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Title: DIGESTERS REHABILITATION AT PLANT NO. 2, PROJECT NO. P2-137

Sponsors: Kathy Millea

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Date	Ver.	Action By	Action	Result
3/16/2022	1	OPERATIONS COMMITTEE		
3/2/2022	1	OPERATIONS COMMITTEE		

FROM: James D. Herberg, General Manager
Originator: Kathy Millea, Director of Engineering

SUBJECT:

DIGESTERS REHABILITATION AT PLANT NO. 2, PROJECT NO. P2-137

GENERAL MANAGER'S RECOMMENDATION

RECOMMENDATION: Recommend to the Board of Directors to:

- A. Approve a Professional Design Services Agreement with CDM Smith, Inc. to provide engineering services for Digesters Rehabilitation at Plant No. 2, Project No. P2-137, for an amount not to exceed \$2,700,000; and
- B. Approve a contingency of \$270,000 (10%).

BACKGROUND

Sludge is a byproduct of wastewater treatment that requires further processing to reduce pathogens and organic content so the remaining material can be beneficially reused in compliance with state and federal requirements.

The Orange County Sanitation District (OC San) has 18 anaerobic digesters at Plant No. 2 that were built from 1959 through 1979, and they are used to convert sludge to biosolids and biogas for reuse. Anaerobic digesters are large enclosed concrete structures with pumping, mixing, heating, and gas handling systems.

Based on OC San's 2017 Biosolids Master Plan, OC San is implementing a program to upgrade the

digestion process using a new Temperature Phased Anaerobic Digestion (TPAD) process. This includes building some new digesters, rehabilitation of some existing digesters, and demolition of some existing digesters.

The program consists of four sequential construction projects finishing in 2040. The first project, TPAD Digester Facility at Plant No. 2, Project No. P2-128, is in design with construction anticipated to start in 2025.

RELEVANT STANDARDS

- Comply with California Government Code §4526: Select the “best qualified firm” and “negotiate fair and equitable fees”
- 24/7/365 treatment plant reliability
- Safe, beneficial reuse of Biosolids

PROBLEM

The anaerobic digesters at Plant No. 2 have been in service for 40 to 60 years and need to be rehabilitated to perform reliably for more than 15 years. Specific problems include minor cracks in concrete walls and domes, exterior dome insulation failures, bridges between digesters that have minor structural deficiencies, corroded hot water piping, motor control centers that have reached the end of their useful life and need to be replaced, and elimination of fall and trip safety hazards.

PROPOSED SOLUTION

Approve a Professional Design Services Agreement for Digesters Rehabilitation at Plant No. 2, Project No. P2-137. This project will rehabilitate the digesters including repair of concrete components, dome insulation, and bridges between the digesters, as well as replacement of corroded hot water piping and obsolete motor control centers. The project will also correct minor safety items such as unused pipe supports that are tripping hazards.

TIMING CONCERNS

If this project is delayed, OC San will continue to operate with less reliable digesters and labor-intensive efforts to maintain reliability will continue to be required.

RAMIFICATIONS OF NOT TAKING ACTION

Digesters could fail and limit OC San’s ability to process sludge and maintain compliance with state and federal requirements.

PRIOR COMMITTEE/BOARD ACTIONS

N/A

ADDITIONAL INFORMATION

[Consultant Selection](#)

OC San requested and advertised for proposals for Digesters Rehabilitation at Plant No. 2, Project No. P2-137, on September 21, 2021. The following evaluation criteria were described in the Request for Proposals (RFP) and used to determine the most qualified Consultant.

Criterion	Weighting
Project Understanding & Approach	40%
Related Project Experience	30%
Project Team & Staff Qualifications	30%

Six proposals were received on November 9, 2021 and evaluated in accordance with the evaluation process set forth in OC San’s Purchasing Ordinance by a pre-selected Evaluation Team consisting of the following OC San staff: Senior Engineer (Project Manager), Engineer (Project Engineer), two Engineering Supervisors, and a Maintenance Superintendent. The Evaluation Team also included one non-voting representative from the Contracts Administration Division.

The Evaluation Team scored the proposals on the established criterion as summarized below:

Proposer	Project Understanding and Approach (Max. 40 Points)	Related Project Experience (Max. 30 Points)	Project Team and Staff Qualifications (Max. 30 Points)	Total Score (Max. 100 Points)
HDR	34	23	22	79
CDM Smith	30	19	22	71
Stantec	29	22	20	71
GHD	21	20	19	60
AECOM	22	19	18	59
Atkins	18	14	17	49

Based on this scoring, three firms were shortlisted for interviews on December 7, 2021. Following the interview, the Evaluation Team scored the Consultants based on both the proposals and interviews using the evaluation criteria and weighting described above. Based on the scoring shown below, CDM Smith was selected as the most qualified Consultant.

Proposer	Project Understanding and Approach (Max. 40 Points)	Related Project Experience (Max. 30 Points)	Project Team and Staff Qualifications (Max. 30 Points)	Total Score (Max. 100 Points)
CDM Smith	30	26	26	82
HDR	29	24	22	75
Stantec	20	19	18	57

CDM Smith, the proposer with the highest score, demonstrated a clear understanding of the Scope of Work by highlighting key challenges for each project element and providing potential mitigation solutions, has a team with great experience on similar projects, and showed an understanding of the decisions that need to be made during the Preliminary Design phase to start Final Design with a well-defined scope. They suggested leveraging technology (drone usage) to expedite the Preliminary

Design phase, which is key for a project such as this where timing is extremely important. The subconsultants on CDM Smith’s team provide valuable experience in both OC San operations and safety standards. The technical proposal was well written and showed an understanding of OC San’s expectations.

Review of Fee Proposal and Negotiations

Proposals were accompanied by sealed fee proposals. Only the fee proposal of the Evaluation Committee’s highest-ranked firm, as approved by the Director of Engineering, was opened in accordance with the Purchasing Ordinance.

Staff began negotiations with CDM Smith to clarify the requirements of the Scope of Work, the assumptions used for the estimated level of effort, and the proposed approach to meet the goals and objectives for the project. Negotiations were held with multiple follow up e-mails and calls. During negotiations, the Scope of Work was reviewed in detail and certain assumptions were identified that could be quantified to better define the project. The fee decreased due to a reduction in the number of design plan sheets, clarification on the amount of structural repairs anticipated for each digester, and the direction that the electrical conduit and trays will be re-used for new conductors.

	Original Fee Proposal	Negotiated Fee Proposal
Total Hours	14,577	14,313
Total Fee	\$2,896,078	\$2,700,000

The fringe and overhead rates used by CDM Smith, which factor into the billing rate, have been validated based on its current audited rates. The contract profit rate is 5.36%, which is based on an established calculation based on OC San’s standard design agreements.

Based on the above, staff has determined that the final negotiated fee is fair and reasonable for the level of effort required for this project and recommends award of the Professional Design Services Agreement to CDM Smith.

CEQA

The project is exempt from CEQA under the Class 1 categorical exemptions set forth in California Code of Regulations Section 15301. A Notice of Exemption will be filed with the OC Clerk-Recorder after OC San Board of Directors approval of the Professional Services Design Agreement.

FINANCIAL CONSIDERATIONS

This request complies with the authority levels of OC San’s Purchasing Ordinance. This item has been budgeted (Budget Update, Fiscal Year 2021-2022, Appendix A, Page A-9, Digesters Rehabilitation at Plant No. 2, Project No. P2-137) and the budget is sufficient for the recommended action.

ATTACHMENT

The following attachment(s) may be viewed on-line at the OC San website (www.ocsan.gov) with the complete agenda package:

- Professional Design Services Agreement

RL: jw