

Commissioning Services Proposal

Prospect Heights School District 23

October 31, 2018

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Brian Rominski
Director of Buildings and Grounds
Prospect Heights School District 23

Re: School District 23 Commissioning

Dear Mr. Romisnki:

[Per your recent request, this document revises our original 10/15/18 retro-commissioning proposal to reflect the following: (1) In lieu of retro-commissioning of existing systems, the district would like to pursue design phase and construction phase commissioning of new systems only, as defined in the current Amsco Engineers design documents (latest set is 50% CD dated 10/31/18); (2) All services are to be limited to the Eisenhower School only – the Ross Sullivan and McArthur schools are not to be included. Changes are shown in bold text and strike-through and new pricing tables have been provided.]

Per your recent communications with Mandeep Singh of our office, E Cube is pleased to present its proposal to provide retro-commissioning services for the Prospect Heights School District 23. E Cube is ideally suited to this project – we are confident we would be a great fit and provide significant benefit for reasons summarized below.

Independent Cx Specialist: Specializing solely in comprehensive building systems commissioning and facility optimization for over thirty years, E Cube provides highly effective services while retaining a truly independent, third party relationship with the project team – a hallmark of our approach. Commissioning comprises 90% of our workload and we have successfully completed over 600 diverse projects nationwide, including over 260 LEED projects. Many of these were under master service agreements and with repeat clients. As a nimble and innovative firm, E Cube is able to tailor services to our clients' needs in a timely, responsive and cost-effective fashion, providing excellent results.

Extensive Relevant Experience: E Cube is a national leader in providing high-quality retro-commissioning and energy performance analysis services. We have completed numerous large retro-commissioning projects nationwide, helping our clients resolve system operation issues, improve energy-efficiency, optimize building performance and reduce operating costs. Related to this, we have Master Service Agreements (MSAs) with several client to allow them to utilize our staff for on-going, as-needed trouble-shooting efforts.

Examples of our recent and relevant retro-commissioning project experience include:

- University of Chicago Hospitals, Central CHW Plant Energy Audit: Chicago, IL, 12,000 Tons
- Northwestern Memorial Hospital, Central CHW Plant Energy Audit: Chicago, IL, 2M SF
- Great Wolf Lodge Resort, Retro-Commissioning: Gurnee, IL, 430,000 SF
- 2550 N. Lakeview Luxury Condominiums, Retro-Commissioning: Chicago, IL, 1.2 Million SF
- Fourth Presbyterian Church, Gratz Center, Retro-Commissioning: Chicago, IL, 200,000 SF

Approach: Having built our process around industry guidelines such as ASHRAE Guideline 1-1996 (developed, in part, with material provided by E Cube), ASHRAE Guideline 0-2005, ASHRAE Standard 202, and the ASHE Health Facility Commissioning Guideline, and our own experience, we are thoroughly

familiar with what is necessary to achieve a high-quality facility.

Our time-tested commissioning approach ensures that the systems in the scope of work operate in accordance with the design intent, allowing for a successful and smooth transition to occupancy. We draw upon a proven and integrated approach based on the core principles of sustainability, occupant experience, and effective facility operations. We emphasize teamwork, proactive execution, hands-on fieldwork, and close coordination with the design, construction and facility management teams.

Multi-disciplinary Cx Team: Teamwork is a core principle at E Cube. Our diverse staff of engineers, architects, facility managers, commissioning specialists, test and balance technicians, and building automation technicians brings a combined 600 years of experience. This mix of technical engineering expertise, design knowledge, and hands-on field experience gives us a unique ability to efficiently identify and troubleshoot a wide range of issues.

For this project, we have assembled an industry leading, dedicated team including:

- Tom Vannatta, CPMP, HCC, LEED-AP – Senior PM / Technical Authority – 30 years' experience
- Mandeep Singh, CCP, LEED-AP – Project Manager – 25 years' experience
- Jim Radzienda – Assistant Project Manager / Commissioning Specialist – 35 years' experience
- Jason Hendrixson, P.E., CCP, LEED-AP – Project Engineer – 10 years' experience
- Steve Guinard and Mike Romito – Commissioning Specialists – 30 years' experience each

Mandeep Singh will be the main point of contact. He is well regarded for his ability to lead teams. Under his leadership, each team member will be aware of the project's status and progress, providing depth of knowledge and flexible client support. We are committed to providing reliable, efficient, high-quality services, focused on achieving your goals and encouraging the same in our colleagues.

Thank you for considering E Cube for this project. Please feel free to contact us if you have any questions or concerns. We are happy to tailor this proposal to meet your needs and budgets as this process moves forward. We look forward to the possibility of assisting School District 23.

Sincerely,



Joseph P. Havey, CEM®, MS RECM, RPA®, FMA®, SMA®, LEED® AP
Chief Executive Officer

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Scope of Work

Project Understanding

We understand Prospect Heights School District 23 is comprised of three separate school facilities: Ross-Sullivan, Eisenhower and McArthur. **Based on design documents developed in 2013, all three facilities were renovated in approximately 2014 with a new ground-source geothermal piping loop serving new water-source heat pumps and heat pump RTUs. The District is experiencing issues with some equipment installed as part of that 2014 project and has engaged AMSCO Engineers to develop a revised design scheme to address those issues. The District wishes to perform design and construction phase commissioning on this new 2018 re-design.**

Base Services

Our understanding of the scope of commissioning services is to review design documents and review installation and operation of systems included in the 2018 re-design in order to provide a high level of confidence these systems perform according to the new design intent.

The scope of services includes the Eisenhower School only – The McArthur and Ross Sullivan Schools are not included.

The scope of services does not include any work, troubleshooting, analysis, etc. associated with existing systems: geothermal loop (piping, water quality, performance, etc.), associated pumps and any other existing-to-remain equipment. E Cube is not liable for any pre-existing conditions on this project.

The following is a list of commissioning tasks that will be completed for this project.

Task Description
Design Phase
<ul style="list-style-type: none"> Review Design Documents and issue a design review report with relevant comments. Provide one back-check to help ensure incorporation of comments in one subsequent design document set. Attend up to two, 1-hour design phase meetings. Develop Commissioning Specifications to be inserted into the bid documents by the design team Develop a Commissioning Plan
Construction Phase
<ul style="list-style-type: none"> Coordinate and execute the Commissioning Process Update and expand the Commissioning Plan Conduct a Commissioning Kick-Off meeting at the beginning of the construction phase Conduct periodic commissioning meetings (once a month) Review submittals for systems/equipment under the scope of work Maintain a master issues log (Field Observation Notes). Distribute regularly. Maintain a Commissioning Status Report. Distribute regularly. Develop and complete Commissioning Pre-Functional Checklists. Conduct Pre-functional (installation verification) procedures. Review and witness a portion of contractor startup of major equipment. Conduct a 10% random sample review of BAS point-to-point testing results. Installing contractor to complete 100% testing prior to this review. Conduct a 10% random sample review of Test and Balance results. Installing contractor to complete 100% testing prior to this review.

- Develop Functional Checklists and conduct Functional Procedures with assistance from installing contractors.
- Develop a final Commissioning Report

Base Systems and Equipment

The following systems and equipment will be included in the scope of work.

The goal is to review a representative sample of each type of unit to evaluate proper installation and performance. This scope does not constitute an exhaustive effort to review all installed equipment / systems and spaces served.

Please note: For most packaged equipment with integral (local) controls, assistance from manufacturer's controls technicians will be needed in order to gain access to and manipulate these controls for the purposes of testing. Installing contractor shall procure services from the appropriate parties to complete this work.

Eisenhower School ONLY

Description	Total Quantity	Sampling Rate	Quantity to be Commissioned
Cabinet Heat Pumps (Bard)	16	25%	3
Vertical & Horizontal Heat Pumps (Climate Master)	14	25%	3
Rooftop Units (Climate Master)	2	100%	2
Exhaust Fans	7	100%	7

Schedule

The scope of work and fee estimate is based the following estimated schedule. Please note that any significant changes to this schedule directed by the Owner, may require additional fees, subject to Owner's pre-approval.

Phase	Start	End
• Design Phase		Nov 2018
• Construction Phase	Jan 2019	Jun 2019
• Final Report:	Aug 2019	Aug 2019

Fee Summary

Fee

The following tables summarize our estimated fees for the base scope of work. The values listed are based on a Fixed Fee.

\$ 26,500 Twenty-Six Thousand, Five Hundred Dollars

Expenses

E Cube, Inc. makes a point of aggressively managing reimbursable expenses so that project costs may be used for more productive purposes such as additional time on-site working with the contractors. With this goal in mind, we re-allocate any remaining expense budgets to additional field time as appropriate. Expenses will be billed at their direct cost with no markup and are included in the Fee Summary above.

Rates

The following rates will be used for tasks included in the scope of work on this project.

Staff Position	Staff Name	2018	2019	2020	2021
Principals, Project Executives	Joe Havey Leonard Rozek	\$216	\$224	\$233	\$243
VPs, Senior Associates	Tom Vannatta Mandeep Singh Trey King	\$186	\$194	\$201	\$209
Senior Project Managers	David Anderson	\$171	\$178	\$185	\$192
PMs, Associates, Senior Engineers	Bill Brown Jason Hendrixson Matt Worthington	\$159	\$165	\$172	\$178
Staff Engineers & Analyst, Level III	Jim Radzienda Mike Romito Steve Guinard	\$154	\$160	\$166	\$173
Staff Engineers & Analyst, Level II	Tally Metzger	\$152	\$158	\$164	\$171
Cx Engineer	Catherine Dressler Chris Cunningham Juan Guardian	\$100	\$104	\$108	\$112
Project Resource Manager	Jody Baca John Magnuson	\$72	\$75	\$78	\$81

Assumptions and Clarifications

General

1. E Cube is an independent Commissioning Authority (CxA), not the project Engineer of Record (EOR) or Construction Manager (CM). As such, E Cube is not responsible for design concept, design criteria, system sizing, compliance with codes, design or construction scheduling, cost estimating or construction management.
2. This quotation does not include MEP coordination. Coordination of MEP trades including items such as planning for contractor testing, startup and operation, balancing etc. as well as any related scheduling, meetings, and communications necessary for the same shall be by the General Contractor.
3. This quotation is based on the currently available construction schedule, specifications and plans provided by the Owner/Construction Team.
4. Only the systems installed under the Scope of Systems presented in this document will be commissioned.
5. An addition of equipment or an increase in complexity to the scope (after approved Cx contract) shall result in an incremental increase in commissioning fees, subject to owner's pre-approval.
6. This quotation is based on the estimated allocation of hours shown in the fee summary and/or level of effort tables. Hours may be moved between tasks as needed and appropriate to meet the project's needs.

7. This quotation is based on all work performed during normal business hours: Monday through Friday from 7AM to 5PM. Any work required after these hours shall be billed at an agreed upon differential.
8. The scope of services does not include any work, troubleshooting, analysis, etc. associated with existing systems: geothermal loop (piping, water quality, performance, etc.), associated pumps and any other existing-to-remain equipment. E Cube is not liable for any pre-existing conditions on this project.

Design Phase

1. This quotation assumes design documents are provided at a level of completeness appropriate for the given phase of design (i.e. SD, DD, CD). Any additional reviews required as a result of incomplete documents shall be at an additional cost. Such occurrences shall be presented to the Owner for approval prior to proceeding with work.
2. Design review services described in this proposal do not constitute a peer review. As such, review/verification of system sizing, loads, etc. are not included in the scope of work.

Construction Phase

1. E Cube is not responsible for any construction means and methods, site safety, or site security.
2. E Cube will not authorize and/or approve any changes in construction schedule, cost (including change-orders), or contractual requirements, and has no contractual authority to do so.
3. Owner and Construction Team shall coordinate site-visit logistics.
4. E Cube is not responsible for schedule impacts due to incomplete systems or unforeseen problems or delays.
5. Construction Team shall coordinate meeting invites, attendance, participation from their subcontractors.
6. This quotation is based on equipment vendors (including owner supplied equipment) planning for, performing, and properly documenting the results of their respective factory-prescribed start-up procedures.
7. Functional procedures will be started upon systems being ready. This shall require written notice from Construction Team. **Systems that are not ready for successful completion of functional procedures after being represented as ready by the contractor will be subject to additional incurred costs (hourly rate(s), travel and other expenses) if additional work or return visits are required.** These situations will be documented and reported to the Owner/Construction Team for authorization to proceed.
8. This quotation is based on full cooperation from contractors during all commissioning procedures. Contractors shall provide experienced technicians, adequately knowledgeable of the project.
9. The relevant contractors shall provide any special / proprietary tools, test equipment and software as necessary during the commissioning process and/or as required by the commissioning specifications.
10. This quotation is contingent upon providing E Cube with no-cost access to the Building Automation System operator workstation for local and remote monitoring. Appropriate login ID's and passwords shall be provided by the BAS contractor to allow for complete monitoring and commissioning. Web-based access is acceptable and often preferred.
11. Should specialty data logging information be desired (particularly medium voltage electric values and/or power quality event recording from operating equipment), E Cube will notify Owner/Construction Team as soon as possible and will proceed only after obtaining authorization for any additional cost.
12. Once deficiencies are noted, reported and commented on and the responsible parties have provided written notification that the deficiencies have been resolved, E Cube will be available at no additional charge for **ONE (1) additional effort to confirm that the deficiencies have been resolved. E Cube's scope does not include further efforts should deficiencies remain unresolved. All work beyond the scope of this proposal will be at an added charge.**
13. E Cube will assist the Cx Team and work with the Owner/Construction Team to develop training requirements and guidelines for the project. Coordination and scheduling of training sessions shall be a joint effort by the Cx Team, and the Owner. E Cube will advise on coordination and scheduling of training sessions. E Cube will provide planning, guidance and program overviews. Contractors shall provide training agendas and schedules for review and approval by the project team. E Cube will not necessarily attend the actual training sessions.
14. This quotation assumes that any utility power outage simulation (blackout) testing is NOT included.

Fee and Payments

1. This proposed fee is based upon E Cube's interpretation of the project's needs and our estimation of the required level of effort in person-hours and trips to the project site. This is based on our experience with adding value to projects of this type. Should you have any questions or concerns regarding our interpretation of the desired scope of services, please do not hesitate to contact us to discuss these matters.
2. Payment Terms: E Cube will invoice monthly, net 30 without retainage for labor and expenses for that month. E Cube will supply the standard AIA G702 and G703 forms with each invoice. Invoices that are not paid in full after 60 days will bear a 1 ½ % late charge against all outstanding balances until paid in full.
3. Reasonable and normal reimbursable expenses including long distance calls, printing, reproduction, shipping, equipment rental, and mileage expenses, will be billed at their direct cost with no markup, and are estimated in this document. Project-related expenses will be itemized and invoiced at direct cost. Vehicle charges will be invoiced at \$0.545/mile for project-related travel in 2018 or IRS approved rate, whichever is lower.

Approval

Submitted by:

Company: E Cube, Inc.
Date: October 31, 2018
Authorized Agent: Joseph Havey, CEM®, MS RECM, RPA®, FMA®, SMA®, LEED® AP
Title: CEO



Signature

Offer is good for 90 days from date of proposal

Approved by:

Company: _____
Date: _____
Authorized Agent: _____
Title: _____

Signature

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