
- Finalize plan.

2024-2045

- Fund & implement projects to achieve the City's goals.

City Council / BPU Liaison Committee

- April 28, 2022 - Staff provided overview of purpose, initial goals, strategy, scope, and timeline. Committee unanimously approved staff recommendation:

1

Staff to solicit proposals, evaluate, and select firm.
BPU to award contract.

2

Firm to assist in conducting study with stakeholder input and preparing plan to achieve goals by 2045.

3

BPU to hold public study session to provide input on draft plan.
Finalize plan.

4

Staff to execute plan to achieve goals by 2045.
Staff to report to BPU periodically on progress.



Recommendation

It is recommended by the City Council/Board of Public Utilities Liaison Committee and Santa Rosa Water that the Board of Public Utilities, by motion, approve the issuance of a Request for Proposals to solicit proposals from qualified consultants to complete a study of potential water supply sources and develop a Water Supply Alternatives Plan for increasing the City's water supply resiliency and reliability.

QUESTIONS & COMMENTS



Colin Close
Senior Water Resources Planner
CClose@srcity.org