

August 8, 2023

Ms. Liyan Jin, PE
Project Manager
City of Garden Grove Public Works Department, Water Services Division
13802 Newhope Street
Garden Grove, CA 92843

**SUBJECT: REPAIR AND REHABILITATION OF WATER STORAGE RESERVOIRS – PHASE II
ADDITIONAL SERVICES AMENDMENT**

Dear Liyan:

Ardurra is working to complete the design construction documents for the City of Garden Grove’s Repair and Rehabilitation of Water Storage Reservoirs – Phase II Project (Project). During the preliminary design process, additional services have been performed and additional final design services have been proposed that were not included in the original scope of work. As such, we are submitting this request for a budget increase to account for these additional services.

The specific services where additional efforts were/are required are as follows:

SCOPE OF WORK

TASK 2 PRELIMINARY DESIGN REPORT

TASK 2-5 PREPARE PRELIMINARY DESIGN REPORT

As part of the preliminary design process, Peterson Structural Engineers (PSE) performed additional services as part of the seismic analysis and on development of a structural solution at the Lampson Reservoir site that resulted from updated seismic values.

TASK 2-5A PDR PRESENTATION

At the request of the City, prepared for and presented to the City the findings and recommendations of the Final Preliminary Design Report and addressed City questions as part of a Teams meeting on July 20, 2023.

TASK 3 FINAL ENGINEERING

TASK 3L-4 LAMPSON – PREPARE PS&E

At the request of the City, the following additional tasks will be performed as part of preparation of the Lampson Reservoir construction documents:

- Design of improvements within the reservoir’s drain vault on the north side of the property. Improvements include repair of corroded pipe on the reservoirs’ drain lines and valving as well as repair of a leak on the copper level sensing line for Reservoir A.
- Rehabilitate the reservoirs’ sampling system.

- Rehabilitate existing cathodic protection (CP) systems and install new cathodic protection systems in the Lampson Reservoirs. This task includes a site visit by the corrosion engineer, RF Yeager Engineering. CP design documents will be provided at the milestones and to the requirements stated in the original scope of work for Task 3 – Final Engineering.
- Install electrical and instrumentation improvements including intrusion alarms on the existing reservoir hatches with remote monitoring and installation of a tank level sensing device which hangs from the reservoir roof such as an ultrasonic level sensor and its integrated into the City's SCADA system. This device will act as a redundant back up to the existing level sensing system which utilizes a pressure transmitter on the reservoirs' copper sensing lines. This task includes a site visit by the electrical and instrumentation engineer. Electrical and instrumentation design documents will be provided at the milestones and to the requirements stated in the original scope of work for Task 3 – Final Engineering.
- Provide additional design services related to the improvements to upgrade the roof-to-wall shear connection and the interior wall in Reservoir A.

TASK 3T-5 TRASK – PREPARE PS&E

At the request of the City, the following additional tasks will be performed as part of preparation of the Trask Reservoir construction documents:

- Replace the outlet valve on the East Reservoir, as well as replace the valve stem extensions on three (3) other valves on various reservoir piping.
- Rehabilitate existing cathodic protection (CP) systems and install new cathodic protection systems in the Trask West Reservoir. This task includes a site visit by the corrosion engineer, RF Yeager Engineering. CP design documents will be provided at the milestones and to the requirements stated in the original scope of work for Task 3 – Final Engineering.
- Install electrical and instrumentation improvements including the following:
 - Intrusion alarms on the existing reservoir hatches with remote monitoring.
 - Installation of site lighting based upon Attachment C.
 - Installation of an electrical gate operator as part of the fence replacement at the gate at the southeast corner of the site off Trask Avenue.

This task includes a site visit by the electrical and instrumentation engineer and evaluation of the existing electrical panel at the Trask site to determine if the panel can accommodate the additional loads. It is assumed that the existing panel can accommodate the existing loads. If additional design services are required to upgrade the electrical panel or related equipment, those services can be provided as an amendment to the scope of work. Electrical and instrumentation design documents will be provided at the milestones and to the requirements stated in the original scope of work for Task 3 – Final Engineering.

FEE

The fee for these additional services is described in Attachment A. A summary of fees by task is in the table below.

Task	Fee
Task 2 – Preliminary Design Report	\$21,780
Task 3 – Final Engineering	\$107,683
20% Contingency	\$25,892
Total	\$155,355

SCHEDULE

The proposed schedule to complete the project including the tasks described in the above additional services is shown in Attachment B. The schedule is based upon a Notice to Proceed for these additional services on August 14, 2023, and will be adjusted based upon the actual Notice to Proceed.

We appreciate your consideration of this request and look forward to working with you to bring this project to successful completion. Please advise if this prompts any questions.

Thank you for the opportunity to be of service to the City.

Sincerely,



Robert S. Weber, PE
Senior Project Manager

Attachments: A – Fee Breakdown of Proposed Additional Services
B – Updated Project Schedule
C – Conceptual Lighting Plan

Task/ Subtask	Task/Subtask Description	Ardurra Personnel								Subtask Labor Hours	Subtask Labor Cost	Direct Cost	Subconsultants		Sub Markup 5%	Total Cost
		Project Director	Sr. Project Manager (QC)	Sr. Project Engineer	Project Coordinator	Engineer II	E&I Sr. Project Engineer	E&I Engineer II	Admin				Corrosion	Structural		
		\$290.00	\$250.00	\$200.00	\$175.00	\$160.00	\$200.00	\$160.00	\$105.00				Yeager	Peterson Structural Engineers		
TASK 2	Preliminary Design Report															\$21,780
2	Lampson Site and Trask Site															\$21,780
2-5	Prepare Preliminary Design Report									0	\$0		\$7,500	\$375	\$7,875	
2-5.A	PDR Presentation	2		8	16					26	\$4,980		\$8,500	\$425	\$13,905	
TASK 3	Final Engineering															\$107,683
3L	Lampson Site															\$57,725
3L-4	Lampson - Prepare Design Plans, Specifications, and Cost Estimate (PS&E)	1	2	12	16	48	40	88	1	208	\$35,855	\$12,060	\$8,769	\$1,041	\$57,725	
3T	Trask Site															\$49,958
3T-5	Trask - Prepare Design Plans, Specifications, and Cost Estimate (PS&E)	1	2	8	16	36	48	104	1	216	\$37,295	\$12,060		\$603	\$49,958	
Total Professional Design Services															\$129,463	
Total Hours:		4	4	28	48	84	88	192	2	450						
Total Project Cost:		\$1,160	\$1,000	\$5,600	\$8,400	\$13,440	\$17,600	\$30,720	\$210		\$78,130	\$0	\$24,120	\$24,769	\$2,444	\$129,463

<i>AMENDMENT #1 SUBTOTAL FEE</i>	\$129,463
<i>20% CONTINGENCY FEE</i>	\$25,892
TOTAL NOT-TO-EXCEED AMENDMENT #1 FEE	\$155,355
<i>PREVIOUSLY AUTHORIZED FEE</i>	\$399,738
TOTAL NOT-TO-EXCEED FEE	\$555,093



City of Garden Grove
 Repair And Rehabilitation Of Water Storage Reservoirs Phase II - Overall Project Schedule
 August 2023

ID	Task Name	Duration	Start	Finish	2023												2024												2025																							
					Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct									
1	Ardurra Engineering Consulting Services	818 days	Wed 8/10/22	Fri 9/26/25	[Gantt bar for Ardurra Engineering Consulting Services]																																															
2	NTP	0 days	Wed 8/10/22	Wed 8/10/22	8/10																																															
3	Kick-off Meeting	0 days	Wed 9/21/22	Wed 9/21/22	9/21																																															
4	Preliminary Design	225 days	Mon 9/19/22	Fri 7/28/23	[Gantt bar for Preliminary Design]																																															
5	Data Compilation Review	2 wks	Mon 9/19/22	Fri 9/30/22	[Task bar]																																															
6	Develop Field Investigation Work Plan	1 wk	Mon 10/3/22	Fri 10/7/22	[Task bar]																																															
7	Field Investigation	16 wks	Mon 10/17/22	Fri 2/3/23	[Task bar]																																															
8	Prepare PDR	4 wks	Mon 2/6/23	Fri 3/3/23	[Task bar]																																															
9	City Review	10 wks	Mon 3/6/23	Fri 5/12/23	[Task bar]																																															
10	Final PDR	3 wks	Mon 5/15/23	Fri 6/2/23	[Task bar]																																															
11	City Review/PDR Recommendations Presentation	8 wks	Mon 6/5/23	Fri 7/28/23	[Task bar]																																															
12	Site 1 - Lampson	475 days	Mon 4/3/23	Fri 1/24/25	[Gantt bar for Site 1 - Lampson]																																															
13	Site 1 - Lampson Engineering Phase	200 days	Mon 4/3/23	Fri 1/5/24	[Gantt bar for Site 1 - Lampson Engineering Phase]																																															
14	Prepare 25% Design	3 wks	Mon 4/3/23	Fri 4/21/23	[Task bar]																																															
15	City Review	2 wks	Mon 4/24/23	Fri 5/5/23	[Task bar]																																															
16	Prepare 60% Design	6 wks	Mon 8/28/23	Fri 10/6/23	[Task bar]																																															
17	City Review	2 wks	Mon 10/9/23	Fri 10/20/23	[Task bar]																																															
18	Prepare 90% Design	3 wks	Mon 10/23/23	Fri 11/10/23	[Task bar]																																															
19	City Review	2 wks	Mon 11/13/23	Fri 11/24/23	[Task bar]																																															
20	Prepare 100% Design	2 wks	Mon 11/27/23	Fri 12/8/23	[Task bar]																																															
21	City Review	2 wks	Mon 12/11/23	Fri 12/22/23	[Task bar]																																															
22	Final PS&E	1 wk	Mon 1/1/24	Fri 1/5/24	[Task bar]																																															
23	Site 1 - Lampson Bid Phase	80 days	Mon 1/8/24	Fri 4/26/24	[Gantt bar for Site 1 - Lampson Bid Phase]																																															
24	Advertisement	10 wks	Mon 1/8/24	Fri 3/15/24	[Task bar]																																															
25	Questions Due	0 wks	Mon 1/22/24	Mon 1/22/24																																																
26	Addendum (1)	0 wks	Mon 2/19/24	Mon 2/19/24																																																
27	Bids Due	0 wks	Mon 3/18/24	Mon 3/18/24																																																
28	Award	6 wks	Mon 3/18/24	Fri 4/26/24	[Task bar]																																															



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ID	Task Name	Duration	Start	Finish	2023												2024												2025											
					Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
29	Site 1 - Lampson Construction Phase	185 days	Mon 5/13/24	Fri 1/24/25																																				
30	NTP	0 wks	Mon 5/13/24	Mon 5/13/24																																				
31	Construction	32 wks	Mon 5/13/24	Fri 12/20/24																																				
32	Record Drawings	4 wks	Mon 12/30/24	Fri 1/24/25																																				
33	Site 2 - Trask	525 days	Mon 9/25/23	Fri 9/26/25																																				
34	Site 2 - Trask Engineering Phase	110 days	Mon 10/9/23	Fri 3/8/24																																				
35	Prepare 25% Design	4 wks	Mon 10/9/23	Fri 11/3/23																																				
36	City Review	2 wks	Mon 11/6/23	Fri 11/17/23																																				
37	Prepare 60% Design	4 wks	Mon 11/20/23	Fri 12/15/23																																				
38	City Review	2 wks	Mon 12/18/23	Fri 12/29/23																																				
39	Prepare 90% Design	3 wks	Mon 1/1/24	Fri 1/19/24																																				
40	City Review	2 wks	Mon 1/22/24	Fri 2/2/24																																				
41	Prepare 100% Design	2 wks	Mon 2/5/24	Fri 2/16/24																																				
42	City Review	2 wks	Mon 2/19/24	Fri 3/1/24																																				
43	Final PS&E	1 wk	Mon 3/4/24	Fri 3/8/24																																				
44	Site 2 - Trask Bid Phase	80 days	Mon 10/14/24	Fri 1/31/25																																				
45	Advertisement	10 wks	Mon 10/14/24	Fri 12/20/24																																				
46	Questions Due	0 wks	Mon 10/28/24	Mon 10/28/24																																				
47	Addendum (1)	0 wks	Mon 11/25/24	Mon 11/25/24																																				
48	Bids Due	0 wks	Mon 12/23/24	Mon 12/23/24																																				
49	Award	6 wks	Mon 12/23/24	Fri 1/31/25																																				
50	Site 2 - Trask Construction Phase	160 days	Mon 2/17/25	Fri 9/26/25																																				
51	NTP	0 wks	Mon 2/17/25	Mon 2/17/25																																				
52	Construction	28 wks	Mon 2/17/25	Fri 8/29/25																																				
53	Record Drawings	4 wks	Mon 9/1/25	Fri 9/26/25																																				



