



Facilities & Technology Committee

February 6, 2024
6:30PM

Legislative Center's Gathertorium
200 N. Main Street
Sycamore, Illinois 60178

- 1. Roll Call**
- 2. Approval of Agenda**
- 3. Approval of Minutes**
 - a. Minutes from November 7, 2023
- 4. Public Comments**

Any member of the public may address the Committee for up to 3 minutes on any topic of their choosing. There will be no yielding of time to other members of the public and agenda time for public comments is limited to 30 minutes in total.

- 5. Presentations/Discussions**
 - a. Energy Audit Presentation by Alpha Controls
- 6. Old Business**
- 7. New Business**
- 8. Adjournment**

DeKalb County Government
Sycamore, Illinois

**Facilities & Technology Committee Minutes
November 7, 2023**

The Facilities & Technology Committee of the DeKalb County Board met on Tuesday, November 7, 2023, in the Legislative Center's Gathertorium in Sycamore, Illinois. Chair Ellingsworth Webb called the meeting to order at 6:30 p.m. Those members present were Scott Campbell, Laurie Emmer, Rhonda Henke, Kathy Lampkins, Stewart Ogilvie, and Chair Ellingsworth Webb. All members were present. Others present included County Administrator Brian Gregory, Facilities Management Director Jim Scheffers, and Administrative Analyst Liam Sullivan.

APPROVAL OF THE AGENDA

Laurie Emmer moved to approve the agenda as presented. Kathy Lampkins seconded the motion, and the motion was approved.

APPROVAL OF THE MINUTES

Stewart Ogilvie moved to approve the October 3, 2023 minutes. Laurie Emmer seconded the motion, and the motion was approved.

PUBLIC COMMENTS

There were no public comments.

PRESENTATIONS/DISCUSSIONS

Energy Audit Presentation by Alpha Controls

Jim Scheffers provided background on DeKalb County's relationship with Alpha Controls and stated that he requested Alpha Controls investigate opportunities for energy savings and provide a proposal to the county.

Brent Bernardi and Jason Fidler of Alpha Controls reviewed details of the energy solutions proposal that was distributed to the committee members. Bernardi referenced the U.S. Environmental Protection Agency's Energy Star rating program and stated that the proposal process involved the modeling of each of the county's buildings by an engineer. Bernardi added that analytics were used to find opportunities for savings and that these savings, along with incentives provided by the utility companies, will result in the proposed investment paying for itself. He stated that the methods outlined in the proposal will reduce equipment run time, which will extend equipment life. He added that this is an additional savings aspect that is not included in the overall savings estimate.

Bernardi addressed committee member questions regarding the county's current equipment and a performance guarantee. He stated that Alpha Control's patented technology will supplement the county's current equipment and that there are not any performance guarantees. Bernardi reviewed the project costs outlined in the proposal and stated that the project would pay for

itself in less than five years. He added that history gives them confidence that the quoted savings are attainable and that he can provide references to support this.

Scott Campbell inquired about the impact of delaying the project for a year and Bernardi responded that it would just be a lost opportunity and that the pricing would likely remain the same, although he would verify this with the contractors.

Brian Gregory expressed concern over the potential savings realized through possibly unfavorable temperature adjustments and Bernardi emphasized that comfort is part of the objective and that the county will define the temperature targets. Bernardi outlined that Alpha Controls will recommend a change in targets if they feel an adjustment is needed for optimum results and that savings come more significantly from after-hours control and adjustments the system will make for typical occupancy levels.

Bernardi reviewed the county buildings that would be part of the program, stating that the Administration Building is not included because there are not enough potential savings to justify cost. He added that there are some savings that can be realized for the Administration Building, but he reiterated that inclusion of this building does not make financial sense within the context of this project. Bernardi suggested that inclusion of the Administration Building could be further explored if the county so desired.

Chair Webb noted that the committee will have some additional discussion regarding the proposal and Bernardi thanked the committee for their consideration.

OLD BUSINESS

Chair Webb provided an update of the bathroom remodel scheduled for the Administration Building in 2024. He mentioned that plan details were shared during the recent Public Building Commission meeting. Brian Gregory added that the men's and women's facilities will switch locations and that the facilities will be ADA compliant and more functional. He stated that he will send the plan details to the committee members for their review.

Jim Scheffers mentioned that there have been positive results with the plumbing repairs done in the jail to correct the water temperature control issues. He added that if the system continues to work well, the more costly repairs will not be needed.

NEW BUSINESS

No items

ADJOURNMENT

It was moved by Scott Campbell and seconded by Laurie Emmer to adjourn the meeting. The motion was carried, and the meeting adjourned at 7:38 p.m.

Respectfully Submitted by Chris Klein, Recording Secretary



DeKalb County
200 North Main Street
Sycamore, Illinois
60178

December - 2023



Get \$219,091 in utility incentives*, improve temperature control and save \$111,048 per year.

The annual savings alone would be roughly equivalent to building 26 high quality park benches every year.

Target: Address excessive energy costs and reduce temperature and humidity variations to boost the Energy Star® Score.

- As compared to current usage this proposal will save 16% on electricity and 11% on natural gas costs annually.
- Reduce excessive equipment run time operation to extend equipment life.
- Environmental conditions will stabilize; temps will be with 2 degrees of set point. All graphics to be browser based and accessible remotely.

Modern hardware will enhance the monitoring and regulation of indoor air quality by providing more sophisticated humidity control, matching today's optimal energy efficient building codes. Chapter 22 of the ASHRAE handbook cites the impact maintaining low humidity has on reducing the transmission of infectious disease. Variable frequency drives are more resistant to seismic events than single speed drives - so, especially for government services that that need to be available during an emergency, VFDs can preserve vital services during an earthquake. Dry air is easier to heat and cool, therefore by managing and maintaining low humidity indoor air quality will be improved and energy costs will be reduced.

Patented technology will be deployed that uses a 19-level mathematical matrix to enhance HVAC control systems to significantly enhance energy savings in 392,521 square feet of building space. Among the more than 260 automated features will be automated integration of schedules into the Building Automation System to create custom ramp times for each of the 393 individual pieces of HVAC equipment. In addition, improvements shall be made to improve economizer, relative humidity control, latent energy load management as well elimination of simultaneous heating and cooling. As a result, the building will experience reduction of utility demand costs as well.

An energy savings plan with optimal operation has been described below in financial terms. We have a complete plan to manage the savings shown below as the variations reflect elements of human behavioral choices regarding building operation.

Financial: Monthly payment is estimated at \$20,160 for seven years, with a one time incentive payout of \$219,091
An analysis of the 20-year life cycle cost indicates the cost of doing nothing is \$200,401

| | Optimal Operation | Basic Operation |
|-----------------------------|-------------------|-----------------|
| Annual Cost Savings | \$111,048 | \$96,612 |
| Utility Incentives | \$219,091 | \$191,974 |
| Simple Payback Period | N/A | N/A |
| Net Present Value | \$200,401 | \$15,057 |
| Savings to Investment Ratio | 1.16 | 1.01 |

Action: Upon approval of the grant application for utility incentive programs, an intergovernmental Cooperative Purchasing Agreement with Omnia Partners can be used to procure this project.

Status: We have prepared a detailed specification for the project to implement ventilation improvements and temperature controls upgrades. We propose to provide equipment operation that will reduce energy savings while making the facility more comfortable. We have completed an energy model and analysis and have a turnkey solution ready for installation in 12 weeks from date of authorization to proceed.

* Incentive subject to pre-approval of custom incentive application, savings are not guaranteed

Proposed by: Dan Newkirk
Director, Energy Engineering
dann@alphaacs.com 815-200-5495
Date: 12/20/23

Accepted by:

Signature:

Date:

Title:

NOTWITHSTANDING ANY INCONSISTENT OR ADDITIONAL TERMS THAT MAY BE ENBODIED IN YOUR PURCHASE ORDER, SELLER WILL ACCEPT YOUR ORDER SUBJECT ONLY TO THE TERMS OF THE WRITTEN CONTRACT BETWEEN US UNDER WHICH YOUR ORDER IS PLACED. IF NO SUCH CONTRACT EXISTS SELLER WILL ACCEPT YOUR ORDER ONLY ON THE EXPRESS CONDITION THAT YOU ASSENT TO THE TERMS AND CONDITIONS CONTAINED ABOVE AND ON THE REVERS SIDE HEREOF; AND YOUR ACCEPTANCE AND RECEIPT OF THE GOODS SHIPPED HEREUNDER SHALL CONSTITUTE ASSENT TO SUCH TERMS AND CONDITIONS

All goods, services, and Firmware furnished by Alpha Controls & Services ("Supplier") are governed by these standard terms and conditions, and every agreement or other undertaking by Supplier is expressly conditioned on assent hereto by the buyer, and any end user with whom Supplier undertakes to deal, of Supplier's goods, services, and Firmware ("Customer"). These standard terms and conditions supersede all inconsistent printed terms submitted by Customer prior to Supplier's order acknowledgment. They may be varied only by a typed or legibly handwritten notation on the face of Supplier's quotation or order acknowledgment, Customer's purchase order form, or similar documents. Product and sales policy sheets and the like published from time to time by Supplier shall supplement but not supersede these standard terms and conditions. SUPPLIER IS NOT BOUND TO FURNISH ITS GOODS, SERVICES OR FIRMWARE EXCEPT IN ACCORDANCE WITH THE TERMS OF ITS ORDER ACKNOWLEDGMENT, FIRM QUOTATION, OR OTHER SIMILAR DOCUMENT ISSUED OVER THE SIGNATURE OF AN AUTHORIZED EMPLOYEE OF SUPPLIER. SUPPLIER'S REPRESENTATIVES, DISTRIBUTORS, DEALERS AND OTHER NON-EMPLOYEES HAVE NO AUTHORITY TO BIND SUPPLIER.

1. **Firmware.** The terms "goods" as used herein shall include Firmware which shall mean the set of instructions, consisting of symbolic language, processes, logic, routines, and programmed information in the form of firm or soft media relating to any of the goods and all revisions and modifications thereof.
2. **Price/Delivery Terms.** Unless otherwise provided on Supplier's order acknowledgment, price and delivery terms are FOB Supplier's plant and do not include sales, use, or other taxes. Supplier may, at its option, make partial shipments and invoice for same.
3. **Payment/Credit/Security.** Payment terms for buyers with a credit standing deemed adequate by Supplier are net 30 days from date of invoice. Supplier shall be entitled to charge interest thereafter at a rate permitted by law, but in no event to exceed 1-1/2% per month. Whenever Supplier in good faith deems itself insecure, Supplier may cancel any outstanding contracts with Customer, revoke its extension of credit to Customer, reduce any unpaid debt by enforcing its security interest, created hereby, in all goods (and proceeds therefrom) furnished by Supplier to Customer, and take any other steps necessary or desirable to secure Supplier with respect to Customer's payment for goods and services furnished or to be furnished by Supplier.
In the event Customer for any reason withholds payment of any amount due Supplier, Supplier may declare itself insecure and suspend further shipment to Customer until Customer places the withheld amount in escrow and gives adequate security for further shipment or until Customer satisfies Supplier that Customer was entitled to withhold such amount. Supplier shall be entitled to recover from Customer all costs, including reasonable attorney's fees, incurred by Supplier in connection with the collection of any amount due Supplier.
4. **Cancellation by Customer.**
 - (a). Except as provided in sub-paragraph
 - (b). Customer's wrongful non-acceptance or repudiation of a contract to purchase from Supplier goods which Supplier generally carries in inventory as stock items (or which are otherwise readily resaleable by Supplier at a reasonable price) shall entitle Supplier to recover damages, as provided by law, including Supplier's lost profits.
5. **Warranty.** Supplier warrants that all new and unused goods furnished by Supplier are free from defect in workmanship and material as of the time and place of delivery by Supplier. Except for goods and services furnished by Supplier through its employees arising out of orders solicited by Supplier's Representatives and duly accepted by Supplier, Supplier does not warrant, and shall not be liable for, the quality of any goods or services furnished or to be furnished by representatives, distributors, dealers or other non-employees of Supplier. As a matter of general warranty policy, Supplier honors an original buyer's warranty claim in the event of failure, within 12 months from the day of delivery by Supplier to the site for Alpha Controls & Services equipment and for Building Management Systems goods, which have been installed and operated under normal conditions and in accordance with generally accepted industry practices. This general warranty policy may be expanded or limited for particular categories of products or customers by information sheets published by Supplier from time to time: The express warranties provided above are in lieu of all other warranties, express or implied. IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSES ARE EXCLUDED WITH RESPECT TO ANY AND ALL GOODS AND SERVICES FURNISHED BY SUPPLIER. In case of Supplier's breach of warranty or any other duty with respect to the quality of any goods, the sole and exclusive remedies therefore shall be, at Supplier's option, (1) repair, (2) replacement, or (3) payment of or credit for the purchase price (less reasonable depreciation based upon actual use) upon return of the non-conforming goods or parts. Return authorization must be obtained from Supplier prior to the return of any defective material. All unauthorized returns will be sent back, freight collect, to the Customer. All returns must be made with transportation prepaid by the Customer. Supplier's examination of the units must disclose to its satisfaction that defects exist and have not been caused by misuse, neglect, improper installation, repair, alteration or accident before replacement is made or credit issued.
6. **Force Majeur.** Supplier and Customer assume the non-occurrence of the following contingencies which, without limitation, might render performance by Supplier impractical: strike, riots, fires, war, late or non-delivery by suppliers to Supplier, and all other contingencies beyond the reasonable control of supplier.
7. **No Consequential Damages.** Under no circumstances shall Supplier be liable to any person (including distributor) for loss of use, income, or profit or for incidental, special or consequential or other similar damages, arising, directly or indirectly out of or occasioned by the sale, operation, use, installation, repair or replacement of the goods or services, whether such damages are based on a claim of breach of express or implied warranties (including merchantability or fitness for a particular purpose), tortious conduit (including negligence and strict liability) or any other cause of action, except only in the case of personal injury where applicable law requires such liability.
8. **Governing Law.** The law of the State of Illinois shall govern all transactions to which these standard terms and conditions apply.
9. **Prices** in this quotation remain in effect for 45 days from date of issue.

Financial Analysis of Efficiency Improvements: Simulating Cash Inflows and Outflows

Energy Project - Financed

ENTER ASSUMPTIONS INTO CELLS HIGHLIGHTED IN YELLOW

R21

| INPUTS FOR FINANCIAL ANALYSIS | |
|-------------------------------|-------|
| Discount Rate: | 10.0% |
| Finance Rate: | 10.0% |
| Reinvestment Rate: | 10.0% |
| Utility Inflation Rate: | 3.0% |
| Non-utility Inflation Rate: | 3.0% |

| 100% INSTALLATION OF MEASURE(S) | |
|---------------------------------|-----------|
| Energy | \$111,048 |
| Maintenance | |
| Other Benefits | |

| MID-YEAR CONVENTION | |
|---------------------|---|
| "Y" or "N" | Y |

| PROJECT START (optional) | |
|--------------------------|--|
| Enter "Date 0" | |

| TIMING | |
|---------------|-------------|
| Avail. Rebate | \$ 219,091 |
| Rebate Timing | SEE INFLOWS |

| FINANCING, IF APPLICABLE | |
|---------------------------------|---------------|
| Present Value (PV) | \$1,405,938 |
| Financing Term in Years | 7 |
| Pmts. per Year | 12 |
| Enter "1" for Beg. Period Pmts. | 1 |
| Interest % per Year (INT) | 5.6% |
| Pmt. Amount (PMT) | (\$20,159.82) |
| Future Value (FV) | 0 |
| Financing Fees, if any | \$595 |

²V is a positive number; pmts. are summed by year.

| Date: | TODAY | YEAR | YEAR | YEAR | YEAR | YEAR | YEAR | YEAR | YEAR | YEAR | YEAR | YEAR |
|----------------------------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| CASH OUTFLOWS | | | | | | | | | | | | |
| Single Investment | | | | | | | | | | | | |
| Phased Investment | | | | | | | | | | | | |
| Miscellaneous Investment | | | | | | | | | | | | |
| Financed Investment | | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) |
| Financing Fees (if any) | \$ (595) | | | | | | | | | | | |
| Subtotal | \$ (595) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) |
| Rebates Reducing "Cash Outflow" | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| SUBTOTAL OUTFLOWS | \$ (595) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) | \$ (241,918) |
| % Savings Realized | | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| CASH INFLOWS | | | | | | | | | | | | |
| Energy Savings | \$ - | \$ 111,048 | \$ 114,379 | \$ 117,811 | \$ 121,345 | \$ 124,986 | \$ 128,735 | \$ 132,597 | \$ 136,575 | \$ 140,672 | \$ 144,892 | \$ 144,892 |
| Maintenance Savings | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Other Benefits | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Rebates Considered "Cash Inflow" | \$ 219,091 | | | | | | | | | | | |
| SUBTOTAL INFLOWS | \$ 219,091 | \$ 111,048 | \$ 114,379 | \$ 117,811 | \$ 121,345 | \$ 124,986 | \$ 128,735 | \$ 132,597 | \$ 136,575 | \$ 140,672 | \$ 144,892 | \$ 144,892 |
| Annual Cash Flow | \$ 218,496 | \$ (130,870) | \$ (127,538) | \$ (124,107) | \$ (120,573) | \$ (116,932) | \$ (113,183) | \$ (109,321) | \$ 136,575 | \$ 140,672 | \$ 144,892 | \$ 144,892 |
| Annual Present Value | \$ 218,496 | \$ (124,779) | \$ (110,548) | \$ (97,795) | \$ (86,372) | \$ (76,150) | \$ (67,007) | \$ (58,837) | \$ 66,823 | \$ 62,571 | \$ 58,589 | \$ 58,589 |

| | | | | | | | | | | | | |
|--|--------------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| Simple Payback Period (SPP) | n/a | | | | | | | | | | | |
| Cumulative Payback Period (CPB) | n/a | | | | | | | | | | | |
| Discounted Payback Period (DPB) | n/a | | | | | | | | | | | |
| NOTE THAT CERTAIN RETURNS VARY DEPENDING ON THE LENGTH OF THE ANALYSIS TERM | | | | | | | | | | | | |
| | 10-YEAR | 20-YEAR | 1-YEAR | 2-YEAR | 3-YEAR | 4-YEAR | 5-YEAR | 6-YEAR | 7-YEAR | 8-YEAR | 9-YEAR | 10-YEAR |
| Return on Investment (ROI) | see value per year | see value per year | 45.8% | 23.6% | 16.2% | 12.5% | 10.3% | 8.9% | 7.8% | 8.1% | 8.3% | 8.6% |
| Total Return on Investment | -11.9% | 89.1% | 36.1% | -8.2% | -22.6% | -29.4% | -33.2% | -35.4% | -36.8% | -28.8% | -20.5% | -11.9% |
| Annualized Return on Investment | -1.3% | 3.2% | 36.1% | -4.2% | -8.2% | -8.3% | -7.7% | -7.0% | -6.4% | -4.2% | -2.5% | -1.3% |
| Internal Rate of Return (XIRR) | 73.3% | 0.0% | -64.2% | 18.9% | 51.7% | 65.1% | 71.1% | 74.0% | 75.4% | 74.4% | 73.7% | 73.3% |
| Net Present Value (NPV) | \$ (215,009) | \$ 200,401 | \$ 93,717 | \$ (16,832) | \$ (114,626) | \$ (200,998) | \$ (277,148) | \$ (344,155) | \$ (402,992) | \$ (336,169) | \$ (273,598) | \$ (215,009) |
| Modified Internal Rate of Return (XMIRR) | 5.7% | 11.9% | 271.0% | 8.1% | -5.3% | -7.5% | -7.3% | -6.6% | -5.7% | -0.2% | 3.3% | 5.7% |
| Savings-to-Investment Ratio (SIR) | 0.83 | 1.16 | 1.4 | 1.0 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.7 | 0.8 | 0.8 |

Financial Analysis of Efficiency Improvements: Simulating Cash Inflows and Outflows

Energy Project - All Cash

ENTER ASSUMPTIONS INTO CELLS HIGHLIGHTED IN YELLOW

R21

| INPUTS FOR FINANCIAL ANALYSIS | |
|-------------------------------|-------|
| Discount Rate: | 10.0% |
| Finance Rate: | 10.0% |
| Reinvestment Rate: | 10.0% |
| Utility Inflation Rate: | 3.0% |
| Non-utility Inflation Rate: | 3.0% |

| 100% INSTALLATION OF MEASURE(S) | |
|---------------------------------|-----------|
| Energy | \$111,048 |
| Maintenance | |
| Other Benefits | |

| MID-YEAR CONVENTION | |
|---------------------|---|
| "Y" or "N" | Y |

| PROJECT START (optional) | |
|--------------------------|--|
| Enter "Date 0" | |

| TIMING | |
|---------------|-------------|
| Avail. Rebate | \$ 219,091 |
| Rebate Timing | SEE INFLOWS |

| FINANCING, IF APPLICABLE | |
|---------------------------------|--|
| Present Value (PV) | |
| Financing Term in Years | |
| Pmts. per Year | |
| Enter "1" for Beg. Period Pmts. | |
| Interest % per Year (INT) | |
| Pmt. Amount (PMT) | |
| Future Value (FV) | |
| Financing Fees, if any | |

**V is a positive number; pmts. are summed by year.*

| Date: | TODAY | YEAR | YEAR | YEAR | YEAR | YEAR | YEAR | YEAR | YEAR | YEAR | YEAR | YEAR |
|----------------------------------|----------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| CASH OUTFLOWS | | | | | | | | | | | | |
| Single Investment | \$ (1,405,938) | | | | | | | | | | | |
| Phased Investment | | | | | | | | | | | | |
| Miscellaneous Investment | | | | | | | | | | | | |
| Financed Investment | | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Financing Fees (if any) | \$ - | | | | | | | | | | | |
| Subtotal | \$ (1,405,938) | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Rebates Reducing "Cash Outflow" | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| SUBTOTAL OUTFLOWS | \$ (1,405,938) | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| % Savings Realized | | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| CASH INFLOWS | | | | | | | | | | | | |
| Energy Savings | \$ - | \$ 111,048 | \$ 114,379 | \$ 117,811 | \$ 121,345 | \$ 124,986 | \$ 128,735 | \$ 132,597 | \$ 136,575 | \$ 140,672 | \$ 144,892 | |
| Maintenance Savings | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Other Benefits | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Rebates Considered "Cash Inflow" | \$ 219,091 | | | | | | | | | | | |
| SUBTOTAL INFLOWS | \$ 219,091 | \$ 111,048 | \$ 114,379 | \$ 117,811 | \$ 121,345 | \$ 124,986 | \$ 128,735 | \$ 132,597 | \$ 136,575 | \$ 140,672 | \$ 144,892 | |
| Annual Cash Flow | \$ (1,186,847) | \$ 111,048 | \$ 114,379 | \$ 117,811 | \$ 121,345 | \$ 124,986 | \$ 128,735 | \$ 132,597 | \$ 136,575 | \$ 140,672 | \$ 144,892 | |
| Annual Present Value | \$ (1,186,847) | \$ 105,880 | \$ 99,142 | \$ 92,833 | \$ 86,926 | \$ 81,394 | \$ 76,214 | \$ 71,364 | \$ 66,823 | \$ 62,571 | \$ 58,589 | |

| | | | | | | | | | | | | | |
|--|--|--------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| Simple Payback Period (SPP) | 10.7 | | | | | | | | | | | | |
| Cumulative Payback Period (CPB) | 9.4 | | | | | | | | | | | | |
| Discounted Payback Period (DPB) | 19.0 | | | | | | | | | | | | |
| | NOTE THAT CERTAIN RETURNS VARY DEPENDING ON THE LENGTH OF THE ANALYSIS TERM | | | | | | | | | | | | |
| | | 10-YEAR | 20-YEAR | 1-YEAR | 2-YEAR | 3-YEAR | 4-YEAR | 5-YEAR | 6-YEAR | 7-YEAR | 8-YEAR | 9-YEAR | 10-YEAR |
| Return on Investment (ROI) | see value per year | see value per year | | 7.9% | 8.1% | 8.4% | 8.6% | 8.9% | 9.2% | 9.4% | 9.7% | 10.0% | 10.3% |
| Total Return on Investment | 6.1% | 127.8% | | -76.5% | -68.4% | -60.0% | -51.4% | -42.5% | -33.3% | -23.9% | -14.2% | -4.2% | 6.1% |
| Annualized Return on Investment | 0.6% | 4.2% | | -76.5% | -43.8% | -26.3% | -16.5% | -10.5% | -6.5% | -3.8% | -1.9% | -0.5% | 0.6% |
| Internal Rate of Return (XIRR) | 1.4% | 10.4% | | -99.1% | -75.8% | -50.9% | -33.7% | -22.1% | -14.1% | -8.4% | -4.2% | -1.1% | 1.4% |
| Net Present Value (NPV) | \$ (385,110) | \$ 30,300 | ##### | \$ (981,825) | \$ (888,991) | \$ (802,066) | \$ (720,672) | \$ (644,457) | \$ (573,093) | \$ (506,270) | \$ (443,699) | \$ (385,110) | |
| Modified Internal Rate of Return (XMIRR) | 6.1% | 10.4% | | -99.0% | -64.8% | -35.5% | -19.2% | -9.7% | -3.8% | 0.1% | 2.8% | 4.7% | 6.1% |
| Savings-to-Investment Ratio (SIR) | 0.73 | 1.02 | | 0.2 | 0.3 | 0.4 | 0.4 | 0.5 | 0.5 | 0.6 | 0.6 | 0.7 | 0.7 |

Financial Analysis of Efficiency Improvements: Simulating Cash Inflows and Outflows

Energy Project - Phased Years 1&2

ENTER ASSUMPTIONS INTO CELLS HIGHLIGHTED IN YELLOW

R21

| INPUTS FOR FINANCIAL ANALYSIS | |
|-------------------------------|-------|
| Discount Rate: | 10.0% |
| Finance Rate: | 10.0% |
| Reinvestment Rate: | 10.0% |
| Utility Inflation Rate: | 3.0% |
| Non-utility Inflation Rate: | 3.0% |

| 100% INSTALLATION OF MEASURE(S) | |
|---------------------------------|-----------|
| Energy | \$111,048 |
| Maintenance | |
| Other Benefits | |

| MID-YEAR CONVENTION | |
|---------------------|---|
| "Y" or "N" | Y |

| PROJECT START (optional) | |
|--------------------------|--------|
| Enter "Date 0" | Date 1 |

| TIMING | |
|---------------|-------------|
| Avail. Rebate | \$ 174,671 |
| Rebate Timing | SEE INFLOWS |

| FINANCING, IF APPLICABLE | |
|---------------------------------|--|
| Present Value (PV) | |
| Financing Term in Years | |
| Pmts. per Year | |
| Enter "1" for Beg. Period Pmts. | |
| Interest % per Year (INT) | |
| Pmt. Amount (PMT) | |
| Future Value (FV) | |
| Financing Fees, if any | |

²V is a positive number; pmts. are summed by year.

| | TODAY | YEAR | YEAR | YEAR | YEAR | YEAR | YEAR | YEAR | YEAR | YEAR | YEAR | YEAR |
|----------------------------------|---------|----------------|----------------|------------|------------|------------|------------|------------|------------|------------|------------|------|
| Date: | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| | <today> | <end of Yr. 1> | <end of Yr. 2> | | | | | | | | | |
| CASH OUTFLOWS | | | | | | | | | | | | |
| Single Investment | | | | | | | | | | | | |
| Phased Investment | | \$ (703,279) | \$ (702,659) | | | | | | | | | |
| Miscellaneous Investment | | | | | | | | | | | | |
| Financed Investment | | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Financing Fees (if any) | \$ - | | | | | | | | | | | |
| Subtotal | \$ - | \$ (703,279) | \$ (702,659) | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Rebates Reducing "Cash Outflow" | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| SUBTOTAL OUTFLOWS | \$ - | \$ (703,279) | \$ (702,659) | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| % Savings Realized | | 0% | 88% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| CASH INFLOWS | | | | | | | | | | | | |
| Energy Savings | \$ - | \$ - | \$ 100,654 | \$ 117,811 | \$ 121,345 | \$ 124,986 | \$ 128,735 | \$ 132,597 | \$ 136,575 | \$ 140,672 | \$ 144,892 | |
| Maintenance Savings | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Other Benefits | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Rebates Considered "Cash Inflow" | | \$ 174,671 | | | | | | | | | | |
| SUBTOTAL INFLOWS | \$ - | \$ 174,671 | \$ 100,654 | \$ 117,811 | \$ 121,345 | \$ 124,986 | \$ 128,735 | \$ 132,597 | \$ 136,575 | \$ 140,672 | \$ 144,892 | |
| Annual Cash Flow | \$ - | \$ (528,608) | \$ (602,005) | \$ 117,811 | \$ 121,345 | \$ 124,986 | \$ 128,735 | \$ 132,597 | \$ 136,575 | \$ 140,672 | \$ 144,892 | |
| Annual Present Value | \$ - | \$ (504,008) | \$ (521,808) | \$ 92,833 | \$ 86,926 | \$ 81,394 | \$ 76,214 | \$ 71,364 | \$ 66,823 | \$ 62,571 | \$ 58,589 | |

| Simple Payback Period (SPP) | n/a | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--------------------|--------------|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------|---------|----------------------------|--------------------|--------------------|-------|------|------|------|------|------|------|------|-------|-------|----------------------------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|---------------------------------|-------|------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|--------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------------------|--------------|-------------|--------------|-------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--|------|-------|---------|---------|--------|--------|--------|-------|-------|-------|------|------|-----------------------------------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cumulative Payback Period (CPB) | n/a | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Discounted Payback Period (DPB) | n/a | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NOTE THAT CERTAIN RETURNS VARY DEPENDING ON THE LENGTH OF THE ANALYSIS TERM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th></th> <th>10-YEAR</th> <th>20-YEAR</th> <th>1-YEAR</th> <th>2-YEAR</th> <th>3-YEAR</th> <th>4-YEAR</th> <th>5-YEAR</th> <th>6-YEAR</th> <th>7-YEAR</th> <th>8-YEAR</th> <th>9-YEAR</th> <th>10-YEAR</th> </tr> </thead> <tbody> <tr> <td>Return on Investment (ROI)</td> <td>see value per year</td> <td>see value per year</td> <td>24.8%</td> <td>7.2%</td> <td>8.4%</td> <td>8.6%</td> <td>8.9%</td> <td>9.2%</td> <td>9.4%</td> <td>9.7%</td> <td>10.0%</td> <td>10.3%</td> </tr> <tr> <td>Total Return on Investment</td> <td>-5.9%</td> <td>115.8%</td> <td>-75.2%</td> <td>-80.4%</td> <td>-72.0%</td> <td>-63.4%</td> <td>-54.5%</td> <td>-45.4%</td> <td>-35.9%</td> <td>-26.2%</td> <td>-16.2%</td> <td>-5.9%</td> </tr> <tr> <td>Annualized Return on Investment</td> <td>-0.6%</td> <td>3.9%</td> <td>-75.2%</td> <td>-55.7%</td> <td>-34.6%</td> <td>-22.2%</td> <td>-14.6%</td> <td>-9.6%</td> <td>-6.2%</td> <td>-3.7%</td> <td>-1.9%</td> <td>-0.6%</td> </tr> <tr> <td>Internal Rate of Return (XIRR)</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> </tr> <tr> <td>Net Present Value (NPV)</td> <td>\$ (429,102)</td> <td>\$ (13,692)</td> <td>\$ (504,008)</td> <td>#####</td> <td>\$ (932,983)</td> <td>\$ (846,058)</td> <td>\$ (764,664)</td> <td>\$ (688,449)</td> <td>\$ (617,085)</td> <td>\$ (550,262)</td> <td>\$ (487,691)</td> <td>\$ (429,102)</td> </tr> <tr> <td>Modified Internal Rate of Return (XMIRR)</td> <td>4.4%</td> <td>10.2%</td> <td>-100.0%</td> <td>-100.0%</td> <td>-57.1%</td> <td>-32.2%</td> <td>-18.0%</td> <td>-9.4%</td> <td>-3.8%</td> <td>-0.1%</td> <td>2.5%</td> <td>4.4%</td> </tr> <tr> <td>Savings-to-Investment Ratio (SIR)</td> <td>0.66</td> <td>0.99</td> <td>0.2</td> <td>0.2</td> <td>0.3</td> <td>0.3</td> <td>0.4</td> <td>0.5</td> <td>0.5</td> <td>0.6</td> <td>0.6</td> <td>0.7</td> </tr> </tbody> </table> | | 10-YEAR | 20-YEAR | 1-YEAR | 2-YEAR | 3-YEAR | 4-YEAR | 5-YEAR | 6-YEAR | 7-YEAR | 8-YEAR | 9-YEAR | 10-YEAR | Return on Investment (ROI) | see value per year | see value per year | 24.8% | 7.2% | 8.4% | 8.6% | 8.9% | 9.2% | 9.4% | 9.7% | 10.0% | 10.3% | Total Return on Investment | -5.9% | 115.8% | -75.2% | -80.4% | -72.0% | -63.4% | -54.5% | -45.4% | -35.9% | -26.2% | -16.2% | -5.9% | Annualized Return on Investment | -0.6% | 3.9% | -75.2% | -55.7% | -34.6% | -22.2% | -14.6% | -9.6% | -6.2% | -3.7% | -1.9% | -0.6% | Internal Rate of Return (XIRR) | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | Net Present Value (NPV) | \$ (429,102) | \$ (13,692) | \$ (504,008) | ##### | \$ (932,983) | \$ (846,058) | \$ (764,664) | \$ (688,449) | \$ (617,085) | \$ (550,262) | \$ (487,691) | \$ (429,102) | Modified Internal Rate of Return (XMIRR) | 4.4% | 10.2% | -100.0% | -100.0% | -57.1% | -32.2% | -18.0% | -9.4% | -3.8% | -0.1% | 2.5% | 4.4% | Savings-to-Investment Ratio (SIR) | 0.66 | 0.99 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.5 | 0.5 | 0.6 | 0.6 | 0.7 |
| | 10-YEAR | 20-YEAR | 1-YEAR | 2-YEAR | 3-YEAR | 4-YEAR | 5-YEAR | 6-YEAR | 7-YEAR | 8-YEAR | 9-YEAR | 10-YEAR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Return on Investment (ROI) | see value per year | see value per year | 24.8% | 7.2% | 8.4% | 8.6% | 8.9% | 9.2% | 9.4% | 9.7% | 10.0% | 10.3% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Return on Investment | -5.9% | 115.8% | -75.2% | -80.4% | -72.0% | -63.4% | -54.5% | -45.4% | -35.9% | -26.2% | -16.2% | -5.9% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Annualized Return on Investment | -0.6% | 3.9% | -75.2% | -55.7% | -34.6% | -22.2% | -14.6% | -9.6% | -6.2% | -3.7% | -1.9% | -0.6% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Internal Rate of Return (XIRR) | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Net Present Value (NPV) | \$ (429,102) | \$ (13,692) | \$ (504,008) | ##### | \$ (932,983) | \$ (846,058) | \$ (764,664) | \$ (688,449) | \$ (617,085) | \$ (550,262) | \$ (487,691) | \$ (429,102) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Modified Internal Rate of Return (XMIRR) | 4.4% | 10.2% | -100.0% | -100.0% | -57.1% | -32.2% | -18.0% | -9.4% | -3.8% | -0.1% | 2.5% | 4.4% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Savings-to-Investment Ratio (SIR) | 0.66 | 0.99 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.5 | 0.5 | 0.6 | 0.6 | 0.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

PROPOSAL



Proposed By
Brent Bernardi

CEO
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E: brentb@alphaacs.com

Proposal for Temperature Controls
DeKalb County Energy Project - Appendix

Proposal #:
Proposal Date: December 20, 2023

DeKalb County Community Outreach Building

General Conditions

- Startup, checkout, Owner training, commissioning, and warranty as specified (1 year standard)
- Provide graphics, trends, and alarms for a browser-based control system that provides remote access to the building system including the following: Text alarms, historical trend data and click and drag scheduling of equipment for weekdays, holidays, and special events
- NOTE: Owner to maintain IT system to support browser-based graphics

Campus Optimizer Configuration

Patented technology will be deployed that uses a 19-level mathematical matrix to enhance HVAC control systems to significantly enhance energy savings in 25,309 square feet of building space. Among the more than 260 automated features will be automated integration of schedules into the Building Automation System to create custom ramp times for each of the 40 individual pieces of HVAC equipment. In addition, improvements shall be made to improve economizer, relative humidity control, latent energy load management as well elimination of simultaneous heating and cooling. As a result, the building will experience reduction of utility demand costs as well.

Demolition of Existing Controls

- **ERU Controls**
 - Remove existing Low Limit Thermostat

Lighting Controls (Qty.13)

- Schneider Electric unitary BACnet controller installed in existing panel (Typical of 3)
- Provide power & communication cable per electrical specifications (Typical of 3)
- Re-terminate new and existing points on new BACnet controllers
- **New**
 - Occupancy Sensor (Typical of 22) – Parallel status points as needed
 - Status (Typical of 10)
- **Reuse Existing**
 - Enable relay (Typical of 15) – Existing to Remain
 - Manual switch (Typical of 13) – Existing to Remain
 - **ERU-2 Dehumidification Controls**
 - Thermostat with override – Existing to Remain
 - Duct mounted CO2 sensor – Existing to Remain
 - Humidifier enable relay – Existing to Remain

Dekalb County Health Department

Campus Optimizer Configuration

Patented technology will be deployed that uses a 19-level mathematical matrix to enhance HVAC control systems to significantly enhance energy savings in 29,594 square feet of building space. Among the more than 260 automated features will be automated integration of schedules into the Building Automation System to create custom ramp times for each of the 37 individual pieces of HVAC equipment. In addition, improvements shall be made to improve economizer, relative humidity control, latent energy load management as well elimination of simultaneous heating and cooling. As a result, the building will experience reduction of utility demand costs as well.

Occupancy Controls (Qty.11)

- Schneider Electric unitary BACnet controller (Typical of 4)
- Provide power & communication cable per electrical specifications (Typical of 4)
- Ceiling mount occupancy sensor (Typical of 11)

Rooftop Unit Controls (Qty.2)

- Schneider Electric BACnet DDC controller installed in existing local control panel (Typical of 2)
- Reuse existing conduit and cable from local control panel to equipment (Typical of 2)
- Provide communications cable to local control panel (Typical of 2)
- Reuse power to local control panel (Typical of 2)
- Reuse thermostat rough in (Typical of 12)
- **Replace Existing:**
 - Thermostat communicating with blank cover (Typical of 8)
 - Flat plate-style room temperature sensor (Typical of 4)
 - Discharge air temperature sensor (Typical of 2)
 - Single point temperature sensor (Typical of 2)
 - Averaging temperature sensor (Typical of 2)
- **Reuse Existing:**
 - Low limit thermostat (Typical of 2) – Existing to remain
 - Duct mounted differential pressure transmitter (Typical of 2) – Existing to remain
 - Duct mounted differential pressure transmitter (Typical of 2) – Existing to remain
 - Building pressure transmitter and tubing – Existing to remain
 - Start/stop relay and current switch (Typical of 6) – Existing to remain
 - Direct expansion cooling (Typical of 2)– Existing to remain
 - Modulating damper actuator (Typical of 6) – Existing to remain
 - Modulating control valve (Typical of 2) – Existing to remain
 - BTU Meter – Existing to Remain

PROPOSAL



Secondary Hot Water System

- Schneider Electric unitary BACnet controller
- Provide power & communication cable per electrical specifications
- **Replace Existing:**
 - Modulating control valve
- **Reuse Existing:**
 - Start/stop relay and current switch (Typical of 2) – Existing to Remain
 - Wet differential pressure transmitter – Existing to Remain
 - Wet differential pressure switch (Typical of 2) – Existing to Remain

Fan Coil Unit Controls

- Schneider Electric unitary BACnet controller
- Provide power & communication cable
- Reuse thermostat rough in
- Thermostat communicating with blank cover
- Discharge air temperature sensor
- **Item(s) furnished and installed by Temperature Controls Contractor**
 - Unitary control valve (Typical of 2)

Fan Powered VAV Controls (Qty.30)

- Schneider Electric BACnet air terminal unit controller (Typical of 30)
- Provide power & communication cable (Typical of 30)
- Reuse thermostat rough in (Typical of 30)
- Thermostat communicating with blank cover (Typical of 30)
- Discharge air temperature sensor (Typical of 30)
- Start/stop relay and current switch (Typical of 30)
- **Item(s) furnished and installed by Temperature Controls Contractor**
 - Unitary control valve (Typical of 30)
- **Exhaust Fan Controls (Qty.4)**
 - Start/stop relay and current switch (Typical of 4)
 - Wire to nearest controller (Typical of 4)

Air Curtain Controls

- Schneider Electric unitary BACnet controller
- Provide power & communication cable
- Reuse thermostat rough in
- Start/stop relay and current switch
- **Item(s) furnished and installed by Temperature Controls Contractor**
 - Unitary control valve

PROPOSAL



Split System Controls

- Schneider Electric unitary BACnet controller
- Provide power & communication cable
- Provide thermostat rough in
- Thermostat with push button user interface
- Discharge air temperature sensor
- Direct expansion cooling
- Start/stop relay and current switch

Attic Space Temp Monitoring (Qty.2)

- Schneider Electric BACnet DDC controller installed in existing local control panel (Typical of 2)
- Reuse conduit and cable from local control panel to equipment (Typical of 2)
- Provide communications cable to local control panel (Typical of 2)
- Reuse to local control panel (Typical of 2)
- Reuse thermostat rough in (Typical of 13)
- Thermostat communicating with blank cover (Typical of 13)

Dekalb County Public Safety Building

Campus Optimizer Configuration

- Patented technology will be deployed that uses a 19-level mathematical matrix to enhance HVAC control systems to significantly enhance energy savings in 42,261 square feet of building space. Among the more than 260 automated features will be automated integration of schedules into the Building Automation System to create custom ramp times for each of the 17 individual pieces of HVAC equipment. In addition, improvements shall be made to improve economizer, relative humidity control, latent energy load management as well elimination of simultaneous heating and cooling. As a result, the building will experience reduction of utility demand costs as well.

AHU-1 Controls

- Schneider Electric BACnet DDC controller in a field assembled local control panel
- Terminate new and existing points on new BACnet controller(s)
- Reuse conduit and cable from local control panel to equipment where available
- Provide communications cable to local control panel
- Provide power to local control panel
- Duct mounted supply air differential pressure transmitter
- **Replace Existing**
 - Single point temperature sensor (Typical of 2)
 - Averaging temperature sensor
 - Low limit thermostat
 - **AHU-1 Motor Replacement and VFD Addition**
 - VFD start/stop, speed, status, and safety interlocks (Typical of 2)
 - Item(s) Furnished and Installed by the Temperature Controls Contractor:
 - 10 HP inverter duty rated motor
 - 3 HP inverter duty rated motor
 - 10HP, 208VAC Variable Frequency Drive
 - 3HP, 208VAC Variable Frequency Drive
 - Demo existing motor on existing AHU fan (Typical of 2)
 - Install new inverter duty rated motor on existing AHU fan (Typical of 2)
 - Include motor realignment (Typical of 2)
 - **Zone Damper Actuator Replacement (Qty.4)**
 - Demo existing pneumatic actuator (Typical of 4)
 - Modulating damper actuator (Typical of 4)
 - **Valve Replacement (Qty.2)**
 - Demo existing pneumatic control valve (Typical of 2)
 - Reinsulate if required to match existing configuration (Typical of 2)
 - Install new DDC control valve (Typical of 2)
- **Reuse Existing**
 - Modulating damper actuator (Typical of 3)
 - **Zone Damper Controls (Qty.4)**
 - Space temperature sensor (Typical of 5)
 - **Circulation Pump Controls (Qty.2)**
 - Start/stop relay and current switch (Typical of 2)

AHU-2 Controls

- Schneider Electric BACnet DDC controller in a field assembled local control panel
- Terminate new and existing points on new BACnet controller(s)
- Reuse conduit and cable from local control panel to equipment where available
- Provide communications cable to local control panel
- Provide power to local control panel
- Provide thermostat rough in
- Duct mounted supply air differential pressure transmitter
- **Replace Existing**
 - Single point temperature sensor (Typical of 2)
 - Averaging temperature sensor (Typical of 3)
 - Low limit thermostat
 - Start/stop relay and current switch
 - **Zone Damper Controls (Qty.6)**
 - Provide thermostat rough in (Typical of 6)
 - Discharge air temperature sensor (Typical of 6)
 - Space temperature sensor (Typical of 6)
 - **Motor Replacement and VFD Addition**
 - VFD start/stop, speed, status, and safety interlocks
 - Item(s) Furnished and Installed by the Temperature Controls Contractor:
 - 20 HP inverter duty rated motor
 - 20 HP, 208VAC Variable Frequency Drive
 - Demo existing motor on AHU fan
 - Install new inverter duty rated motor on existing AHU Fan
 - **EF-1 Motor Replacement and VFD Addition**
 - VFD start/stop, speed, status, and safety interlocks
 - Item(s) Furnished and Installed by the Temperature Controls Contractor:
 - 3 HP inverter duty rated motor
 - 3HP, 208VAC Variable Frequency Drive
 - Demo existing motor on existing Exhaust Fan
 - Install new inverter duty rated motor on existing Exhaust Fan
 - Include motor realignment
 - **Damper Actuator Replacement (Qty.8)**
 - Demo existing pneumatic actuator (Typical of 8)
 - Modulating damper actuator (Typical of 8)
 - **Valve Replacement (Qty.2)**
 - Demo existing pneumatic control valve (Typical of 2)
 - Reinsulate if required to match existing configuration (Typical of 2)
 - Install new DDC control valve (Typical of 2)
- **RTU Controls**
 - Enable relay

AHU-3 Controls

- Schneider Electric BACnet DDC controller in a field assembled local control panel
- Terminate new and existing points on new BACnet controllers
- Reuse conduit and cable from local control panel to equipment where available
- Provide communications cable to local control panel
- Provide power to local control panel
- **Replace Existing**
 - Thermostat with push button user interface
 - Single point temperature sensor (Typical of 2)
 - Averaging temperature sensor (Typical of 3)
- **Reuse Existing**
 - Low limit thermostat
 - Start/stop relay and current switch (Typical of 3)
- **Damper Actuator Replacement**
 - Demo existing pneumatic actuator
 - Modulating damper actuator
- **Valve Replacement**
 - Demo existing pneumatic control valve (Typical of 2)
 - Reinsulate if required to match existing configuration (Typical of 2)
 - Install new DDC control valve (Typical of 2)

AHU - Firing Range Controls

- Demo Existing pneumatic control valve
 - Reinsulate if required to match existing configuration
- Install new DDC control valve – wire to existing Local Control Panel
- Demo existing pneumatic damper actuator
- Install new DDC damper actuator – wire to existing local control panel

Hot Water Plant Controls

- Demo existing pneumatic control valve
 - Reinsulate if required to match existing configuration
- Install new DDC control valve – wire to existing local control panel

Cabinet Unit Heater Controls (Qty.3)

- Schneider Electric unitary BACnet controller (Typical of 3)
- Provide power & communication cable per electrical specifications (Typical of 3)
- Provide thermostat rough in (Typical of 3)
- Thermostat communicating with blank cover (Typical of 3)
- Discharge air temperature sensor (Typical of 3)
- Start/stop relay and current switch (Typical of 3)
- Unitary control valve (Typical of 3)
- Demo existing pneumatic controls on Cabinet Unit Heater (Typical of 3)
- Demo existing pneumatic thermostat (Typical of 3)
 - Demo pneumatic lines to 8' above finished floor (Typical of 3)
- Demo existing pneumatic unitary control valve (Typical of 3)
- Install new DDC 2-way unitary control valve (Typical of 3)

PROPOSAL



Unit Heater Controls (Qty.12)

- Schneider Electric unitary BACnet controller (Typical of 12)
- Provide power & communication cable per electrical specifications (Typical of 12)
- Provide thermostat rough in (Typical of 12)
- Thermostat communicating with blank cover (Typical of 12)
- Discharge air temperature sensor (Typical of 12)
- Start/stop relay and current switch (Typical of 12)
- Unitary control valve (Typical of 12)
- Demo existing pneumatic thermostat (Typical of 12)
 - Demo pneumatic lines to 8' above finished floor (Typical of 12)
- Demo existing pneumatic unitary control valve (Typical of 12)
- Install new DDC 2-way unitary control valve (Typical of 12)

Exhaust Fan Controls (Qty.10)

- Schneider Electric unitary BACnet controller (Typical of 5)
- Provide power & communication cable per electrical specifications (Typical of 5)
- Start/stop relay and current switch (Typical of 10)

Furnace Controls (Qty.3)

- Schneider Electric unitary BACnet controller (Typical of 3)
- Provide power & communication cable per electrical specifications (Typical of 3)
- Provide thermostat rough in (Typical of 3)
- Thermostat communicating with blank cover (Typical of 3)
- Discharge air temperature sensor (Typical of 3)
- Start/stop relay and current switch (Typical of 3)
- Direct expansion cooling (Typical of 3)
- Gas fired heat enable (Typical of 3)

Finned Tube Radiation Controls (Qty.11)

- Schneider Electric unitary BACnet controller (Typical of 5)
- Provide power & communication cable per electrical specifications (Typical of 5)
- Provide thermostat rough in (Typical of 11)
- Thermostat communicating with blank cover (Typical of 11)
- Demo existing pneumatic valve (Typical of 11)
 - Re-insulate if required to match existing configuration (Typical of 11)
- Install new DDC 2-way control valve (Typical of 11)

Dekalb County Jail

Energy Efficiency Programming - Jail

- Improvements shall be made to improve economizer, relative humidity control, latent energy load management as well elimination of simultaneous heating and cooling. As a result, the building will experience reduction of utility demand costs as well.

Dekalb County Courthouse

Campus Optimizer Configuration

- Patented technology will be deployed that uses a 19-level mathematical matrix to enhance HVAC control systems to significantly enhance energy savings in 38,347 square feet of building space. Among the more than 260 automated features will be automated integration of schedules into the Building Automation System to create custom ramp times for each of the 44 individual pieces of HVAC equipment. In addition, improvements shall be made to improve economizer, relative humidity control, latent energy load management as well elimination of simultaneous heating and cooling. As a result, the building will experience reduction of utility demand costs as well.

VAV Controls (Qty.14) - DDC

- Provide thermostat rough in (Typical of 8)
- Thermostat with RH and override (Typical of 8)
- Ceiling mount occupancy sensor (Typical of 6)
- Wire to Nearest VAV Controller (Typical of 6)
- Replace existing thermostat (Typical of 8)

Hot Water Plant Controls

- Schneider Electric BACnet DDC controller installed in existing local control panel
- Furnish and install conduit and cable from local control panel to equipment
- Provide communications cable to local control panel
- Provide power to local control panel
- Provide thermostat rough in
- Boiler control points
- **Replace Existing**
 - Immersion temp sensor (Typical of 4)
- **Reuse Existing**
 - Outdoor air temperature sensor
 - Start/stop relay and current switch (Typical of 2)
 - Modulating damper actuator

PROPOSAL



AHU-1 Controls

- Schneider Electric BACnet DDC controller installed in existing local control panel
- Furnish and install conduit and cable from local control panel to equipment
- Provide communications cable to local control panel
- Provide power to local control panel
- **Replace Existing**
 - Single point temperature sensor (Typical of 2)
 - Averaging temperature sensor
 - Low limit thermostat
 - Duct mounted relative humidity transmitter (Typical of 2)
 - Modulating control valve
- **Reuse Existing**
 - Outdoor air relative humidity sensor
 - Duct mounted differential pressure transmitter (Typical of 2)
 - Duct mounted differential pressure switch (Typical of 2)
 - Duct mounted supply air differential pressure transmitter (Typical of 2)
 - VFD start/stop, speed, status, and safety interlocks (Typical of 2)
 - Start/stop relay and current switch
 - Direct expansion cooling (Typical of 6)
 - Gas fired heat enable (and control signal) (Typical of 3)
 - Relay for fire alarm input
 - Relays for addressable smoke detectors (Typical of 2)
 - Modulating damper actuator (Typical of 2)
 - Air flow measuring station (Typical of 3)

Domestic Hot Water Monitoring

- Schneider Electric unitary BACnet controller
- Provide power & communication cable per electrical specifications
- **Replace Existing**
 - Immersion temp sensor (Typical of 2)
- **Reuse Existing**
 - Level switch
 - Alarm

VAV Box Retrofit (Qty.54)

- Provide and install Pneumatic-to-DDC adapter kit (Typical of 54)
- Lock existing balancing damper in place (Typical of 54)

Demolition of Existing Pneumatic Controls

- Demo existing pneumatic tubing to 8' above finished floor (Typical of 54)
- Demo existing pneumatic field devices (Typical of 54)

PROPOSAL



VAV Controls (Qty.54) - Pneumatic

- Schneider Electric BACnet air terminal unit controller (Typical of 54)
- Provide power & communication cable per electrical specifications (Typical of 54)
- Provide thermostat rough in (Typical of 54)
- Thermostat with push button user interface (Typical of 54)
- Discharge air temperature sensor (Typical of 54)

Convactor Controls (Qty.73)

- Schneider Electric unitary BACnet controller (Typical of 17)
- Provide power & communication cable per electrical specifications (Typical of 17)
- Demo existing thermostatic valve (Typical of 45)
 - Re-insulate if required to match existing configuration (Typical of 45)
- **Item(s) Furnished and Installed by Temperature Controls Contractor:**
 - Unitary control valve (Typical of 45)

Unit Heater Controls (Qty.10)

- Schneider Electric unitary BACnet controller (Typical of 10)
- Provide power & communication cable per electrical specifications (Typical of 10)
- Provide thermostat rough in (Typical of 10)
- Thermostat with push button user interface (Typical of 10)
- Discharge air temperature sensor (Typical of 10)
- **Item(s) Furnished and Installed by Temperature Controls Contractor:**
 - Unitary control valve (Typical of 10)

Dekalb County Legislative Center

Campus Optimizer Configuration

- Patented technology will be deployed that uses a 19-level mathematical matrix to enhance HVAC control systems to significantly enhance energy savings in 25,351.52 square feet of building space. Among the more than 260 automated features will be automated integration of schedules into the Building Automation System to create custom ramp times for each of the 42 individual pieces of HVAC equipment. In addition, improvements shall be made to improve economizer, relative humidity control, latent energy load management as well elimination of simultaneous heating and cooling. As a result, the building will experience reduction of utility demand costs as well.

VAV Controls (Qty.8)

- Replace existing thermostat in existing rough in (Typical of 8)
- Thermostat with RH and override (Typical of 8)
- CO2 Thermostat module (Typical of 8)
- Wire to existing VAV Controller (Typical of 8)

Dekalb County Admin Building

RTU-1 Controls

- Schneider Electric BACnet DDC controller in a field assembled local control panel
- Furnish and install conduit and cable from local control panel to equipment
- Provide communications cable to local control panel
- Provide power to local control panel
- **Replace Existing**
 - Single point temperature sensor
- **Reuse Existing**
 - Duct mounted supply air differential pressure transmitter – remote
 - Building pressure transmitter and tubing
 - Duct mounted differential pressure transmitter - filter
 - Start/stop relay and current switch (Typical of 2)
 - Direct expansion cooling
 - Gas fired heat enable (and control signal)
 - Modulating damper actuator (Typical of 3)

Hot Water System Controls

- Schneider Electric BACnet DDC controller in a field assembled local control panel
- Furnish and install conduit and cable from local control panel to equipment
- Provide communications cable to local control panel
- Provide power to local control panel
- Boiler control points (Typical of 2)
- **Replace Existing**
 - Reuse Thermostat Rough-in (Typical of 4)
 - Thermostat with push button user interface
 - Thermostat communicating with blank cover (Typical of 3)
 - Immersion temp sensor (Typical of 3)
- **Reuse Existing**
 - Start/stop relay and current switch
 - Outdoor air temperature sensor
 - Building pressure transmitter and tubing
- **Domestic Water System Controls**
 - Immersion temp sensor (Typical of 2)

PROPOSAL



VAV Controls - Pneumatic Upgrade (Qty.7)

- Demolition of existing Pneumatic Controls (Typical of 7)
- Schneider Electric BACnet air terminal unit controller (Typical of 7)
- Provide power & communication cable per electrical specifications (Typical of 7)
- Provide thermostat rough in (Typical of 7)
- Thermostat with push button user interface (Typical of 7)
- Discharge air temperature sensor (Typical of 7)
- Demo existing pneumatic control valve (Typical of 7)
 - Re-insulate if required to match existing configuration (Typical of 7)
- **Item(s) Furnished and Installed by Temperature Controls Contractor:**
 - Unitary control valve (Typical of 7)
- **Electric Duct Heater Controls (Qty.4)**
 - Electric heat enable (Typical of 4)

VAV Controls (Qty.9)

- Schneider Electric BACnet air terminal unit controller (Typical of 9)
- Provide power & communication cable per electrical specifications (Typical of 9)
- Provide thermostat rough in (Typical of 9)
- Thermostat with push button user interface (Typical of 9)
- Discharge air temperature sensor (Typical of 9)
- Demo existing pneumatic control valve (Typical of 9)
 - Re-insulate if required to match existing configuration (Typical of 9)
- **Item(s) Furnished and Installed by Temperature Controls Contractor:**
 - Unitary control valve (Typical of 9)
- **Exhaust Fan Controls (Qty.4)**
 - Start/stop relay and current switch (Typical of 4)
 - Wire to nearest (Typical of 4)

Furnace Controls

- Schneider Electric unitary BACnet controller
- Provide power & communication cable per electrical specifications
- Provide thermostat rough in
- Thermostat with push button user interface
- Discharge air temperature sensor
- Start/stop relay and current switch
- Direct expansion cooling
- Gas fired heat enable

Split System Controls (Qty.3)

- Schneider Electric unitary BACnet controller (Typical of 3)
- Provide power & communication cable per electrical specifications (Typical of 3)
- Provide thermostat rough in (Typical of 3)
- Thermostat with push button user interface (Typical of 3)
- Discharge air temperature sensor (Typical of 3)
- Start/stop relay and current switch (Typical of 3)
- Direct expansion cooling (Typical of 3)
- Gas fired heat enable (Typical of 3)

Exhaust Fan Controls (Qty.3)

- Schneider Electric unitary BACnet controller (Typical of 2)
- Provide power & communication cable per electrical specifications (Typical of 2)
- Start/stop relay and current switch (Typical of 3)

Cabinet Unit Heater Controls (Qty.3)

- Schneider Electric unitary BACnet controller (Typical of 3)
- Provide power & communication cable per electrical specifications (Typical of 3)
- Provide thermostat rough in (Typical of 3)
- Thermostat with push button user interface (Typical of 3)
- Start/stop relay and current switch (Typical of 3)
- Discharge air temperature sensor (Typical of 3)
- Demo existing pneumatic control valve (Typical of 3)
 - Re-insulate if required to match existing configuration (Typical of 3).
- **Item(s) Furnished and Installed by Temperature Controls Contractor:**
 - Unitary control valve (Typical of 3)

Electric Cabinet Unit Heater Controls (Qty.4)

- Schneider Electric unitary BACnet controller (Typical of 4)
- Provide power & communication cable per electrical specifications (Typical of 4)
- Provide thermostat rough in (Typical of 4)
- Thermostat with push button user interface (Typical of 4)
- Start/stop relay and current switch (Typical of 4)
- Discharge air temperature sensor (Typical of 4)
- Electric heat enable (Typical of 4)

PROPOSAL



Unit Heater Controls

- Schneider Electric unitary BACnet controller
- Provide power & communication cable per electrical specifications
- Provide thermostat rough in
- Thermostat with push button user interface
- Start/stop relay and current switch
- Discharge air temperature sensor
- Demo existing pneumatic control valve
 - Re-insulate if required to match existing configuration
- **Item(s) Furnished and Installed by Temperature Controls Contractor:**
 - Unitary control valve

Convactor Controls (Qty.7)

- Demo existing thermostatic control valve (Typical of 5)
 - Re-insulate if required to match existing configuration (Typical of 5)
- **Item(s) Furnished and Installed by Temperature Controls Contractor:**
 - Unitary control valve (Typical of 5)
- Wire to nearest (Typical of 5)

PROPOSAL



Exclusions

- Fire and/or fire/smoke dampers, life safety products and/or electrical or sheet metal installation labor
- Access doors, patching and/or painting
- Overtime and/or Shift/Premium Time
- Bonding and Permits
- Federal, State and Local Taxes
- Smoke detectors and/or modifications to fire alarm system
- Providing and/or installation of gauges, thermometers, thermo-wells, balancing valves, thermowells, pressure taps & hand valves
- VFD's, starters, and power wiring by others
- Installation of control valves
- Draining, cleaning, and/or flushing piping systems
- Emergency Power
- Any/all liquidated damages
- BIM Modeling
- This proposal is valid for 30 days and assumes completion in 2023

(Sales tax not included.)

The standard terms and conditions of sale are attached and are a part hereof:

Proposed By

Name Brent Bernardi
Title CEO
Company Alpha Controls & Services, LLC.
Date 12/20/2023

Accepted By

Name _____
Title _____
Company _____
Date _____

NOTWITHSTANDING ANY INCONSISTENT OR ADDITIONAL TERMS THAT MAY BE EMBODIED IN YOUR PURCHASE ORDER, SELLER WILL ACCEPT YOUR ORDER SUBJECT ONLY TO THE TERMS OF THE WRITTEN CONTRACT BETWEEN US UNDER WHICH YOUR ORDER IS PLACED. IF NO SUCH CONTRACT EXISTS SELLER WILL ACCEPT YOUR ORDER ONLY ON THE EXPRESS CONDITION THAT YOU ASSENT TO THE TERMS AND CONDITIONS CONTAINED ABOVE AND ON THE REVERS SIDE HEREOF; AND YOUR ACCEPTANCE AND RECEIPT OF THE GOODS SHIPPED HEREUNDER SHALL CONSTITUTE ASSENT TO SUCH TERMS AND CONDITIONS

PROPOSAL



All goods, services, and Firmware furnished by Alpha Controls & Services ("Supplier") are governed by these standard terms and conditions, and every agreement or other undertaking by Supplier is expressly conditioned on assent hereto by the buyer, and any end user with whom Supplier undertakes to deal, of Supplier's goods, services, and Firmware ("Customer"). These standard terms and conditions supersede all inconsistent printed terms submitted by Customer prior to Supplier's order acknowledgment. They may be varied only by a typed or legibly handwritten notation on the face of Supplier's quotation or order acknowledgment, Customer's purchase order form, or similar documents. Product and sales policy sheets and the like published from time to time by Supplier shall supplement but not supersede these standard terms and conditions. SUPPLIER IS NOT BOUND TO FURNISH ITS GOODS, SERVICES OR FIRMWARE EXCEPT IN ACCORDANCE WITH THE TERMS OF ITS ORDER ACKNOWLEDGMENT, FIRM QUOTATION, OR OTHER SIMILAR DOCUMENT ISSUED OVER THE SIGNATURE OF AN AUTHORIZED EMPLOYEE OF SUPPLIER. SUPPLIER'S REPRESENTATIVES, DISTRIBUTORS, DEALERS AND OTHER NON-EMPLOYEES HAVE NO AUTHORITY TO BIND SUPPLIER.

1. **Firmware.** The terms "goods" as used herein shall include Firmware which shall mean the set of instructions, consisting of symbolic language, processes, logic, routines, and programmed information in the form of firm or soft media relating to any of the goods and all revisions and modifications thereof.

2. **Price/Delivery Terms.** Unless otherwise provided on Supplier's order acknowledgment, price and delivery terms are FOB Supplier's plant and do not include sales, use, or other taxes. Supplier may, at its option, make partial shipments and invoice for same.

3. **Payment/Credit/Security.** Payment terms for buyers with a credit standing deemed adequate by Supplier are net 30 days from date of invoice. Supplier shall be entitled to charge interest thereafter at a rate permitted by law, but in no event to exceed 1½% per month. Whenever Supplier in good faith deems itself insecure, Supplier may cancel any outstanding contracts with Customer, revoke its extension of credit to Customer, reduce any unpaid debt by enforcing its security interest, created hereby, in all goods (and proceeds therefrom) furnished by Supplier to Customer, and take any other steps necessary or desirable to secure Supplier with respect to Customer's payment for goods and services furnished or to be furnished by Supplier.

In the event Customer for any reason withholds payment of any amount due Supplier, Supplier may declare itself insecure and suspend further shipment to Customer until Customer places the withheld amount in escrow and gives adequate security for further shipment or until Customer satisfies Supplier that Customer was entitled to withhold such amount. Supplier shall be entitled to recover from Customer all costs, including reasonable attorney's fees, incurred by Supplier in connection with the collection of any amount due Supplier.

4. Cancellation by Customer.

(a). Except as provided in sub-paragraph (b) below, Customer's wrongful non-acceptance or repudiation of a contract to purchase Supplier's goods or services shall entitle Supplier to recover the price or, where an action for the price is not permitted by law, damages, as provided by law, including Supplier's lost profits. In this connection all goods purchased and all services furnished by Supplier in complete or partial fulfillment of a special order from Customer shall be deemed identified to the contract between Supplier and Customer.

(b). Customer's wrongful non-acceptance or repudiation of a contract to purchase from Supplier goods which Supplier generally carries in inventory as stock items (or which are otherwise readily resalable by Supplier at a reasonable price) shall entitle Supplier to recover damages, as provided by law, including Supplier's lost profits.

5. **Warranty.** Supplier warrants that all new and unused goods furnished by Supplier are free from defect in workmanship and material as of the time and place of delivery by Supplier. Except for goods and services furnished by Supplier through its employees arising out of orders solicited by Supplier's Representatives and duly accepted by Supplier, Supplier does not warrant, and shall not be liable for, the quality of any goods or services furnished or to be furnished by representatives, distributors, dealers or other non-employees of Supplier.

As a matter of general warranty policy, Supplier honors an original buyer's warranty claim in the event of failure, within 12 months from the day of delivery by Supplier to the site for Alpha Controls & Services equipment and for Building Management Systems goods, which have been installed and operated under normal conditions and in accordance with generally accepted industry practices. This general warranty policy may be expanded or limited for particular categories of products or customers by information sheets published by Supplier from time to time:

The express warranties provided above are in lieu of all other warranties, express or implied. IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSES ARE EXCLUDED WITH RESPECT TO ANY AND ALL GOODS AND SERVICES FURNISHED BY SUPPLIER.

In case of Supplier's breach of warranty or any other duty with respect to the quality of any goods, the sole and exclusive remedies therefore shall be, at Supplier's option, (1) repair, (2) replacement, or (3) payment of or credit for the purchase price (less reasonable depreciation based upon actual use) upon return of the non-conforming goods or parts.

Return authorization must be obtained from Supplier prior to the return of any defective material. All unauthorized returns will be sent back, freight collect, to the Customer. All returns must be made with transportation prepaid by the Customer. Supplier's examination of the units must disclose to its satisfaction that defects exist and have not been caused by misuse, neglect, improper installation, repair, alteration or accident before replacement is made or credit issued.

6. **Force Majeure.** Supplier and Customer assume the non-occurrence of the following contingencies which, without limitation, might render performance by Supplier impractical: strike, riots, fires, war, late or non-delivery by suppliers to Supplier, and all other contingencies beyond the reasonable control of supplier.

7. **No Consequential Damages.** Under no circumstances shall Supplier be liable to any person (including distributor) for loss of use, income, or profit or for incidental, special or consequential or other similar damages, arising, directly or indirectly out of or occasioned by the sale, operation, use, installation, repair or replacement of the goods or services, whether such damages are based on a claim of breach of express or implied warranties (including merchantability or fitness for a particular purpose), tortious conduit (including negligence and strict liability) or any other cause of action, except only in the case of personal injury where applicable law requires such liability.

8. **Governing Law.** The law of the State of Illinois shall govern all transactions to which these standard terms and conditions apply.

9. **Prices** in this quotation remain in effect for 30 days from date of issue.

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Springfield, IL 62703

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2110 Clearlake Boulevard Suite #101
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