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Building Automation System Design Services

2021-09-24

To: Jeremiah Varco, Lake County Facilities Manager
From: Grant Wichenko, Appin Associates

526.999.ADMN – LAKE COUNTY CONSOLIDATED PROPOSAL TO COVER MULTIPLE PROJECTS FOR FISCAL YEAR 2022

This proposal covers work relating to controls integration via BACnet, mechanical upgrades involving controls and energy efficiency improvements and/or implementation and reporting. Appin's role in this work involves spec writing, document review, reports and manuals, mark-up of drawings and documents, work on graphics, construction administration and commissioning.

Appin will work with the Facilities Operations staff at Lake County and various consultants hired to perform tasks to implement networked controls for mechanical equipment and other devices and to connect equipment to the BAS wherever possible within the campus complex. This enables the County to maximize energy savings, leads to increased efficiency and effectiveness of the Facilities Operations Department and contributes to the sustainability of the built environment.

Appin's role in design is to create the Division 25 Controls Specification and ensure that it fits with the Design Consultant's specification. All documents and drawings are reviewed and marked up by Appin to ensure that controls are identified and/or referenced wherever necessary and that all equipment that has the capacity to be integrated into the BAS is provided with the appropriate BACnet interface to make that connection. Appin performs the task of Construction Administration for the controls, reviewing submittals, resolving IP requirements and setting instance numbers and point names to ensure that they comply with Lake County standards. Following construction and/or installation, Appin commissions the controls and reviews the graphics that will be used by Facilities Operations to control the devices and commissions the controls. In addition, Appin will tabulate and report on meter information to enable energy usage data to be available in a timely manner and usable format.

Appin will produce reports and manuals that detail Lake County standards and procedures relating to the BAS to ensure that future projects conform to the standards developed from the experience of Lake County Facility Operations on past BAS projects.

The following is a summary of the work to be performed by Appin as covered by this proposal for this fiscal year:

- Design, Construction Administration and Commissioning BAS services to add BACnet Interfaces as part of the Depke Generator Relocation Project.
- Construction Administration and Commissioning BAS services to add BACnet Interfaces as part of the new Round Lake Beach RTU Replacement Project and the Admin Tower Fire Pumps Replacement Project.
- Provide BAS Construction Administration and Commissioning services to add BACnet Interfaces to the Eaton UPS, Square D Trip Units and the Liebert CRAC unit plant as part of the IBM Mainframe M/E/P Infrastructure Project.
- Work on eSight Energy Monitoring Maintenance and Reporting for Fiscal Year 2021-22 and on systems and manuals for on-going Maintenance and Reporting.
- Create a Project Manual that documents the BAS Infrastructure requirements so future projects will meet this new Lake County standard.

The total hours for Appin to complete these projects is estimated below and assigned to the phases of the work based on experience with similar projects:

Staff Position	Spec Writing	Document Review and Mark-up	Construction Admin	Report and Manual Writing	Commissioning	Total Hours	Total Weeks based on a 40 hour week
Grant Wichenko	100	200	350	215	250	1,115	27.875
Engineering Associates	20	15	20	120	40	215	5.375
Admin Staff	15	22	40	45	30	152	3.8

Grant Wichenko – 1,115 hrs @ \$100 per hour \$111,500.00
 Engineering Associates – 215 hrs @ \$70 per hour \$15,050.00
 Administrative time – 152 hrs @ \$40.00 per hour \$6,080.00

Total Fees **\$132,630.00**

Travel expenses:

This proposal includes the cost of 3 site visits to Lake County during this Fiscal Year lasting approximately 10 working days each.

These estimates are based on checking actual booking costs for a two week trip in late 2021 and 2022. There are no direct flights available in the foreseeable future. Flights with stop overs increase the possibility for delays and additional costs. No allowance has been made for the possibility of these additional costs.

It should be noted that the cost of flights and car rentals have more than doubled since Appin last travelled to Waukegan.

Return flight – Winnipeg to Chicago (no direct flights available for dates checked) \$2,200.00
 Extended stay hotel \$800.00
 Car rental – lowest cost available \$1,500.00
 Meals – 14 days @ \$95.00 a day, based on government travel rates for USA \$1,300.00
 Incidentals (gas, tolls, etc.) 14 days @ \$17.30 a day, based on government travel rates for USA \$242.20
 Approved Covid testing required for travel (\$250 in Canada, \$350 in USA) \$600.00

Total estimated cost per 14 day site visit \$6,642.20

Total travel expenses (3 visits x \$6,640/visit = \$19,920.00) \$19,920.00

TOTAL COST FOR THIS PROPOSAL: \$152,550.00

The numbers in this proposal represent upset limits. Appin’s invoices will be issued based on itemized staff time records and actual receipts for reimbursable expenses. It is likely that travel costs will go down significantly once the pandemic is under control.

Please call me if you have questions regarding this proposal.

Grant Wichenko



Appin Associates
 GW/jh