



CITY OF FORT BRAGG **REQUEST FOR PROPOSALS FOR A DESALINATION PLANT FEASIBILITY STUDY**

The City of Fort Bragg is seeking proposals from qualified engineers or other similar professionals interested in contracting with the City of Fort Bragg to prepare a feasibility study for a desalination plant to provide domestic water for the City.

PROJECT NEED AND DESCRIPTION

Over the long term, a number of factors may constrain the City's water supply and storage options or increase water demand. Redevelopment of the former Georgia Pacific Mill Site (Mill Site) may increase water demand by an additional 200,000 gallons per day. Competition for the City's water sources to meet environmental demand may further reduce City diversion rates or pumping periods on one or more of our current surface water sources.

In order to identify a long term water supply solution, the City is seeking to explore the feasibility of a small scale desalination plant that may use either sea water or brackish water from an intake located within a subsurface water prism.

The City has a water treatment plant with a capacity of 2,200,000 gallons per day. In recent years, production of treated domestic water (including treatment losses) has ranged from 600,000 to 800,000 gallons per day. The higher production level occurs during the summer when tourist visits peak. The lowest level of raw water availability occurs just before the start of the rainy season, typically during September through October.

The City has sufficient water supply and storage to meet current demand. All of the City's water comes from surface diversions, which are illustrated in the table below.

Table 1- City of Fort Bragg Water Appropriations			
Water Supply Source	Permit or License ID	Maximum Permitted Water Appropriations (volume)	Maximum Allowed Diversion Flow
1. Noyo River	A017345/P011383	1,500 AF (488.777 MG)	2.7 cfs pump capacity
2. Newman Gulch	S009340 Pre-1914 Water Right	300 AF (97.775 MG)	0.5 cfs
3. Waterfall Gulch	License 012171 A025418/P017900	475 AF (154.779 MG)	0.668 cfs

Source: (Fort Bragg, March 2017)

In 2016, the City constructed a 14.6 million gallon water storage facility on Summers Lane, which increased the City's total water storage to 18 million gallons. During the fall of 2015 drought conditions, the City needed to replace 200,000 to 300,000 gallons per day when salt water intrusion took the Noyo River source temporarily off-line during double high tides. Had the Summers Lane Reservoir been at full capacity, it would have provided approximately 48 to 72 days of additional water. If used continuously, this represents at least seven weeks of water. If this water was only used during double high tide episodes lasting seven to ten days per month, at least five months of additional water would have been available. Thus, the Summers Lane Reservoir would have been sufficient to meet the City's current water supply and storage challenges given the 2015 drought conditions.

However, Fort Bragg's water supply and storage options continue to be in flux due to future development on the Mill Site, the impact of climate change on surface water flows, the impact of sea level rise on the existing Noyo River diversion; and environmental demands that may impact the diversion rates and volumes on the City's current surface water sources.

In order to identify a long-term solution, the City seeks to explore the feasibility of a desalination plant to ensure future water supply reliability.

SCOPE OF WORK

The scope of work for this Feasibility Study should include the following:

1. The consultant shall collect or develop all the necessary information to perform the required analysis and other tasks. City staff will assist with providing in-house information.
2. The consultant shall be familiar with the technical literature, environmental issues, economic factors, legal matters and regulations regarding desalination as well as the current status of desalination projects along the coastal California. What lessons have been learned in recent years from the experiences of other agencies or operators? This background knowledge should include familiarity with the California Ocean Plan (Ocean Plan) and the associated draft amendment addressing a desalination permitting process.
3. Water Source – Briefly compare and contrast desalination processes directly accessing the ocean versus indirect access in near-ocean brackish environments to provide decision-makers with context to understand the basic differences.
4. Technology – Briefly summarize the various, available types of osmotic technologies as well as other desalination technologies. In addition, briefly summarize the different energy sources that may be used to power a desalination process.
5. Conceptual/Pre-Engineering – The selected consultant will identify and analyze the full range of technical issues surrounding this project including, at a minimum, the following:
 - a. Plant siting and construction: Prepare a schematic design for the facility that emphasizes flexibility, and where possible, a modular system so that the system production can be changed as demand warrants. Preliminary plant sizing will consider the City's current needs as well as anticipated growth. The risk of drought and how it might affect the need for desalinated water shall be assessed. Consider operational options varying finished water production to reduce costs associated with desalinated water when it is not needed. How might climate change or an evolving regulatory environment affect plant operations and finished water production? What, if any, are co-location opportunities?
 - b. Impacts to other City facilities: Include an analysis of any appurtenant facilities to the desalination facilities as well as modifications to other parts of the City infrastructure.
 - c. Source water intake: What options are there for subsurface and surface water intakes? The City has investigated some potential sites along the Noyo River where subsurface brackish water can be reached.

- d. Connection to the City's existing water system: What is the level of treatment produced with finished water from the desalination process? What are likely salt removal efficiencies? Is additional treatment or storage necessary? Does finished water become part of the City's raw water supply or can it be added directly to the City's water distribution system?
 - e. Discharge: What options are there for subsurface or surface discharge of brine? What are the options for dilution or flow augmentation? Are there other brine treatment or handling processes to consider? The City has a Waste Water Treatment Facility (WWTF) with an ocean outfall. Discharge flows range from a summertime low of 500,000 gallons per day to wet weather peaks in excess of 5,000,000 gallons per day. What other process wastes (pre-treatment, filter maintenance, etc.), might need to be disposed of? What are their disposal options?
 - f. Power sources: What are the practical energy/power sources for a desalination plant in Fort Bragg? What is the potential for shared power sources?
6. Economic Considerations – The consultant shall create preliminary cost estimates for all aspects of a desalination facility, including: preliminary project development, environmental review, permitting, utilities/power supply, property acquisition, design, construction, construction management, operations, maintenance, future capital needs, and any other relevant expenses. Costs, as applicable, for interfacing with existing water or waste water infrastructure shall be included. For operational and maintenance costs, these shall be broken down to labor, equipment, materials and power costs. The current cost of domestic water production in the City of Fort Bragg is approximately \$1,400 per acre-foot. The consultant shall provide a summary of potential funding sources for the desalination facility, appurtenant improvements, and necessary modifications to other City infrastructure.
 7. Environmental Considerations – Significant environmental impacts will be identified and initial, potential mitigations described. The Ocean Plan places great emphasis on impacts to organisms at intake and discharge points.
 8. Regulatory Issues – The consultant shall prepare an overview of the regulatory process, challenges, and costs for a desalination facility located within the California Coastal Zone. This will include an understanding of which agencies have authority over the project, what permits would be required, what studies will need to be completed, a general timeline for the permitting process, and an overview of the primary regulatory hurdles. Permitting considerations will cover the intake and discharge of the desalination plant. If the discharge is shared with the City's Waste Water Treatment Facility, potential permitting modifications affecting the WWTF shall be considered as well.
 9. Submittal of an electronic copy of the finished product.
 10. Make a presentation to the Fort Bragg City Council of the final study.

RFP SCHEDULE

RFP Release	August 16, 2017
Deadline for Written Questions	September 22, 2017
Proposals Due	October 9, 2017
Interviews (if needed)	October 20, 2017
Selection	October 27, 2017

PROPOSAL SUBMITTAL REQUIREMENTS

1. Proposers should submit three (3) hard copy proposals and one (1) digital proposal, so that it is received by the City no later than **5:00 p.m. on October 9, 2017** to:
City of Fort Bragg
Attention: June Lemos, CMC, City Clerk
416 North Franklin Street
Fort Bragg, CA 95437
jlemos@fortbragg.com
2. Format: Digital proposal should be in PDF format. Hard copy proposal should be 8 ½ x 11 inches, printed two-sided on recycled and recyclable paper, bound in a single document and organized in sections following the order specified under contents.
3. Limit Proposal length – Please limit proposal length to 15 pages total.
4. Contents: Proposals shall contain the following information:
 - A. Firm Description
Provide a description of your firm and list relevant information about capabilities, size, rate of services, and length of time in existence.
 - B. Relevant Experience
Describe relevant experience preparing desalination water feasibility studies or other municipal water system feasibility studies.
 - C. Key Personnel Qualifications
Identify the project manager and key personnel who would work on the project as assigned, their respective roles, and a synopsis of relevant experience.
 - D. References
List of public agencies or clients for whom similar work has been performed, with the name, title and phone number of a contact person.
 - E. Scope of Work
Provide an explanation of tasks associated with the project, including how you propose to complete each task, as outlined in the draft Scope of Work above.
 - F. Supporting Materials
Please attach supporting materials or concepts depicting how you are distinctive from other agencies or experts in this field.
 - G. Budget and Schedule of Charges
Provide a “Not to Exceed” amount and a list of Personnel Rates, Equipment Charges, Travel Reimbursement Costs, and Job Descriptions for Personnel.
 - H. Work Schedule
Provide time schedule for completion of work.

I. Insurance

The individual or firm receiving the contract shall procure and maintain for the duration of the contract, insurance against claims for injuries to persons or damages to property that may arise from or in connection with the performance of the work hereunder by the Consultant, his agents, representatives, employees or subcontracts as set forth in Paragraph 12 of Attachment 2 which is attached hereto and incorporated by reference herein. The cost of such insurance shall be included in the consultant's proposal.

J. Consultant Agreement

The City's standard consultant services agreement is attached as Attachment 2. Please identify if your firm would have any issues with the provisions of the City's standard consulting services agreement.

EVALUATION CRITERIA

Proposals will be evaluated on the basis of the following criteria:

- Capabilities and resources of the firm (30%)
- Qualifications and experience of key individuals (35%)
- Schedule and cost for completion of work (30%)
- Utilization of local business (5%)

The above selection criteria are provided to assist proposers and are not meant to limit other considerations that may become apparent during the course of the selection process.

Proposals will be reviewed and evaluated by City of Fort Bragg staff and a recommendation for award of contract will be presented to the Fort Bragg City Council.

OTHER CONSIDERATIONS

The City of Fort Bragg reserves the right to reject any and all proposals. This Request for Proposals does not commit the City to award contract, pay any costs incurred in the preparation of proposals, or to procure or contract for supplies or services.

The City of Fort Bragg reserves the right to negotiate with any qualified source or to cancel, in part of or in its entirety, this Request for Proposals, if it is in the best interest of the City to do so. The City may require the selected consultant to participate in negotiations, and submit such price, technical or other revisions of the proposal that may result from negotiations.

QUESTIONS

Questions should be directed to:

John Smith
Assistant Public Works Director
707-961-2824 x136
jsmith@fortbragg.com

and/or

Tom Varga
Public Works Director
707-961-2824 x132
tvarga@fortbragg.com

ATTACHMENTS

Attachment 1 – Staff Report

Attachment 2 – City's standard Professional Services Agreement