Change Order #02 - e-Builder Support and Additional Public Outreach Support

Task 12 -- PMIS Implementation

Staff Classification	First Renewal Year FTE	First Renewal Year Labor Hours	First Renewal Year Hourly Billable Rate ($)	First Renewal Year Labor Cost ($)	First Renewal Year Comment	Second Renewal Year FTE*	Second Renewal Year Labor Hours	Second Renewal Year Hourly Billable Rate ($)	Second Renewal Year Labor Cost ($)	Second Renewal Year Comment	Third Renewal Year FTE*	Third Renewal Year Labor Hours	Third Renewal Year Hourly Billable Rate ($)	Third Renewal Year Labor Cost ($)	Third Renewal Year Comment
Senior Engineer	0.3	560	$ 182	$ 101,920	Half-time for 7 months	0.3	624	$ 188	$ 117,312	Half-time for 5 months, then 20%		0	$ 193	$ -	
Supervising Engineer	0.1	280	$ 232	$ 64,960	Quarter-time for 7 months	0.2	312	$ 239	$ 74,568	Half of above		0	$ 246	$ -	
Technician II	0.6	1120	$ 91	$ 101,920	Full-time for 7 months	0.5	1024	$ 93	$ 95,232	Full-time for 5 months, then 20%	0.5	960	$ 96	$ 92,160	Half-time for year
Technician III	0.1	192	$ 115	$ 22,080	10% for year	0.1	192	$ 119	$ 22,848	10%		0	$ 122	$ -	
Subtotals -- by Yr	1.0	1960		$ 290,880		1.0	1960		$ 309,960		0.5	960		$ 92,160	
Other Direct Costs				$ 30,000		Other Direct Costs			$ 20,000		Other Direct Costs			$ 5,000	
Total for Year				$ 320,880		Total for Year			$ 329,960		Total for Year			$ 97,160	

(Note: Includes only AECOM costs for implementation. No E-Builder software or support costs are included.)

Total by Year

First Renewal Year	$320,880
Second Renewal Year	$329,960
Third Renewal Year	$97,160
Total	$748,000

Task 10 -- Additional Public Outreach Support

Staff Classification	First Year - Actual through August 2016 FTE	First Year - Actual through August 2016 Labor Hours	First Year - Actual through August 2016 Hourly Billable Rate ($)	First Year - Actual through August 2016 Labor Cost ($)	First Year - Actual through August 2016 Comment	First Renewal Year FTE	First Renewal Year Labor Hours	First Renewal Year Hourly Billable Rate ($)	First Renewal Year Labor Cost ($)	First Renewal Year Comment	Second Renewal Year FTE*	Second Renewal Year Labor Hours	Second Renewal Year Hourly Billable Rate ($)	Second Renewal Year Labor Cost ($)	Second Renewal Year Comment	Third Renewal Year FTE*	Third Renewal Year Labor Hours	Third Renewal Year Hourly Billable Rate ($)	Third Renewal Year Labor Cost ($)
Director of Communications/ Public Outreach		0	$ 111	$ -		0.0	0	$ 111	$ -		0.0	0	$ 115	$ -		0.0	0	$ 118	$ -
Manager of Communications/ Public Outreach		0	$ 97	$ -		1.0	1920	$ 97	$ 186,240	Manager level required as team grows	1.0	1920	$ 100	$ 192,000		1.0	1920	$ 103	$ 197,760
Communications/Public Outreach Specialist IV		0	$ 91	$ -		1.0	1920	$ 91	$ 174,720	Adrian and Lanii's current level	1.0	1920	$ 93	$ 178,560		1.0	1920	$ 96	$ 184,320
Communications/Public Outreach Specialist III		0	$ 86	$ -		1.0	1920	$ 86	$ 165,120		1.0	1920	$ 89	$ 170,880		1.0	1920	$ 92	$ 176,640
Communications/Public Outreach Specialist II		0	$ 80	$ -		2.0	3840	$ 80	$ 307,200		2.0	3840	$ 82	$ 314,880		2.0	3840	$ 84	$ 322,560
Communications/Public Outreach Specialist I		0	$ 74	$ -		1.0	1920	$ 74	$ 142,080	Ebony's current level	1.0	1920	$ 77	$ 147,840		1.0	1920	$ 79	$ 151,680
Subtotals -- by Yr	0.0	0		$ -		6.0	5760		$ 975,360		6.0	5760		$ 1,004,160		6.0	5760		$ 1,032,960
Other Direct Costs						Other Direct Costs			$ 45,000		Other Direct Costs			$ 35,000		Other Direct Costs			$ 25,000
govDELIVERY						govDELIVERY			$ 71,019		govDELIVERY			$ 62,134		govDELIVERY			$ 62,134
Total for Year				$ 376,338		Total for Year			$ 1,091,379		Total for Year			$ 1,101,294		Total for Year			$ 1,120,094
Original Budget				$ 496,353		Original Budget			$ 597,645		Original Budget			$ 604,225		Original Budget			$ 611,301
Total Increase over Budget				$ (120,015)		Total Increase over Budget			$ 493,734		Total Increase over Budget			$ 497,069		Total Increase over Budget			$ 508,793
																Total for Contract			$ 3,689,105
																Original Budget			$ 2,309,524
																Total Increase over Budget			$ 1,379,581

Attachment A - Table 1 - Summary of Task 4 Change Order Items

Item	Description	Budgeted Hours	Actual Hours	Difference	Estimated Cost of Difference	Reason for Difference
1	GIS Data Processing - 8 Weeks Expected 2 AECOM Staff Full Time	640	1040	400	$40,000	Analyzed GIS and discovered numerous issues with piping and hydrant files. Provided a detailed breakdown to DWM GIS group. GIS group was unable to address all of the issues prior to commencement of model network development. Thus, network development required more effort than anticipated.
2	SCADA System Reporting, Data Gathering and Analysis	0	200	200	$28,000	Worked with DWM to develop SCADA reporting needed for model calibration. Discovered anomalies in the SCADA information received from DWM and determined that an extensive verification of the distribution system SCADA information was needed. Checked 82 distribution system SCADA monitoring locations that were flow or pressure related and determined that only 32 - 42 were working correctly (40-50 %). Because comparison to SCADA is an essential part of calibrating the model, the impacts of using incorrect SCADA information for model calibration are severe. AECOM addressed some of the known SCADA issues by providing monitoring in lieu of SCADA or developing methods to adjust the SCADA information where possible.
3	12 Week Field Testing Program Expected 3 AECOM Staff Full Time	1440	1926	486	$68,040	Changed testing plan to accommodate SCADA reporting issues. This was due to the fact that having SCADA information is critical to calibrating with hydrant flow tests and AECOM was unsure if/when SCADA reporting would be implemented. Additional testing conducted. C-Factor testing was originally 30, but ended up doing 65 attempted tests at 45 locations due to difficulties encountered in the field such as unknown status of closed valves, inoperable valves, and inaccurate GIS information. Hydrant flow testing was originally 60 tests, but actually performed 86 tests to provide better coverage in the system. Limited availability of DWM Valve Truck Crew (9 AM - 3 PM). Typically AECOM personnel would work from 8 AM - 5 PM thus conducting additional testing. However, DWM field personnel were typically only able to be on site from 9 AM - 3 PM, thus limiting the avaiable hours per day for testing. AECOM personnel coverage to accommodate DWM personnel scheduling conflicts. DWM staff were required to miss numerous days due to training, unexpected system emergencies, and other unexpected absences.
4	Pump Station Testing - Data Gathering and Analysis	0	120	120	$12,000	Pump station testing was determined to be necessary due to lack of information on two major ground storage repump stations and possible incorrect information on two major booster stations.
5	Pump Station Monitoring - Data Gathering and Analysis	0	80	80	$11,200	Collecting additional data at pump stations for confirmation of pump performance.
	Subtotal				**$159,240**	
6	Model Network Updates from Updated GIS	0	800	800	$80,000	Addresses current outstanding questions on GIS used to develop model network and known recent projects that are not currently in the GIS.
7	Additional Field Testing	0	400	400	$56,000	If needed for additional model calibration or if needed due to SCADA system failure. Includes allowance for field testing equipment and expenses.
8	Additional Field Investigations	0	400	400	$56,000	If needed for field investigation of system anomalies such as closed valves, system connectivity, confirmation of system attributes such as pipe diameter, identification of left handed valves. Includes allowance for field testing equipment and expenses.
9	Additional Model Calibration	0	800	800	$80,000	Addresses additional calibration needed due to model network updates and additional field testing or if calibration is more difficult than anticipated due to lack of accurate GIS or lack of knowledge of closed valves in the system.
10	Assistance with Analyzing and Correcting Issues in GIS Data, SCADA Information, Facilities Data (Pumps/Tanks) and Distribution System	0	800	800	$80,000	To provide support for the following tasks: Analyzing and correcting SCADA system data collection and interpretation issues. Correcting system connectivity issues in GIS. Identifying and correcting system component attribute data in GIS. Correcting suspected closed valves in distribution system. Determining pressure zone boundary issues. Correcting facilities data including tank and pump station data.
	Subtotal				**$352,000**	
	Total				**$511,240**	