

March 11, 2019

Project No. 168301  
Contract PO No. 106008  
Vendor No. 63447

Mr. Jeff Allred, PE  
Project Engineer  
Eastern Municipal Water District  
2270 Trumble Road  
Post Office Box 8300  
Perris, CA 92572-8300

Subject: **Preliminary and Final Design of the Redlands and Cottonwood Booster Electrical Replacement Project  
Proposed Contract Amendment No. 1**

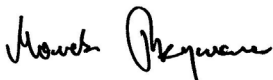
Dear Jeff:

Michael Baker is submitting, for your consideration, this proposal for the Amendment No. 1 to the Redlands and Cottonwood Booster Electrical Replacement Project. Pursuant to our discussions on February 5<sup>th</sup>, 2019, the District indicated their desire to replace the natural gas engine driven pump No. 4 with an electric motor. The additional requested work is related to revising PDR and providing plans, specifications and estimates (PS&E) for this engine replacement. These design changes will result in the approved budget being exceeded.

A detailed summary describing the work effort and the associated proposed fee are summarized on Exhibit "A" (attached).

We appreciate your consideration of this request, and the opportunity to be of continuing service to the District. If you would like to discuss this proposal or need any additional information, please do not hesitate to contact me by email at [marek.przywara@mbakerintl.com](mailto:marek.przywara@mbakerintl.com), or by phone at (949) 855-3671.

Sincerely,



Marek Przywara, P.E.  
Project Manager

Enclosures: Exhibit "A" Proposed Scope of Work and Compensation

**EXHIBIT "A"****Preliminary and Final Design of Redlands/Cottonwood Booster Electrical Replacement Project  
Proposed Contract Amendment No. 1  
Proposed Scope of Work and Compensation**

At our meeting dated February 5th, 2019, the District requested fee and scope proposal for replacing the natural gas engine driven pump No. 4 with an electric motor.

**Task 1 – Project Coordination**

This task includes providing additional Project Coordination and Data Gathering services, beyond what was approved in the original project budget. Specific additional effort activities include project management and QA/QC, one site visit, research and conference calls, and review of existing documents related to replacing engine with the electrical motor as described in Tasks 2 through 4 below.

**Additional Requested Budget = \$ 4,040**

**Task 2 – Preliminary Design**

Under this task, Michael Baker will revise the Preliminary Design Report which was submitted on December 18, 2018, including the technical write-up, exhibits, and cost estimate to capture the following design changes requested by the District:

- Removal of the existing gas engine. The gas driven engine will be salvaged and returned to the District. Equipment for the natural gas engine will be removed or salvaged, as directed by the District. The gas driven engine auxiliaries (piping tubes oil tanks, air compressor, etc.) will be dismantled and disposed of in accordance with regulatory requirements.
- The District stated, there is no documentation or as-builts for the engine at the Redlands/Cottonwood Booster as it was purchased and installed in-house. Michael Baker will perform research and a field investigation to gather the needed information for the design of the proposed motor, including engine speed, pump speed, driver coupling type and size, drive shaft type and size, and mounting size for existing angle drive.
- The existing power service will be upsized to accommodate the new 125 hp electrical motor.
- Michael Baker will present alternatives to relocate the electrical equipment lineup and design new cable tray, conduits, and wiring that incorporate the additional proposed VFD.
- The District mentioned that an exhaust fan may be required due to the heat generated by the new VFDs. At the site visit, Michael Baker will determine if there is an existing fan and the capacity of the fan. Michael Baker will determine if this fan has sufficient capacity or if additional HVAC design is required. Design of a new HVAC system can be performed under separate scope. This proposal assumes the existing HVAC system will be utilized and connected to a thermostat for automatic control.
- Additional effort excludes a hazardous material survey and additional permitting.

Deliverables include a revised Final Preliminary Design Report, Exhibit, and Cost Estimate (PDF Format).

**Additional Requested Budget = \$ 5,405**

**Task 3 – Final Design**

This task includes providing additional Final Design Services effort, beyond what was captured in the originally approved project scope of services, associated with incorporating the design changes described in Tasks 2 above, including details for mounting the proposed electric motor to the existing pump. Additional demolition sheets will be added, and Michael Baker will use photos to illustrate the demolition scope on the plans.

Sheet No.	Sheet Dwg	Sheet Description	Modified	New
1	G1	Title Sheet and Drawing Index		
2	D1	Demolition Details 1		x
3	C1	Civil Site Plan and Details	x	
4	E1	Electrical Symbols, Notes and Abbreviations		
5	E2	Single Line Diagram	x	
6	E3	Main and Distribution Switchboard Elevations and Floor Plan		
7	E4	VFD Elevations and Floor Plan	x	
8	E4	Electrical Site Plan	x	
9	E5	Electrical Power Plan	x	
10	E6	Electrical Conduit and Cable Schedule	x	
11	E7	VFD Control Schematic Diagram		
12	E8	AC & DC Power Distribution		
13	E9	RTU Inter Connection Diagram 1	x	
14	E10	RTU Inter Connection Diagram 2		
15	E11	Electrical Details	x	
16	I1	P&ID Legend		
17	I2	P&ID Diagram 1	x	

**Additional Requested Budget = \$ 9,110**

**Task 4 – Services During Bidding**

The additional effort includes responding to request for information related to the removal of the engine and preparing additional sheets for bid addendum and conformed documents related to the natural gas engine replacement.

**Additional Requested Budget = \$ 950**

**Task 5 – Other Direct Cost**

This task includes the additional direct cost.

**Additional Requested Budget = \$ 400**

**Summary**

The additional work to the original scope of work for the Preliminary and Final Design of the Grant Street Booster Electrical Replacement Project is proposed to be completed and invoiced on a time and materials basis for the estimated fee of \$ 19,905, as summarized below

<b>Task</b>	<b>Description</b>	<b>Amount</b>
1	Project Coordination	\$ 4,040
2	Preliminary Design	\$ 5,405
3	Final Design	\$ 9,110
4	Services During Bidding	\$ 950
	Direct Cost	\$ 400
<b>TOTAL AMOUNT</b>		<b>\$ 19,905</b>