STAFF REPORT

To:	**Coastside County Water District Board of Directors**
From:	**Mary Rogren, General Manager**
Agenda:	**May 13, 2025**
Date:	**May 9, 2025**
Agenda Title:	Approval of Professional Services Agreement with EKI Environment and Water, Inc. for Preparation of a Potable Water Storage Master Plan.

Recommendation/Motion:

Authorize the General Manager to enter into a professional service agreement with EKI Environment and Water, Inc. for the preparation of a Potable Water Storage Master Plan for a not-to-exceed amount of $170,400.

Background:

In 2020, EKI Environment and Water, Inc. (EKI) conducted a Potable Water Storage Evaluation for the District, assessing existing storage facilities and conducting a hydraulic modeling analysis to assess system performance under various storage improvement scenarios and operating conditions. The study also considered the condition of the existing tank infrastructure (built pre-1975 except for one tank.) Findings from the assessment revealed that several of the tanks in need of rehabilitation have maximum operating levels below the hydraulic grade line (HGL) of their respective pressure zones limiting turnover of and access to stored water. In their 2020 analysis, EKI recommended that the District consider adding storage to the Carter Hill site given its strategic location, leading to the decision to implement the Carter Hill Prestressed Concrete Tank and Seismic Upgrades Project that is currently under construction.

With the Carter Hill concrete tank project underway, staff recommends that the District develop a Potable Water Storage Master Plan that can be incorporated into the District's long range Capital Improvement Program and that will serve to enhance the District's system reliability.

Tasks to be included in the study follow below:

Task 1 – Project Management and Coordination
Task 2 – Compilation and Evaluation of Updates Since the 2020 Storage Evaluation
Task 3 – Condition Assessment and Seismic Evaluation of Denniston Tank
Task 4 – Storage Project Alternatives Development and Evaluation
Task 5 – Development of Storage Capital Improvement Plan and Preparation of Water Storage Master Plan Report

Under Task 2, EKI will build on their previous work and will update the District's hydraulic profile schematic, will incorporate recent improvements into the District's hydraulic model, and will evaluate storage capacity criteria and needs under current conditions. Under Task 4, EKI will work with the District to consider storage project alternatives that will expand upon retrofit or replacement options and that could also include new siting options. Based upon findings in Task 4, EKI will assist the District in prioritizing storage projects and arriving at probable cost estimates to incorporate into the District's Capital Improvement Program.

The estimated time for completion is five months.

Given EKI's previous exemplary work in assisting the District to evaluate its storage needs as well as EKI's ongoing work on the District's hydraulic model, staff believes that EKI is in an excellent position to assist the District in this very important effort.

Fiscal Impact: $170,400.

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7 May 2025

Ms. Mary Rogren
General Manager
Coastside County Water District
766 Main Street
Half Moon Bay, California 94019

Subject: Proposal for Potable Water Storage Master Plan
Coastside County Water District, Half Moon Bay, California
(EKI B80108.47)

Dear Ms. Rogren:

EKI Environment & Water, Inc. (EKI) is pleased to submit this proposal to Coastside County Water District (District) for the preparation of a Potable Water Storage Master Plan.

BACKGROUND AND PROJECT UNDERSTANDING

Upon completion of ongoing construction projects, the District's distribution system will comprise of eight active potable water storage tanks with a total nominal capacity of 8.9 million gallons (MG). With the exception of the new 2.1 MG Carter Hill Tank, currently under construction, all of the District's tanks are welded steel, requiring regular maintenance of their coating systems and full recoating approximately every 20 years. Additionally, all but one of these tanks were constructed before 1975, prior to the adoption of current seismic design standards. Condition assessments and seismic evaluations conducted by the District have identified the need for rehabilitation and retrofitting of several tanks to extend their service life and mitigate seismic risks (Cornerstone, 2018a and 2018b; TJCAA, 2019). The estimated costs for these improvements are significant, with some rehabilitation and retrofit costs approaching the cost of constructing a new tank.

In 2020, EKI conducted a Potable Water Storage Evaluation for the District, assessing existing storage facilities, capacities, and potential improvement projects identified in previous condition assessments. The evaluation included a hydraulic modeling analysis to assess system performance under various storage improvement scenarios and operating conditions. Findings from this assessment revealed that several tanks in need of rehabilitation have maximum operating elevations below the normal hydraulic grade line (HGL) of their respective pressure zones, limiting turnover of and access to stored water. Based in part on these findings, the District initiated the Carter Hill Prestressed Concrete Tank Project. This Project will add storage capacity near the Nunes Water Treatment Plant—a strategic location capable of serving the entire District system.

With the Carter Hill Prestressed Concrete Tank Project now under construction, the District aims to prioritize its remaining storage improvement projects to enhance system reliability. The following scope expands upon prior evaluations to develop a comprehensive long-term capital improvement strategy for the District's water storage infrastructure.

SCOPE OF WORK

EKI proposes the following tasks as part of this scope of work to prepare the District's Potable Water Storage Master Plan.

Task 1 – Project Management and Coordination

EKI will provide project management and general consultation services to the District. This task includes coordination and communications with District staff, general consultation, management of subconsultants, and technical project management services.

Specific tasks include:

- Information Management: EKI will prepare a list of information requests and submit the list to District staff. EKI will compile and review the information received.
- Kickoff Meeting: At the kickoff meeting, EKI and District staff will review the project goals, opportunities, information needs, scope, and schedule. The team will revisit planning horizons and confirm key analyses to be conducted as part of the master planning effort as well as potential storage alternatives.
- Workshops/Progress Meetings: EKI will schedule and attend up to three (3) workshops or progress meetings with District staff and other stakeholders to review project status, discuss preliminary results, and solicit feedback for key project decisions. For all meetings, EKI will be responsible for preparing and distributing meeting notices, agendas, and minutes.
- Project Schedule: EKI will prepare the project schedule and will provide the District with schedule updates as needed.
- Project Communications and Project Management Tasks: EKI will perform other project management tasks including as-needed communications and general consulting services, budget tracking, and invoicing. EKI will provide budget and progress summary reports to the District with each invoice.

Deliverables:

- Information request log.
- Meeting agendas, presentations, and minutes.
- Monthly budget and progress summary reports.

Key Assumptions:

- The District will fulfill data requests in accordance with schedule expectations and will participate in meetings.
- The Kickoff and Workshops/Progress Meetings will be held virtually.

Task 2 – Compilation and Evaluation of Updates Since the 2020 Storage Evaluation

As part of this task, EKI will review and compile recent and planned storage improvement projects, recent demand data and projected demands, and other planning assumptions that have changed since the 2020 Storage Evaluation to support the preparation of the Water Storage Master Plan. Part of this task includes continued updates to the District's hydraulic model, which is currently being calibrated by EKI. EKI will perform the following subtasks:

- EKI will update the District's storage tank inventory, system maps, and hydraulic profile schematic to incorporate recent improvement projects completed by the District. EKI will confirm that all of these improvements have been incorporated in the District's hydraulic model.
- EKI will update the District's existing demands based on recent demand and production data. EKI will review billing and SCADA historian data to reallocate demands within the District's hydraulic model and evaluate peak demands. EKI will review and incorporate recent demand projections in the analysis.
- EKI will review the District's existing storage capacity criteria and update, as needed, based on feedback from the District.
- EKI will also evaluate the storage capacity needs based on established performance criteria and identify whether additional storage is needed.
- EKI will compile information on all the potential storage projects that have been considered to date as part of prior evaluations or planning efforts.

Deliverables:

- Draft storage tank inventory table, system maps, hydraulic profile schematic figure, demand summary tables, storage capacity evaluation tables, and a table summarizing the potential tank projects that have been considered to date. Materials will be compiled and presented during a workshop/progress meeting.

Key Assumptions:

- Final versions of the tables and figures and associated summaries will be incorporated into the Potable Water Storage Master Plan Report to be delivered under Task 5.

Task 3 – Condition Assessment and Seismic Evaluation of Denniston Tank

As discussed above, over the past decade the District has completed condition assessments and seismic evaluations of many of its tanks but has not done so for the Denniston Tank. This task includes an assessment of the Denniston Tank to provide the District with a more comprehensive understanding of the condition and seismic vulnerabilities of its storage tanks. EKI will team with TJC and Associates (TJCAA) to complete this task, collectively referred to as the "EKI Team". TJCAA is familiar with the District's infrastructure and prepared the District's 2019 seismic evaluation.

The EKI team will review available documentation for the Denniston Tank. After review, the EKI team will conduct a site visit to inspect the exterior of the tank. During the site visit the EKI team will evaluate structural components such as shell, roof plate, and visible tank appurtenances. Since the tank cannot be

taken offline, interior inspection will be limited to visual observation of the roof rafters through the roof hatch.

Based on the document review and site inspection, the EKI team will conduct a detailed structural and seismic analysis of the tank to assess its integrity under code-level seismic loading. The assessment will be performed in accordance with applicable standards of AWWA D100-21, ASCE 7016, and 2022 California Building Code.

The assessment will:

- Assess the structural integrity of the tank under seismic demands, considering a Seismic Importance Factor of 1.5, in accordance with ASCE 7-16;
- Determine Hydrodynamic forces, including impulsive and convective components, in accordance with AWWA D100;
- Evaluate overturning and sliding forces to determine if anchorage is required in accordance with AWWA D100;
- Calculate hydrodynamic sloshing heights and evaluate available freeboard; and
- Perform a structural analysis to determine the maximum safe water level at which the tank can operate while maintaining structural stability.

The EKI team will prepare a technical memorandum summarizing:

- The existing conditions of the tank;
- Findings from the structural evaluations;
- Recommendations for remediation strategies; and
- Conceptual seismic rehabilitation measures with AACE Class 4 cost estimates.

Deliverables:

- PDF Draft and Final Denniston Tank Condition Assessment Technical Memorandum.

Key Assumptions:

- The District will provide as-built records and other documentation on the Denniston Tank.
- The District will facilitate access to the tank.
- The District will review and provide comments on the Draft Denniston Tank Condition Assessment Technical Memorandum.
- Assessment will not include material testing, confined space entry, or geotechnical services.
- Safety assessment of the tank and components is not included.
- The original design of the tank was in accordance with industry standards at the time of construction.

- Geotechnical parameters of the project site will be provided by the District. If unavailable, soil parameters will be based on CBC minimums and seismic design will be based on USGS site-specific data.

Task 4 – Storage Project Alternatives Development and Evaluation

EKI will work with the District to select up to five additional storage project alternatives. These alternatives are intended to expand upon the retrofit or replacement options developed as part of the prior condition assessments and other planned storage projects (e.g., Carter Hill Tank 3 replacement, abandonment of El Granada Tank 1). These alternative projects may include siting one or more new storage tanks at elevations that would better serve the system compared to existing storage tanks or adding booster pump stations at one or more existing tank sites to improve access to stored water and increase turnover. For evaluating sites of new tanks, EKI will perform a mapping exercise to evaluate vacant parcels at suitable elevations, slopes, access, and proximity to the existing distribution system.

For each of these retained alternatives, EKI will develop conceptual site plans, prepare conceptual-level opinions of probable cost (OPCs), and perform hydraulic modeling runs to evaluate system performance and the need for other improvements with each storage alternatives. EKI will provide a high-level evaluation of other criteria including ease of operations and maintenance, ownership status of land, construction and aesthetic impacts to residents and other stakeholders, and CEQA and permitting considerations.

EKI will work with the District to develop criteria and weighting for evaluating and prioritizing all of the potential storage projects evaluated in this study and those retained from prior evaluations. EKI will consider costs, risks and consequences of failure, system performance and reliability benefits, operational costs and considerations, construction and aesthetic impacts to residents and other stakeholders and potential implementation challenges including property acquisition needs and permitting and CEQA requirements. EKI will confirm that the selected portfolio of long-term storage improvement projects will meet the system-wide capacity criteria and level of service goals. EKI will prepare an alternatives matrix and participate in a workshop with the District to score alternatives to confirm alternatives scoring and prioritization.

<u>Deliverables:</u>

- Draft siting maps, conceptual site plans, and OPCs will be complied and presented during a workshop/progress meeting.
- Table with alternatives scoring criteria and weighting.
- Draft and Final alternatives evaluation matrix with scoring.

<u>Key Assumptions:</u>

- EKI will rely on publicly available LiDAR or other topographic data for siting any new tanks.
- Evaluation of potential tank sites will consider existing property ownership. The District will provide EKI with ownership information for potential tank sites after initial site screening.

- Final versions of siting maps, conceptual site plans, and OPCs developed for the Storage Project Alternatives will be incorporated into the Water Storage Master Plan Report to be delivered under Task 5.
- EKI will work closely with the District to confirm evaluation criteria, weighting, and scoring.

Task 5 – Development of Storage Capital Improvement Plan and Preparation of Water Storage Master Plan Report

Based on the findings from Task 4, EKI will work with the District to develop a cash flow for the planned storage projects to incorporate into the District's 10-Year Capital Improvement Plan (CIP). EKI will document findings from Tasks 1 through 5 in a Water Storage Master Plan Report. EKI will prepare a draft and final report that incorporates the District's comments. EKI will present a summary of findings to the Board of Directors.

Deliverables:

- Updated CIP cash flow tables.
- PDF Draft and Final Water Storage Master Plan Report.
- Presentation to the Board of Directors.

Key Assumptions:

- The District will review and provide comments on the Draft Water Storage Master Plan Report.
- The Presentation to the Board of Directors will be held in person.

PROJECT SCHEDULE

The EKI team is prepared to commence work immediately upon execution of this task order. We anticipate that the Draft Water Storage Master Plan can be completed within five months and the Final Water Storage Master Plan can be completed within two weeks of receipt of comments on the draft from the District.

COMPENSATION FOR CONSULTING SERVICES

We propose that compensation for consulting services by EKI be on a time and expense reimbursement basis in accordance with our attached current Schedule of Charges, dated 1 January 2025. Based on the proposed Scope of Work described above, we propose a not-to-exceed budget of $170,400 for the completion of Tasks 1 through 5 as shown by task in Table 1, below, and detailed in Table 2, attached.

Table 1. Proposed Cost by Tasks

Task	Description	Task Total
1	Project Management and Coordination	$19,500
2	Compilation and Evaluation of Updates Since the 2020 Storage Evaluation	$26,700
3	Condition Assessment and Seismic Evaluation of Denniston Tank	$46,100
4	Storage Project Alternatives Development and Evaluation	$51,900
5	Development of Storage Capital Improvement Plan and Preparation of Water Storage Master Plan Report	$26,200
	Total Estimated Budget	**$170,400**

TERMS AND CONDITIONS

Other than the scope of work, budget, and schedule herein, the work will be performed in accordance with our current Professional Services Agreement.

Thank you for the opportunity to work with the District on this project. Please contact Jonathan Sutter at 650-292-9100 with any questions.

Very truly yours,

EKI ENVIRONMENT & WATER, INC.

Jonathan Sutter, P.E.
Principal Engineer

Attachments

Table 2 – Budget Estimate for Proposed Scope of Work

EKI Schedule of Charges, dated 1 January 2025

References

Cornerstone 2018a, Alves Water Tank Structural Review and Retrofit Strategy Report, prepared for Coastside County Water District, Cornerstone Structural Engineering Group, 29 May 2018.

Cornerstone 2018b, El Granada Water Tank #1 Structural Review and Retrofit Strategy Report, prepared for Coastside County Water District, Cornerstone Structural Engineering Group, 10 August 2018.

EKI 2019, Technical Memorandum – Potable Water Storage Evaluation and Alternatives Evaluation, prepared for Coastside County Water District, EKI Environment & Water, Inc., 23 June 2020.

TJCAA 2019, Coastside County Water District Tank Condition Assessments, prepared for Coastside County Water District, TJC and Associates, Inc., December 2019.

Table 2. Estimated Fee - Potable Water Storage Master Plan

Coastside County Water District, Half Moon Bay, California
(EKI B80108.47)

TASKS	G4 Engineer	Jordan Gans, P.E.	Jonathan Sutter, P.E.	LABOR COST	SUBS	OTHER DIRECT COSTS						TOTAL	
					TJC and Associates	UNIT	QUANTITY	UNIT COST	TOTAL COST	MARKUP ON DIRECT COSTS	TOTAL DIRECT COSTS	TASK BUDGET TOTALS	ROUNDED BUDGET TOTALS
	$193	$234	$343	($)						10%		($)	($)
Task 1 - Project Management and Coordination													
Information Request and Management	2	1	1	$963								$963	
Kickoff Meeting	4	2	1	$1,583								$1,583	
Workshops/Progress Meetings	18	12	6	$8,340								$8,340	
Project Management and Communications		10	16	$7,828								$7,828	
Communications Fee (EKI Labor Only)							4%	$18,714			$749	$749	
Task 1 Subtotal	24	25	24	$18,714							$749	$19,463	$19,500
Task 2 - Compilation and Evaluation of Updates Since the 2020 Storage Evaluation													
Update Storage Information and Prepare Draft Tables and Figures	24	12	6	$9,498								$9,498	
Update Demands Data and Incorporate into Hydraulic Model	24	12	6	$9,498								$9,498	
Update Storage Capacity Criteria and Evaluation	6	4	2	$2,780								$2,780	
Compile Information on Previously Considered Storage Projects	12	4	2	$3,938								$3,938	
Communications Fee (EKI Labor Only)							4%	$25,714			$1,029	$1,029	
Task 2 Subtotal	66	32	16	$25,714							$1,029	$26,743	$26,700
Task 3 - Condition Assessment and Seismic Evaluation of Denniston Tank													
Data Collection and Site Visit		4	2	$1,622	$7,243					$724	$7,967	$9,589	
Condition Assessment		4	2	$1,622	$23,483					$2,348	$25,831	$27,453	
Technical Memorandum		4	4	$2,308	$5,954					$595	$6,549	$8,857	
Communications Fee (EKI Labor Only)							4%	$5,552			$222	$222	
Task 3 Subtotal		12	8	$5,552	$36,680					$3,668	$40,570	$46,122	$46,100
Task 4 - Storage Project Alternative Development and Evaluation													
Additional Storage Project Alternative Development and Siting Study	28	16	8	$11,892								$11,892	
Conceptual Site Plans	40	18	4	$13,304								$13,304	
Conceptual OPCs for Alternatives	12	8	4	$5,560								$5,560	
Hydraulic Modeling Evaluation for Storage Alternatives		16	4	$5,116								$5,116	
Storage Alternatives Evaluation	32	16	12	$14,036								$14,036	
Communications Fee (EKI Labor Only)							4%	$49,908			$1,996	$1,996	
Task 4 Subtotal	112	74	32	$49,908							$1,996	$51,904	$51,900
Task 5 - Development of Storage Capital Improvement Plan and Preparation of Water Storage Master Plan Report													
Prepare Storage CIP and Cashflow		6	4	$2,776								$2,776	
Draft and Final Water Storage Master Plan Report	40	24	12	$17,452								$17,452	
Presentation to the Board of Directors	8	6	6	$5,006								$5,006	
Communications Fee (EKI Labor Only)							4%	$25,234			$1,009	$1,009	
Task 5 Subtotal	48	36	22	$25,234							$1,009	$26,243	$26,200
TOTALS:	**250**	**179**	**102**	**$125,122**	**$36,680**					**$3,668**	**$45,353**	**$170,475**	**$170,400**

Client/Address: **Coastside County Water District**
766 Main St. Half Moon Bay, CA 94019

Proposal/Agreement Date: 7 May 2025 **EKI Proposal/Project # B80108.47**

SCHEDULE OF CHARGES FOR EKI ENVIRONMENT & WATER, INC. **1 January 2025**

Personnel Classification	Hourly Rate
Officer and Chief Engineer-Scientist	355
Principal Engineer-Scientist	343
Supervising I, Engineer-Scientist	333
Supervising II, Engineer-Scientist	319
Senior I, Engineer-Scientist	306
Senior II, Engineer-Scientist	295
Associate I, Engineer-Scientist	283
Associate II, Engineer-Scientist	267
Engineer-Scientist, Grade 1	248
Engineer-Scientist, Grade 2	234
Engineer-Scientist, Grade 3	215
Engineer-Scientist, Grade 4	193
Engineer-Scientist, Grade 5	170
Engineer-Scientist, Grade 6	148
Project Assistant	139
Technician	133
Senior GIS / Database Analyst	175
CADD Operator / GIS Analyst	152
Senior Administrative Assistant	167
Administrative Assistant	132
Secretary	111

Direct Expenses

Reimbursement for direct expenses, as listed below, incurred in connection with the work will be at cost plus ten percent (10%) for items such as:

a. Maps, photographs, reproductions, printing, equipment rental, and special supplies related to the work.
b. Consultants, soils engineers, surveyors, drillers, laboratories, and contractors.
c. Rented vehicles, local public transportation and taxis, travel, and subsistence.
d. Special fees, insurance, permits, and licenses applicable to the work.
e. Outside computer processing, computation, and proprietary programs purchased for the work.

A Communication charge for e-mail access, web conferencing, cellphone calls, messaging and data access, file sharing, local and long distance telephone calls and conferences, facsimile transmittals, standard delivery U.S. postage, and incidental in-house copying will be charged at a rate of 4% of labor charges. Large volume copying of project documents, e.g., bound reports for distribution or project-specific reference files, will be charged as a project expense as described above.

Reimbursement for company-owned automobiles, except trucks and four-wheel drive vehicles, used in connection with the work will be at the rate of sixty cents ($0.60) per mile. The rate for company-owned trucks and four-wheel drive vehicles will be seventy-five cents ($0.75) per mile. There will be an additional charge of thirty dollars ($30.00) per day for vehicles used for field work. Reimbursement for use of personal vehicles will be at the federally allowed rate plus ten percent (10%).

CADD and other specialized software computer time will be charged at twenty dollars ($20.00) per hour. In-house material and equipment charges will be in accordance with the current rate schedule or special quotation. Excise taxes, if any, will be added as a direct expense.

Rate for professional staff for legal proceedings or as expert witnesses will be at a rate of one and one-half times the Hourly Rates specified above.

The foregoing Schedule of Charges is incorporated into the Agreement for the Services of EKI Environment & Water, Inc. and may be updated annually.