



Memorandum

MONTEREY REGIONAL WASTE MANAGEMENT DISTRICT

Reviewed by: *[Signature]* Date: 10/18/2021
General Manager

DATE: October 18, 2021
 TO: General Manager
 FROM: Director of Engineering & Compliance - District Engineer
 SUBJECT: Authorize Call for Bids for the Construction of the Monterey One Water (M1W) and Monterey Regional Waste Management District (MRWMD) Electrical Connection to the Advance Water Purification Facility (AWPF)

RECOMMENDATION: That the Board of Directors authorize a Call for Bids for the construction of the Monterey One Water (M1W) and Monterey Regional Waste Management District (MRWMD) Electrical Connection project. Final Plans and Specifications will be made available to prospective bidders following Board authorization as part of the publicly advertised bid solicitation process. The engineer's construction cost estimate is \$2,010,000. Funds have been included in the Board approved Capital Outlay Budget for this capital improvement project in FY2021/22 and prospectively in FY2022/23.

BACKGROUND

Providing renewable energy that is generated by the District's Landfill Gas to Energy (LFGTE) to public water treatment facilities, be it the proposed desalination plant by California American Water or the Advanced Water Purification Facility Plant (AWPF) by Monterey 1 Water (M1W), has been under discussion with the Board on the order of a decade now. In March 2016 the M1W and MRWMD Boards authorized the execution of an agreement for the District to provide a minimum of 1.8 megawatts (MW) of power to the AWPF at rates generally defined to equal to PG&E Industrial Rate Schedule, E-20 Primary Firm, Winter Part-Peak Energy plus a customer metering charge of \$1,000 per month. The District would also provide an easement across District property to M1W for the purposes that M1W would design, build, own, operate, and maintain the electrical transmission and controls infrastructure for the electrical connection to the AWPF.

Following commissioning and startup activities in 2019, the AWPF began drinking water production supply to the groundwater basin in February 2019. Prior to that, M1W retained Kennedy Jenks Consultants of San Francisco, CA to prepare the design and bid documents for the MRWMD-to-M1W electrical connection. The project design for the electrical connection infrastructure was completed and put out for construction bidding on two different occasions, the most recent being April 2020. Due to a variety of reasons, very little response to both bid solicitations was received by M1W and the bids received were over the project cost estimates and approved budget. M1W subsequently put the project on hold at that time.

In the Fall of 2020, the District and M1W decided that the District would take the lead role and M1W would take a support role on delivering the project for both agencies. The District subsequently authorized Kennedy Jenks Consultants to assess the potential for value engineering design modifications and specification improvements. Their findings were presented in a Technical Memorandum dated March 11, 2021 and indicate the potential for cost savings through value engineering design modifications of the electrical transmission alignment and removal of several 'sole source' requirements for several switchgear, protective relay, and control equipment. At the March 2021 Board Meeting, the Board approved a proposal for Professional Engineering Services from Kennedy Jenks Consultant, Inc. of San Francisco, CA to amend the project design and prepare the bid documents for the project. That work has been completed and the subject of this agenda item is to request the Board's authorization to publicly solicit bids for the public works construction of the Monterey One Water (M1W) and Monterey Regional Waste Management District (MRWMD).

DISCUSSION

M1W constructed the AWPf as a part of the Pure Water Monterey Program and is currently served by a primary electrical connection with PG&E. The design of the MRWMD to M1W electrical connection would allow for both District power and PG&E power to flow across the private transmission line to the AWPf. This proposed private connection would become the primary electrical source to the AWPf and would cause the existing primary connection with point with PG&E to become a secondary electrical service available in case of outages to the District's LFGTE facility. The proposed interconnection service falls under PG&E's Rule 21 and was previously submitted to their EGI department under application #112415 as part of Kennedy Jenk's work for M1W.

The AWPf has a Design Demand power usage on the order of 2.5 MW and is planned as a medium voltage 21kV transmission line. The Actual Demand power usage, based on historical data taken from March 2020 through February 2021, is approximately 1.2 MW for the advanced treatment of approximately 3.5 million gallons per day (mgd). At the AWPf's Phase I full capacity of 5 mgd, the Actual Demand power usage is expected to be on the order of 1.8 to 2 MW. This closely aligns with the 1.8 MW cited in the 2016 agreement between MRWMD and M1W for the minimum amount of renewable energy to be delivered by the District.

With MRWMD taking the project lead, the District requested that Kennedy Jenks perform value engineering assessments on the project design to evaluate modifications and optimizations to reduce project cost. Their March 2021 technical memorandum summarizes the design changes that were investigated during the value engineering phase and their recommendations to the District for final modifications of the project design.

As part of the project handoff to the District, both parties recognized that the delivery of the project by the District represents a significant change to that agreed to in the 2016 agreement for the electrical connection. The District has offered to deliver the project inclusive of final design, bidding, and construction as part of its lead role on the project. Prior bidding on the project indicated that construction costs were on the order of \$2.3 - \$2.5 million dollars. The District has identified \$2.5 million dollars in its FY21/22 and FY22/23 budgets for the project. The two agencies are also in the process of finalizing changes to their existing agreement to address the ownership of the infrastructure, the party responsible for the infrastructure O&M, and the electrical rates to align with the agreed upon change in the respective roles and responsibilities for the project. Legal Counsel has drafted a new agreement to address the main elements being discussed by the two agencies. Defining how the District is appropriately compensated for delivering the project (capital investment), and any other transfer of responsibility as a change of the 2016 agreement, is central to our discussions. The new agreement will be brought forward by both agency's in the near future.

FINANCIAL IMPACT

Staff is requesting that the Board approve the solicitation of construction bids via the District's publicly advertised bidding process. Funds in the amount of \$2.5 million dollars were included in the FY21/22 and FY22/23 project budget.

RECOMMENDATION

The renewable energy electrical connection between the District's LFGTE facility and M1W's AWPf facility for the production of drinking water will have multiple benefits to the communities served by the two agencies in addition to the long-term sustainable operations of both facilities. The value engineering design, specifications, and bid documents for the project have been completed. Staff therefore recommends that the Board authorize Staff to obtain public works construction bids from qualified contractors M1W and MRWMD to the AWPf through the District's publicly noticed bid solicitation process.


Guy R. Petrabor, P.E., G.E.

Attachment

Engineer's Cost Estimate by Kennedy/Jenks Consultants dated 10-18-2021

OPINION OF PROBABLE CONSTRUCTION COST

KENNEDY/JENKS CONSULTANTS

Client: Monterey Regional Waste management District
Project: WMD to AWPf Medium Voltage System
Location: Monterey County , CA
Type: Final Design

Prepared By: ZCD /TKR
Date Prepared: 7-Oct-21
K/J Proj. No.: 2168003*01

BASE BID

	ITEM DESCRIPTION	MATERIAL	INSTALL	EQUIPMENT		TOTAL
1	Mobilization/ Demobilization				180,700	180,700
2	SWPP				5,000	5,000
3	Civil and Misc Site Work				45,000	45,000
4	21KV OH LINE				253,500	253,500
5	21KV DUCT BANK				48,800	48,800
6	21KV CABLE IN EXISTING DUCT BANK				179,600	179,600
7	F/O CABLE				67,800	67,800
8	21KV WMD SWGR				605,000	605,000
9	Testing, startup, coord, arc flash studies				50,000	50,000
10	SCADA and Controls				188,200	188,200
	Subtotal				1,623,600	1,623,600
	General Conditions @ 5%					81,180
	Subtotals					1,704,780
	Bonds & Insurance 2.5%					42,620
	Contractors OHP @ 15%					255,717
	Subtotals					2,003,117
	Estimated Bid Price					2,003,117
	Total Estimate (Base Bid)					2,010,000

Estimate Accuracy	
+15%	-5%

Estimated Range of Probable Cost		
+15%	Total Est.	-5%
\$2,311,500	\$2,010,000	\$1,809,500

ALTERNATIVE 1 - ALIGNMENT B

	ITEM DESCRIPTION	MATERIAL	INSTALL	EQUIPMENT		TOTAL
1	21KV OH LINE				(78,686)	(78,686)
2	21KV DUCT BANK				132,742	132,742
	Subtotal				54,057	54,057
	General Conditions @ 5%					2,703
	Subtotals					56,760
	Bonds & Insurance 2.5%					1,419
	Contractors OHP @ 15%					8,514
	Subtotals					66,693
	Estimated Bid Price					66,693
	Total Estimate (Alt 1 Delta)					70,000

Estimate Accuracy	
+15%	-5%

Estimated Range of Probable Cost		
+15%	Total Est.	-5%
\$80,500	\$70,000	\$66,500

ALTERNATIVE 2 - Reuse PG&E Poles

	ITEM DESCRIPTION	MATERIAL	INSTALL	EQUIPMENT		TOTAL
1	21KV OH LINE				(30,000)	(30,000)
	Subtotal				(30,000)	(30,000)
	Subtotal Direct Cost				(30,000)	(30,000)
	General Conditions @ 5%					(1,500)
	Design/Estimating Contingency @					
	Escalate to Midpt of Const. @					
	Subtotals					(31,500)
	Bonds & Insurance 2.5%					(788)
	Contractors OHP @ 15%					(4,725)
	Subtotals					(37,013)
	Estimated Bid Price					(37,013)
	Total Estimate (Alt 2 Delta)					(40,000)

Estimate Accuracy	
+15%	-5%

Estimated Range of Probable Cost		
+15%	Total Est.	-5%
-\$46,000	-\$40,000	-\$38,000