

## **Solicitation 2013-112**

### **Services, Energy Management Integration**

**Bid designation: Public**



**Collin County**

## Bid 2013-112

### Services, Energy Management Integration

Bid Number 2013-112  
 Bid Title Services, Energy Management Integration

Bid Start Date In Held  
 Bid End Date Feb 28, 2013 2:00:00 PM CST  
 Question & Answer End Date Feb 22, 2013 5:00:00 PM CST

Bid Contact **Judy Davis**  
 Contract Administrator  
 Purchasing  
 972-548-4122  
 judydavis@co.collin.tx.us

Contract Duration One Time Purchase  
 Contract Renewal Not Applicable  
 Prices Good for 30 days

Standard Disclaimer **\*\*\*Note to Bidders/Offerors~The following standard disclaimer applies to Invitation to Bid (IFB), Competitive Sealed Proposal (CSP), and Request for Proposal (RFP) ONLY, not applicable to Request for Qualifications (RFQ) or Request for Information (RFI).\*\*\***

Mailing Address:  
 Collin County Purchasing  
 2300 Bloomdale Rd., Ste 3160  
 McKinney, TX 75071

Prices bid/proposed shall only be considered if they are provided in the appropriate space(s) on the Collin County bid form(s). For consideration, any additions or deductions to the bid/proposal prices offered must be shown under the exceptions section of the bid/proposal in the case of electronic submittal, ONLY in the case of a hard copy submittal will an additional attachment be allowed. Extraneous numbers, prices, comments, etc. or bidder/offeror generated documents appearing elsewhere on the bid or as an additional attachment shall be deemed to have no effect on the prices offered in the designated locations.

All delivery and freight charges (F.O.B. inside delivery at Collin County designated locations) are to be included as part of the bid/quote/proposal price. All components required to render the item complete, installed and operational shall be included in the total bid/quote/proposal price. Collin County will pay no additional freight/delivery/installation/setup fees.

Bid Comments

#### Item Response Form

Item 2013-112--01-01 - Provide price for Energy Management Integration

Quantity 1 each

Unit Price

Delivery Location

**Collin County**  
Collin County- See P.O.  
 See P.O. for Delivery Location  
 2300 Bloomdale Rd.  
 Ste. 3160  
 McKinney TX 75071  
 Qty 1

#### Description

Provide price for Energy Management Integration for the Collin County Courthouse Addition and Courthouse Renovation as specified in section 5.0 Special Conditions.



## **COLLIN COUNTY, TEXAS TERMS AND CONDITIONS**

### **1.0 GENERAL INSTRUCTIONS**

#### **1.0.1 Definitions**

1.0.1.1 Bidder/Quoter/Offeror: refers to submitter.

1.0.1.2 Vendor/Contractor/Provider: refers to a Successful Bidder/Quoter/Contractor/Service Provider.

1.0.1.3 Submittal: refers to those documents required to be submitted to Collin County, by a Bidder/Quoter/Offeror.

1.0.1.4 IFB: refers to Invitation For Bid.

1.0.1.5 RFQ: refers to Request For Qualifications

1.0.1.6 RFP: refers to Request For Proposal.

1.0.1.7 RFI: refers to Request For Information.

1.0.1.8 CSP: refers to Competitive Sealed Proposal

1.0.1.9 Quotation: refers to Request for Quotation

1.1 If Bidder/Quoter/Offeror do not wish to submit an offer at this time, please submit a No Bid Form.

1.2 Awards shall be made not more than ninety (90) days after the time set for opening of submittals.

1.3 Collin County is always conscious and extremely appreciative of your time and effort in preparing your submittal.

1.4 Collin County exclusively uses BidSync for the notification and dissemination of all solicitations. The receipt of solicitations through any other company may result in your receipt of incomplete specifications and/or addendums which could ultimately render your bid non-compliant. Collin County accepts no responsibility for the receipt and/or notification of solicitations through any other company.

1.5 A bid/quote/submittal may not be withdrawn or canceled by the bidder/quoter/offeror prior to the ninety-first (91<sup>st</sup>) day following public opening of submittals and only prior to award.

1.6 It is understood that Collin County, Texas reserves the right to accept or reject any and/or all Bids/Quotes/Proposals/Submittals for any or all products and/or services covered in an Invitation For Bid (IFB), Request For Qualifications (RFQ), Request For Proposal (RFP), Request For Information (RFI), Competitive Sealed Proposal (CSP), and Quotation, and to waive informalities or defects in submittals or to accept such submittals as it shall deem to be in the best interest of Collin County.

1.7 All IFB's, RFP's, CSP's, RFQ's, and RFI's submitted in hard copy paper form shall be submitted in a sealed envelope, plainly marked on the outside with the IFB/RFP/RFQ/RFI/CSP/Quotation number and name. A hard copy paper form submittal shall be manually signed in ink by a person having the authority to bind the firm in a contract. Submittals shall be mailed or hand delivered to the Collin County Purchasing Department.

1.8 No oral, telegraphic or telephonic submittals will be accepted. IFB's, RFP's, RFQ's, CSP's, and RFI's, may be submitted in electronic format via **BidSync**.

1.9 All Invitation For Bids (IFB), Request For Proposals (RFP), Request For Qualifications (RFQ), Competitive Sealed Proposals (CSP), and Request For Information (RFI), submitted electronically via **BidSync** shall remain locked until official date and time of opening as stated in the Special Terms and Conditions of the IFB, RFP, RFQ, CSP, and/or RFI.

1.10 Time/date stamp clock in Collin County Purchasing Department shall be the official time of receipt for all Invitation For Bids (IFB), Request For Proposals (RFP), Request For Qualifications (RFQ), Competitive Sealed Proposals (CSP), Request For Information (RFI), submitted in hard copy paper form. IFB's, RFP's, RFQ's, CSP's, RFI's, received in County Purchasing Department after submission deadline shall be considered void and unacceptable. Absolutely no late submittals will be considered. Collin County accepts no responsibility for technical difficulties related to electronic submittals.

1.11 For hard copy paper form submittals, any alterations made prior to opening date and time must be initialed by the signer of the IFB/RFQ/RFP/CSP/RFI/, guaranteeing authenticity. Submittals cannot be altered or amended after submission deadline.

1.12 Collin County is by statute exempt from the State Sales Tax and Federal Excise Tax; therefore, the prices submitted shall not include taxes.

1.13 Any interpretations, corrections and/or changes to an Invitation For Bid/Request For Qualifications/Request For Proposal/Request for Information/Competitive Sealed Proposal, and related Specifications or extensions to the opening/receipt date will be made by addenda to the respective document by the Collin County Purchasing Department. Questions and/or clarification requests must be submitted no later than seven (7) days prior to the opening/receipt date. Those received at a later date may not be addressed prior to the public opening. Sole authority to authorize addenda shall be vested in Collin County Purchasing Agent as entrusted by the Collin County Commissioners' Court. Addenda may be transmitted electronically via **BidSync**, by facsimile, E-mail transmission or mailed via the US Postal Service.

1.13.1 Addenda will be transmitted to all that are known to have received a copy of the IFB/RFQ/RFP/RFI/CSP and related Specifications. However, it shall be the sole responsibility of the Bidder/Quoter/Offeror to verify issuance/non-issuance of addenda and to check all avenues of document availability (i.e. **BidSync** at [www.bidsync.com](http://www.bidsync.com), telephoning Purchasing Department directly, etc.) prior to opening/receipt date and time to insure Bidder/Quoter/Offeror's receipt of any addenda issued. Bidder/Quoter/Offeror shall acknowledge receipt of all addenda.

1.14 All materials and services shall be subject to Collin County approval.

1.15 Collin County reserves the right to make award in whole or in part as it deems to be in the best interest of the County.

1.16 The Bidder/Quoter/Offeror shall comply with Commissioners' Court Order No. 96-680-10-28, Establishment of Guidelines & Restrictions Regarding the Acceptance of Gifts by County Officials & County

Employees.

1.17 Any reference to model/make and/or manufacturer used in specifications is for descriptive purposes only. Products/materials of like quality will be considered.

1.18 Bidders/Quoters/Offerors taking exception to the specifications shall do so at their own risk. By offering substitutions, Bidder/Quoter/Offeror shall state these exceptions in the section provided in the IFB/RFQ/RFP/CSP/Quotation or by attachment. Exception/substitution, if accepted, must meet or exceed specifications stated therein. Collin County reserves the right to accept or reject any and/or all of the exception(s)/substitution(s) deemed to be in the best interest of the County.

1.19 Minimum Standards for Responsible Prospective Bidders/Quoters/Offerors: A prospective Bidder/Quoter/Offeror must meet the following minimum requirements:

1.19.1 have adequate financial resources, or the ability to obtain such resources as required;

1.19.2 be able to comply with the required or proposed delivery/completion schedule;

1.19.3 have a satisfactory record of performance;

1.19.4 have a satisfactory record of integrity and ethics;

1.19.5 be otherwise qualified and eligible to receive an award.

Collin County may request documentation and other information sufficient to determine Bidder's/Quoter's/Offeror's ability to meet these minimum standards listed above.

1.20 Vendor shall bear any/all costs associated with its preparation of an RFI/IFB/RFQ/RFP/CSP/Quotation submittal.

1.21 Public Information Act: Collin County is governed by the Texas Public Information Act, Chapter 552 of the Texas Government Code. All information submitted by prospective bidders during the bidding process is subject to release under the Act.

1.22 The Bidder/Quoter/Offeror shall comply with Commissioners' Court Order No. 2004-167-03-11, County Logo Policy.

1.23 Interlocal Agreement: Successful bidder agrees to extend prices and terms to all entities that has entered into or will enter into joint purchasing interlocal cooperation agreements with Collin County.

1.24 Bid Openings: All bids submitted will be read at the county's regularly scheduled bid opening for the designated project. However, the reading of a bid at bid opening should be not construed as a comment on the responsiveness of such bid or as any indication that the county accepts such bid as responsive.

The county will make a determination as to the responsiveness of bids submitted based upon compliance with all applicable laws, Collin County Purchasing Guidelines, and project documents, including but not limited to the project specifications and contract documents. The county will notify the successful bidder upon award of the contract and, according to state law; all bids received will be available for inspection at that time.

## 2.0 TERMS OF CONTRACT

2.1 A bid/quote/proposal, when properly accepted by Collin County, shall constitute a contract equally binding between the Vendor/Contractor/Provider and Collin County. No different or additional terms will become part of this contract with the exception of an Amendment and/or a Change Order.

2.2 No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All Amendments and/or Change Orders to the contract will be made in writing by Collin County Purchasing Agent.

2.3 No public official shall have interest in the contract, in accordance with Vernon's Texas Codes Annotated, Local Government Code Title 5, Subtitle C, Chapter 171.

2.4 The Vendor/Contractor/Provider shall comply with Commissioners' Court Order No. 96-680-10-28, Establishment of Guidelines & Restrictions Regarding the Acceptance of Gifts by County Officials & County Employees.

2.5 Design, strength, quality of materials and workmanship must conform to the highest standards of manufacturing and engineering practice.

2.6 Bids/Quotes/Proposals must comply with all federal, state, county and local laws concerning the type(s) of product(s)/service(s)/equipment/project(s) contracted for, and the fulfillment of all ADA (Americans with Disabilities Act) requirements.

2.7 All products must be new and unused, unless otherwise specified, in first-class condition and of current manufacture. Obsolete products, including products or any parts not compatible with existing hardware/software configurations will not be accepted.

2.8 Vendor/Contractor/Provider shall provide any and all notices as may be required under the Drug-Free Work Place Act of 1988, 28 CFR Part 67, Subpart F, to its employees and all sub-contractors to insure that Collin County maintains a drug-free work place.

2.9 Vendor/Contractor/Provider shall defend, indemnify and save harmless Collin County and all its officers, agents and employees and all entities, their officers, agents and employees who are participating in this contract from all suits, claims, actions, damages (including personal injury and or property damages), or demands of any character, name and description, (including attorneys' fees, expenses and other defense costs of any nature) brought for or on account of any injuries or damages received or sustained by any person, persons, or property on account of Vendor/Contractor/Provider's breach of the contract arising from an award, and/or any negligent act, error, omission or fault of the Vendor/Contractor/Provider, or of any agent, employee, subcontractor or supplier of Vendor/Contractor/Provider in the execution of, or performance under, any contract which may result from an award. Vendor/Contractor/Provider shall pay in full any judgment with costs, including attorneys' fees and expenses which are rendered against Collin County and/or participating entities arising out of such breach, act, error, omission and/or fault.

2.10 If a contract, resulting from a Collin County IFB, RFP, RFQ, CSP, Quotation is for the execution of a public work, the following shall apply:

2.10.1 In accordance with V.T.C.A. 2253.021, a governmental agency that makes a public work contract with a prime contractor shall require the contractor, before beginning work, to execute to the governmental entity a Payment Bond if the contract is in excess of \$25,000.00. Such bond shall be in the amount of the contract payable to the governmental entity and must be executed by a corporate surety in accordance with Section 1, Chapter 87, Acts of the 56<sup>th</sup> Legislature, Regular Session, 1959 (Article 7.19-1 Vernon's Texas Insurance Code).

2.10.2 In accordance with V.T.C.A. 2253.021, a governmental agency that makes a public work contract with a prime contractor shall require the contractor, before beginning work, to execute to the governmental entity a Performance Bond if the contract is in excess of \$100,000.00. Such bond shall be in the amount of the contract payable to the governmental entity and must be executed by a corporate surety in accordance with Section 1, Chapter 87, Acts of the 56<sup>th</sup> Legislature, Regular Session, 1959 (Article 7.19-1 Vernon's Texas Insurance Code).

2.11 Purchase Order(s) shall be generated by Collin County to the vendor. Collin County will not be responsible for any orders placed/delivered without a valid purchase order number.

2.12 The contract shall remain in effect until any of the following occurs: delivery of product(s) and/or completion and acceptance by Collin County of product(s) and/or service(s), contract expires or is terminated by either party with thirty (30) days written notice prior to cancellation and notice must state therein the reasons for such cancellation. Collin County reserves the right to terminate the contract immediately in the event the Vendor/Contractor/Provider fails to meet delivery or completion schedules, or otherwise perform in accordance with the specifications. Breach of contract or default authorizes the County to purchase elsewhere and charge the full increase in cost and handling to the defaulting Vendor/Contractor/Provider.

2.13 Collin County Purchasing Department shall serve as Contract Administrator or shall supervise agents designated by Collin County.

2.14 All delivery and freight charges (FOB Inside delivery at Collin County designated locations) are to be included as part of the bid/quote/proposal price. All components required to render the item complete, installed and operational shall be included in the total bid/quote/proposal price. Collin County will pay no additional freight/delivery/installation/setup fees.

2.15 Vendor/Contractor/Provider shall notify the Purchasing Department immediately if delivery/completion schedule cannot be met. If delay is foreseen, the Vendor/Contractor/Provider shall give written notice to the Purchasing Agent. The County has the right to extend delivery/completion time if reason appears valid.

2.16 The title and risk of loss of the product(s) shall not pass to Collin County until Collin County actually receives and takes possession of the product(s) at the point or points of delivery. Collin County shall generate a purchase order(s) to the Vendor/Contractor/Provider and the purchase order number must appear on all itemized invoices.

2.17 Invoices shall be mailed directly to the Collin County Auditor's Office, 2300 Bloomdale Road, Suite 3100, McKinney, Texas 75071. All invoices shall show:

2.17.1 Collin County Purchase Order Number;

2.17.2 Vendor's/Contractor's/Provider's Name, Address and Tax Identification Number;

2.17.3 Detailed breakdown of all charges for the product(s) and/or service(s) including applicable time frames.

2.18 Payment will be made in accordance with V.T.C.A., Government Code, Title 10, Subtitle F, Chapter 2251.

2.19 All warranties shall be stated as required in the Uniform Commercial Code.

2.20 The Vendor/Contractor/Provider and Collin County agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.

2.21 The Vendor/Contractor/Provider agree to protect Collin County from any claims involving infringements of patents and/or copyrights.

2.22 The contract will be governed by the laws of the State of Texas. Should any portion of the contract be in conflict with the laws of the State of Texas, the State laws shall invalidate only that portion. The remaining portion of the contract shall remain in effect. The contract is performable in Collin County, Texas.

2.23 The Vendor/Contractor/Provider shall not sell, assign, transfer or convey the contract, in whole or in part, without the prior written approval from Collin County.

2.24 The apparent silence of any part of the specification as to any detail or to the apparent omission from it of a detailed description concerning any point, shall be regarded as meaning that only the best commercial practices are to prevail. All interpretations of the specification shall be made on the basis of this statement.

2.25 Vendor/Contractor/Provider shall not fraudulently advertise, publish or otherwise make reference to the existence of a contract between Collin County and Vendor/Contractor/Provider for purposes of solicitation. As exception, Vendor/Contractor/Provider may refer to Collin County as an evaluating reference for purposes of establishing a contract with other entities.

2.26 The Vendor/Contractor/Provider understands, acknowledges and agrees that if the Vendor/Contractor/Provider subcontracts with a third party for services and/or material, the primary Vendor/Contractor/Provider (awardee) accepts responsibility for full and prompt payment to the third party. Any dispute between the primary Vendor/Contractor/Provider and the third party, including any payment dispute, will be promptly remedied by the primary vendor. Failure to promptly render a remedy or to make prompt payment to the third party (subcontractor) may result in the withholding of funds from the primary Vendor/Contractor/Provider by Collin County for any payments owed to the third party.

2.27 Vendor/Contractor/Provider shall provide Collin County with diagnostic access tools at no additional cost to Collin County, for all Electrical and Mechanical systems, components, etc., procured through this contract.

2.28 Criminal History Background Check: If required, ALL individuals may be subject to a criminal history background check performed by the Collin County's Sheriff's Office prior to access being granted to Collin County. Upon request, Vendor/Contractor/Provider shall provide list of individuals to Collin County Purchasing Department within five (5) working days.

2.29 Non-Disclosure Agreement: Where applicable, vendor shall be required to sign a non-disclosure agreement acknowledging that all information to be furnished is in all respects confidential in nature, other than information which is in the public domain through other means and that any disclosure or use of same by vendor, except as provided in the contract/agreement, may cause serious harm or damage to Collin County. Therefore, Vendor agrees that Vendor will not use the information furnished for any purpose other than that stated in contract/agreement, and agrees that Vendor will not either directly or indirectly by agent, employee, or representative disclose this information, either in whole or in part, to any third party, except on a need to know basis for the purpose of evaluating any possible transaction. This agreement shall be binding upon Collin County and Vendor, and upon the directors, officers, employees and agents of each.

2.30 Vendors/Contractors/Providers must be in compliance with the Immigration and Reform Act of 1986 and all employees specific to this solicitation must be legally eligible to work in the United States of America.

2.31 Certification of Eligibility: This provision applies if the anticipated Contract exceeds \$100,000.00 and as it relates to the expenditure of federal grant funds. By submitting a bid or proposal in response to this solicitation, the Bidder/Quoter/Offeror certifies that at the time of submission, he/she is not on the Federal Government's list of suspended, ineligible, or debarred contractors. In the event of placement on the list between the time of bid/proposal submission and time of award, the Bidder/Quoter/Offeror will notify the Collin County Purchasing Agent. Failure to do so may result in terminating this contract for default.

2.32 Notice to Vendors/Contractors/Providers delivering goods or performing services within the Collin County Detention Facility: The Collin County Detention Facility houses persons who have been charged with and/or convicted of serious criminal offenses. When entering the Detention Facility, you could: (1) hear obscene or graphic language; (2) view partially clothed male inmates; (3) be subjected to verbal abuse or taunting; (4) risk physical altercations or physical contact, which could be minimal or possibly serious; (5) be exposed to communicable or infectious diseases; (6) be temporarily detained or prevented from immediately leaving the Detention Facility in the case of an emergency or "lockdown"; and (7) subjected to a search of your person or property. While the Collin County Sheriff's Office takes every reasonable precaution to protect the safety of visitors to the Detention Facility, because of the inherently dangerous nature of a Detention Facility and the type of the persons incarcerated therein, please be advised of the possibility of such situations exist and you should carefully consider such risks when entering the Detention Facility. By entering the Collin County Detention

Facility, you acknowledge that you are aware of such potential risks and willingly and knowingly choose to enter the Collin County Detention Facility.

2.33 Delays and Extensions of Time when applicable:

2.33.1 If the Vendor/Contractor/Provider is delayed at any time in the commence or progress of the Work by an act or neglect of the Owner or Architect/Engineer, or of an employee of either, or of a separate contractor employed by the Owner, or by changes ordered in the Work, or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Vendor/Contractor/Provider's control, or by delay authorized by the Owner pending mediation and arbitration, or by other causes which the Owner or Architect/Engineer determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Owner/Architect may determine.

2.33.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time and could not have been reasonably anticipated, and that the weather conditions had an adverse effect on the scheduled construction.

**NOTE:** All other terms and conditions (i.e. Insurance Requirements, Bond Requirements, etc.) shall be stated in the individual IFB/RFQ/RFP/RFI/CSP/Quotation Solicitation documents as Special Terms, Conditions and Specifications.

**3.0 INSURANCE REQUIREMENTS**

3.1 Before commencing work, the vendor shall be required, at its own expense, to furnish the Collin County Purchasing Agent with certified copies of all insurance certificate(s) indicating the coverage to remain in force throughout the term of this contract.

3.1.1 Commercial General Liability insurance at minimum combined single limits of (\$1,000,000 per-occurrence and \$2,000,000 general aggregate) for bodily injury and property damage, which coverage shall include products/completed operations, independent contractors, and contractual liability each at \$2,000,000 per occurrence. Coverage must be written on an occurrence form. In addition to the required insurance coverage above, the vendor shall be required to provide Collin County an umbrella policy in the amount of \$4,000,000.

3.1.2 Workers Compensation insurance at statutory limits, including employers liability coverage at minimum limits. In addition to these, the contractor must meet each stipulation below as required by the Texas Workers Compensation Commission; (Note: If you have questions concerning these requirements, you are instructed to contact the TWCC at (512)440-3789).

3.1.3 Commercial Automobile Liability insurance shall be no less than \$500,000 combined single limits per accident for bodily injury and property damage, including owned, non-owned, and hired vehicle coverage.

3.1.4 Professional Liability Insurance (E&O) at minimum limits of \$5,000,000. This policy must have a two (2) year extended period of coverage, (i.e. tail coverage). If you choose to have project coverage endorsed onto your base policy, this would be acceptable.

3.2 The required limits may be satisfied by any combination of primary, excess or umbrella liability insurances, provided the primary policy complies with the above requirements and the excess umbrella is following form. The vendor may maintain reasonable and customary deductibles, subject to approval by Collin County.

3.3 With reference to the foregoing insurance requirement, the vendor shall endorse applicable insurance policies as follows:

3.3.1 A waiver of subrogation in favor of Collin County, its officials, employees, volunteers and officers shall be contained in the workers compensation coverage.

3.3.2 The vendor's insurance coverage shall name Collin County as additional insured under the General Liability policy.

3.3.3 All insurance policies shall be endorsed to require the insurer to immediately notify Collin County of any decrease in the insurance coverage limits.

3.3.4 All insurance policies shall be endorsed to the effect that Collin County will receive at least thirty (30) days notice prior to cancellation, non-renewal or termination of the policy.

3.3.5 All copies of Certificates of Insurance shall reference the project/contract number.

3.4 All insurance shall be purchased from an insurance company that meets the following requirements:

3.4.1 A financial rating of B+VI or better as assigned by the BEST Rating Company or equivalent.

3.5 Certificates of Insurance shall be prepared and executed by the insurance company or its authorized agent, and shall contain provisions representing and warranting the following:

3.5.1 Sets forth all endorsements and insurance coverages according to requirements and instructions contained herein.

3.5.2 Sets forth the notice of cancellation or termination to Collin County.

#### **4.0 EVALUATION CRITERIA AND FACTORS**

4.1 The award of the contract shall be made to the responsible offeror whose proposal is determined to be the lowest and best evaluated offer resulting from negotiation, taking into consideration the relative importance of price and other factors set forth in the Request For Proposals in accordance with Vernon's Texas Code Annotated, Local Government.

4.1.1 The evaluation criteria will be grouped into percentage factors as follows:

25%	QUALITY ASSURANCE, (See Section 6.3.2)
20%	REFERENCES/EXPERIENCE (See Section 6.2 & 6.4)
15%	WORK PLAN & SCHEDULE (See Section 6.3.1)
40%	TOTAL PROPOSED PRICE

#### **5.0 SPECIAL CONDITIONS AND SCOPE OF SERVICES**

5.1 Authorization: By order of the Commissioners' Court of Collin County, Texas sealed proposals will be received for **Energy Management Integration** for the Collin County Courthouse Addition and Courthouse Renovation, located at 2100 Bloomdale Road, McKinney, Texas 75051.

5.2 Intent of Request for Proposal: Collin County's intent of this Request for Proposal (RFP) and resulting contract is to provide offerors with sufficient information to prepare a proposal for **Energy Management Integration**.

5.3 Term: Provide for a term contract commencing on the date of the award and continuing project is complete.

5.4 Funding: Funds for payment have been provided through the Collin County budget approved by the Commissioners' Court for this fiscal year only. State of Texas statutes prohibit the County from any obligation of public funds beyond the fiscal year for which a budget has been approved. Therefore, anticipated orders or other obligations that arise past the end of the current Collin County fiscal year shall be subject to budget approval.

5.5 Completion/Response Time: Vendor shall place product(s) and/or complete services at the County's designated location within the number of calendar days according to the schedule proposed by offeror in section 6.5.

5.6 Delivery/Setup/Installation Location: Locations for delivery and installation will be stated on the Collin County Purchase Order(s). Delivery shall include assembly, setup and installation and shall be included in proposal. Services to be performed 8:00 A.M. to 5:00 P.M. Monday thru Friday.

5.7 Samples/Demos: When requested, samples/demos shall be furnished free of expense to Collin County.

5.8 Approximate Usage: The scope of work is stated below.

5.9 Scope of Work

5.9.1 Furnish all labor, materials, tools, equipment and services for a front end integration of an existing (new construction) direct digital control, energy

management system (EMS) that controls the building space conditioning systems and other ancillary systems. In 2011 Collin County constructed a 170,000 sq. ft. addition to the courthouse and in 2012 renovated a portion of the existing courthouse.

- 5.9.2 The existing EMS is a Lon Works-based Energy Management System. The EMS contractor extended the LonWorks network to the Lower Level IT room of this current building being constructed in location as directed by Owner. The EMS integrator shall provide systems integration platform and communications to County LAN. The existing EMS server is a Dell Optiplex GX745 Core 2 4300, 1.8 GHz, 2 GB RAM, MS XP Pro Vers 2002 Service Pack 2, rack mounted and located in the IT Data Center (lower level of existing Courthouse). Currently loaded software includes: Webstation AX 3.3.16, Easy LON OPC Server, Care-XL 500 7.01.03. The EMS Integrator shall update AX Supervisor to version 3.5.35 or later. The EMS integrator shall upgrade any supporting software to latest version as required to accomplish scope of work.
- 5.9.3 The EMS Integrator shall refer to specification 15793 for understanding the scope of work included in the EMS Controls Contractor (hardware, controls, LON network) (Attachment A). Attachment J refers to list of known integration points. There may be unknown units that are not in the attachment that may be discovered during integration.
- 5.9.4 The EMS Integrator shall include interface of power monitoring data points, see Attachment B – Controller. This is providing communications network wiring between switchboard power meter and where directed by owner for connection and data server provided by EMS Integrator.
- 5.9.5 The EMS Integrator shall provide 4 NiagaraAX Framework servers (JACE web services) to assimilate subordinate building control system into the countywide automation network, consistent with the existing web servers provided for other buildings. Integrator shall provide suitable models of NiagaraAX Framework JACE sufficient to manage control point inventory of this building.
  - 5.9.5.1 Acceptable NiagaraAX Framework servers (JACE web servers) shall be available in the open market from authorized wholesalers to factory-certified integrators. Products exclusively sold by franchised contractors or factory branch offices shall be unacceptable.
  - 5.9.5.2 Integrator shall provide open system JACE that allows connectivity for engineering, data base construction, interactive graphical user interface and routine operations.
  - 5.9.5.3 Integration JACE web servers shall be capable of concurrently supporting the following protocols, seamlessly creating a uniform software environment across all layers of the device-to enterprise stack. Integrator shall provide appropriate protocol drivers and communication ports, as needed to implement successful

- communication between JACE web service and subordinate controller network.
- 5.9.5.3.1 LonMark
  - 5.9.5.3.2 BACnet
  - 5.9.5.3.3 Sedona Framework
  - 5.9.5.3.4 MODBUS
  - 5.9.5.3.5 JCI N2
  - 5.9.5.3.6 Honeywell C-Bus
  - 5.9.5.3.7 OPC
- 5.9.5.2 EMS Integrator shall coordinate with Collin County IT for location of all Network Communication devices. Collin County IT will provide a static IP address for each Controller.
- 5.9.6 The EMS Integrator shall provide a temporary local area network (LAN) to facilitate commissioning of controls by all necessary contractors without the need to be connected to the Collin County IT network. All commissioning tools necessary for this phase shall be provided in scope of work.
- 5.9.7 The EMS Integrator will create the required Tridium Database from LNS database provided by EMS Contractor (Specification 15973 Scope of Work).
- 5.9.8 The EMS Integrator will create user interface graphics for all new systems. The graphics shall have the same look and quality of the existing graphics shown in Attachments C-H.
- 5.9.9 Access to the system and graphics shall be internet based. This capability requires Collin County IT to provide VPN access to the network for approved users.
- 5.9.10 The EMS Integrator shall provide Messaging and Alarm Notification. Messaging and Alarm notification shall include: 1. Direct to operators interface screen, 2. E-mail
- 5.9.11 The EMS Integrator shall provide the capability to provide trending and reporting of all points. A list of specific reports to be generated to be supplied by Collin County. Creation of trend logs to be covered in owners training as part of this contract.
- 5.9.12 The EMS Integrator shall provide 32 hours of on-site operator training. The training shall be in four (4) individual sessions. The training shall be videotaped on DVD and provided to the owner.
- 5.9.13 The EMS Integrator shall provide 1 year warranty on parts and labor.
- 5.9.14 The EMS Integrator shall provide as-built drawings, O&M documentation, and database archives to the owner upon completion.
- 5.9.15 Any and all licenses provided for this project shall be completely open. All licenses jar files, and other necessary components will be property of Collin County.
- 5.9.16 Any existing licenses required to complete this project will be provided to the EMS Integrator as completely open by Collin County.

- 5.9.17 Specific Graphic Features Requested by Collin County: In addition to requirements that all points included shall be represented on the graphics screens, the following is a list of specific features:
- 5.9.17.1 The floorplan graphics shall include a room number for each room. When this room number is “double clicked” the appropriate VAV or fan coil page shall open.
  - 5.9.17.2 The VAV box screen shall display the design cooling flow (CFM) and current (actual) flow (CFM). The design cooling flow shall be what is reported from the VAV box controller. The VAV screen shall also display the maximum flow capability of the VAV box (from submittal data).
  - 5.9.17.3 The VAV box screen shall show if the temperature setpoint is overridden, either by slider on the tstat or by operator override.
  - 5.9.17.4 The operator shall the ability to disable the slider offset available at the tstat (+/- 2 deg offset). This capability to be available at the VAV box graphics screen.
  - 5.9.17.5 The VAV box screen shall show the time remaining on the afterhours override timer.
  - 5.9.17.6 The VAV box screen shall show the number of stages of heat engaged.
  - 5.9.17.7 The VAV box screen shall display: space temperature, occupied setpoint, unoccupied setpoint, actual setpoint if overridden, unoccupied/occupied schedule, and 24 hour space temperature graph.
  - 5.9.17.8 The VAV box screen shall identify which air handler it is served by.
  - 5.9.17.9 There shall be single screens provided that provides all room setpoints and temperatures. This shall be one, two, or three screens (as required) to allow a quick glance to see if any setpoints are overridden. This screen would also allow changing of those setpoints (or removal of override).
- 5.9.18 The scope of this work shall provide and install a new 50” flat screen monitor in the central plant control room. The monitor will be used to display building automation graphics.

## 5.10 RELATED WORK

- 5.10.1 See related sections.
  - 5.10.1.1 Related mechanical work: See drawings – Attachment I.
- 5.10.2 Attachment A to this specification includes the EMS Controls Contractor (Specification 15973 Scope of Work) submitted for this project (expansion of existing courthouse).

## 5.11 QUALITY ASSURANCE

- 5.11.1 The EMS shall be installed by competent mechanics and checked out by competent technicians, factory trained by the manufacturer of the equipment.
- 5.11.2 Single source responsibility of the EMS Contractor shall include installation, calibration, and check-out of the stand-alone sub-systems.
- 5.11.3 The EMS Contractor shall have an in-place, local support facility with technical staff, spare parts inventory, and all necessary test diagnostic equipment.

## 5.12 REFERENCED STANDARDS, CODES AND ORDINANCES

- 5.12.1 It is the responsibility of the EMS Contractor to be familiar with all codes, rules, ordinances, and regulations of the Authority having jurisdiction and their interpretations which are in effect at the site of the work.
- 5.12.2 All systems equipment, components, accessories, and installation hardware shall be new and free from defects and shall be UL listed where applicable. All components shall be in current production and shall be a standard product of the system or device manufacturer. Refurbished or reconditioned components are unacceptable. Each component shall bear the make, model number, device tag number (if any), and the UL label as applicable. All systems components of a given type shall be the product of the same manufacturer.

## 5.13 SUBMITTALS

- 5.13.1 Provide sufficient copies of submittal data requested by the Owner for coordination with other trades.
- 5.13.2 Submittals shall consist of:
  - 5.13.2.1 Data sheets of all products.
  - 5.13.2.2 Wiring and piping interconnection diagrams including panel and device power and sources.
  - 5.13.2.3 List of materials of all proposed devices and equipment.
  - 5.13.2.4 Software Documentation:
    - 5.13.2.4.1 Application programs.
  - 5.13.2.5 System Diagrams.
  - 5.13.2.6 Sample graphics for owner to review and approve.

## 5.14 PRODUCTS

- 5.14.1 General Description.
  - 5.14.1.1 All hardware shall be compatible with existing equipment as outlined in these specifications and outlined in specification section 15973. (Attachment A)

## 5.15 NETWORKING/COMMUNICATIONS

- 5.15.1 The design shall be the ability to expand or modify the network.

## 5.16 SYSTEM SOFTWARE FEATURES

- 5.16.1 All necessary software to form a complete operating system shall be provided.
- 5.16.2 Energy Management Applications

- 5.16.2.1 User Interface shall have the ability to perform any or all of the following energy management routines:
  - 5.16.2.1.1 Time of day scheduling
  - 5.16.2.1.2 Calendar based scheduling
  - 5.16.2.1.3 Holiday Scheduling
  - 5.16.2.1.4 Temporary schedule overrides
  - 5.16.2.1.5 Optimal start/stop of all mechanical equipment
  - 5.16.2.1.6 Automatic daylight savings time switchover
  - 5.16.2.1.7 Night setback controls
  - 5.16.2.1.8 Peak demand limiting
  - 5.16.2.1.9 Fan speed/CFM control
  - 5.16.2.1.10 Heating/Cooling Interlock
  - 5.16.2.1.11 Supply air reset
  - 5.16.2.1.12 Chilled water reset

## 5.17 EXECUTION

- 5.17.1 Installation: All wiring shall be properly supported and run in a neat and workmanlike manner.
  - 5.17.1.1 All wiring exposed in equipment rooms with exposed ceilings shall run parallel to or at right angles to the building structure. Exposed wiring subject to damage shall be run in conduit.
  - 5.17.1.2 All piping and wiring within enclosures shall be neatly bundled and anchored to prevent restriction to devices and terminals.
  - 5.17.1.3 Control wiring above accessible ceilings shall be plenum rated cable.
- 5.17.2 Power Wiring:
  - 5.17.2.1 120V power will be provided by Owner for final connection to Application Specific Controller by the EMS Contractor.
- 5.17.3 Enclosures:
  - 5.17.3.1 Provide a means of disconnecting the panel from the supply power without affecting the supply power to other panels or devices.
  - 5.17.3.2 Construct and locate panels in the manner that facilitates easy access and maintenance.
  - 5.17.3.3 Meet or exceed NEMA 1 requirements for panels in indoor environments.
  - 5.17.3.4 Meet or exceed NEMA 4X requirements for panels in outdoor and penthouse applications.
  - 5.17.3.5 Surface-mount panels on walls or framing channel. Provide framing channel and hardware as needed. Coordinate location with Owner prior to installation.
  - 5.17.3.6 Provide a pocket on the inside of the panel to hold wiring diagrams, schematics, and termination schedules.

**5.18 COMMISSIONING**

- 5.18.1 Control system to be set up and checked out by factory trained competent technicians skilled in the setting and adjustment of EMS equipment used in this project. This technician to be experienced in the type of systems associated with this EMS.
- 5.18.2 At the time of final observation, demonstrate all sequence of operation for each system and graphic display to Owner. Provide schedule for this event at least three (3) weeks in advance.

**5.19 TRAINING**

- 5.19.1 Provide four (4) eight (8) hour instruction periods to Owner's personnel in the operation and maintenance of the control system. Provide training after the system has been installed and checked out. Training sessions shall be digitally videotaped by the EMS contractor. Digital data shall be turned over to Owner at completion of training.

**5.20 WARRANTY**

- 5.20.1 At completion of final test of installation and acceptance by Owner, provide any service incidental to proper performance for a period of one (1) year.
- 5.20.2 Equipment shall be warranted for one (1) year (including defects in workmanship and material) under normal use and service. During warranty period, supplier shall also replace or repair, free of charge, any equipment proven to be defective in workmanship or material.
- 5.20.3 Certain electronic devices not manufactured by EMS supplier shall carry the original manufacturer's warranty. Pass any registration and warranty documents and warranty rights to the Owner.

**6.0 PROPOSAL FORMAT**

6.1 The proposal shall be submitted in either electronic format via [www.bidsync.com](http://www.bidsync.com) or hard copy in according to the following requirements. At a minimum, include a Table of Contents detailing sections and corresponding page numbers, and shall be printed on letter-size (8-1/2"x 11") paper and assembled with spiral-type bindings or staples. **DO NOT USE METAL-RING HARD COVER BINDERS.** Proposal shall include but not be limited to information on each of the following:

**6.1.1 FIRM OVERVIEW**

Offeror is requested to define the overall structure of the Firm to include the following.

- 6.1.1.1 A descriptive background of your company's history.
- 6.1.1.2 State your principal business location and any other service locations.
- 6.1.1.3 What is your primary line of business?
- 6.1.1.4 How long have you been selling product(s) and/or providing service(s)?
- 6.1.1.5 State how many and the locations where your product/services are in use.

**6.2 PROPOSED PROJECT TEAM/STAFF  
QUALIFICATIONS/EXPERIENCE/CREDENTIALS**

6.2.1 Offeror is requested to provide qualifications as well as experience information on Offeror's key personnel.

### 6.3 PROPOSED PROJECT

6.3.1 Offeror is requested to identify the proposed product(s)/service(s) to include but not limited to the following areas:

6.3.1.1 Work Plan to include:

- 6.3.1.1.1 Installation
- 6.3.1.1.2 Education and Training
- 6.3.1.1.3. Testing and Support
- 6.3.1.1.4 Impact on current system
- 6.3.1.1.5 Warranty
- 6.3.1.1.6 Maintenance
- 6.3.1.1.7 Documentation
- 6.3.1.1.8 Conversion

6.3.2 Respond to the following items.

- 6.3.2.1 The EMS shall be installed by competent mechanics and checked out by competent technicians, factory trained by the manufacturer of the equipment.
- 6.3.2.2 Single source responsibility of the EM Contractor shall include installation, calibration, and check-out of the stand-alone sub-systems.
- 6.3.2.3 The EMS Contractor shall have an in-place, local support facility with technical staff, spare parts inventory, and all necessary test diagnostic equipment.

### 6.4 REFERENCES

6.4.1 Offeror shall include at least five (5) references with names, addresses and telephone numbers.

### 6.5 TIME SCHEDULE

6.5.1 Offeror shall provide a schedule for the proposed project beginning with program development and ending with the date of operation. The schedule must include all tasks that will require time in the process, such as County review (identify amount of time assumed for each task).

### 6.6 PRICING/FEES

6.6.1 Offeror shall provide an explanation of the total cost of the project (Courthouse Addition and Courthouse Renovation) showing a breakdown by item. Be sure to include all items necessary to render project complete and operational.

### 6.7 FINANCIAL STATEMENTS

6.7.1 Offeror is requested to submit recent financial statements with their proposal. Audited financial statements are not mandatory. Unaudited financial statements will be accepted. If offeror's firm does, however, have audited statements, please include a copy with your proposal.

6.8 OTHER PROJECTS INVOLVED WITH

6.8.1 Offeror is requested to provide a list of other projects that you are currently involved with or will be involved with.

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## SECTION 15973

### ENERGY MANAGEMENT SYSTEM (EMS)

#### PART 1 - GENERAL

##### 1.1 SCOPE OF WORK

- A. Furnish all labor, materials, tools, equipment, and services for a direct digital control, energy management system (EMS) to control the building space conditioning systems and other ancillary systems. EMS contractor shall furnish controls to air terminal manufacturer for complete control and monitoring of individual zones. The fire alarm system will be provided by others and function as an independent system, but will send a notifying signal to be monitored by the EMS. Refer to SEQUENCE OF OPERATIONS in Paragraph 1.2 for a complete scope of control for each system.
- B. EMS Contractor shall provide a LonWorks-based Energy Management System. EMS Contractor shall provide and extend LonWorks network to the Lower Level IT room of this building being constructed in location as directed by the Owner. System Integrator (**Refer to section 15974**) shall provide systems integration platform and communications to County LAN under a separate Contract.
- C. Energy Management system shall operate fully independently of Central Plant operator console.
- D. EMS Contractor shall provide system configuration and commissioning software on a notebook computer with all necessary hardware (serial port, serial cable, connectors, and converters) and licensed system development software. This notebook computer and software to be provided to Test and Balance contractor prior to commencement of Test and Balance services for the project. The laptop shall be returned to the owner following completion of Test and Balance services.
- E. Provide as-built documentation, CARE files, and LNS data base to Owner.
- F. For reference, examine recent Collin County projects for system model include:
  - 1. New Courthouse
- G. Scope NOT included:
  - 1. The work station monitor, graphics, trends and alarm reports are not be provided under this contract. This scope is provided by **System Integrator (Refer to section 15974)** under a separate contract.
- H. Specific Equipment NOT controlled by the EMS:
  - 1. Security System
  - 2. Fire Alarm System
- I. The EMS Contractor shall deliver the following features, hardware, and functions as a minimum:
  - 1. Application Specific controller for each major piece of equipment.
  - 2. Application software per the SEQUENCE OF OPERATIONS.
  - 3. Network Architecture.
  - 4. Furnish and install all sensors, transducers, actuators, and control valves per this specification.

##### 1.2 SEQUENCE OF OPERATIONS

- A. Sequences of Operations for equipment are shown on plans.
- B. Fire Alarm
  - 1. Monitor status only for fire alarm system.

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- C. Power Monitoring
  - 1. Division 16 is providing communications network wiring between switchboard power meter and where directed by owner for connection with data server provided by **System Integrator (Refer to section 15974)** under separate Contract.

### 1.3 RELATED WORK

- A. See related sections:
  - 1. General requirements: Division 1.
  - 2. Related mechanical work: Division 15.
  - 3. Related electrical work: Division 16.

### 1.4 QUALITY ASSURANCE

- A. The EMS shall be installed by competent mechanics and checked out by competent technicians factory trained by the manufacturer of the equipment.
- B. Single source responsibility of the EMS Contractor shall include installation, calibration, and check-out of the stand-alone subsystems.
- C. The EMS Contractor shall have an in-place, local support facility with technical staff, spare parts inventory, and all necessary test diagnostic equipment.

### 1.5 TECHNICAL PROPOSALS

- A. Technical proposals shall be prepared in accordance with these specifications. Three copies of the proposal shall be submitted. The technical proposal shall include the following data/information as a minimum. The order of listing here is not intended to indicate, nor should it be construed to indicate, the relative importance of the data/information:
  - 1. Information on organizational capability to handle this project (management, personnel, manufacturing, single source responsibility, etc.).
  - 2. Information on training program to demonstrate specification compliance.
  - 3. System configuration as proposed:
    - a. Describe system operation, functions and control techniques.
    - b. Modularity.
    - c. Provisions against obsolescence due to technological advancement. Include in this section a description of the upgrade paths necessary so that previous generations of equipment can seamlessly communicate with the most recent generation of controllers.
  - 4. A signed certificate stating the Contractor has read the performance and functional requirements, understands them and his technical proposal will comply with all parts of the specification.
  - 5. Other requirements for inclusion in the technical proposal are located throughout this specification.
- B. Submit technical proposals with pricing in accordance with Instructions to Bidders.

### 1.6 REFERENCED STANDARDS, CODES AND ORDINANCES

- A. It is the responsibility of the EMS Contractor to be familiar with all codes, rules, ordinances, and regulations of the Authority Having Jurisdiction and their interpretations which are in effect at the site of the work.
- B. All systems equipment, components, accessories, and installation hardware shall be new and free from defects and shall be UL listed where applicable. All components shall be in current production and shall be a standard product of the system or device manufacturer. Refurbished or reconditioned components are unacceptable. Each component shall bear

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the make, model number, device tag number (if any), and the UL label as applicable. All systems components of a given type shall be the product of the same manufacturer.

## 1.7 SUBMITTALS

- A. **Contractor shall submit with bid a narrative of scope and a complete points list for verification during the bid review process.**
- B. Provide sufficient copies of submittal data, as required in Division 1 and requested by the General Contractor for coordination with other trades.
- C. Submittals shall consist of:
  - 1. Data sheets of all products.
  - 2. Wiring and piping interconnection diagrams including panel and device power, and sources.
  - 3. List of materials of all proposed devices and equipment.
  - 4. Software documentation:
    - a. Sequence of operation, in text form.
    - b. Application programs.
  - 5. Point schedules.
  - 6. Controls schematics and system diagrams.
  - 7. Valve and damper schedules.

## 1.8 WORK BY OTHERS

- A. Automatic control valves shall be furnished by the EMS contractor and installed by the Mechanical Contractor. **Provide globe style valve body for hydronic applications.** All reducers and fittings necessary to install smaller than pipe size valves shall be furnished and installed by the Mechanical Contractor.
- B. Automatic dampers and actuators shall be furnished by the EMS contractor and installed by the Mechanical Contractor.
- C. Piping: Water pressure and differential sensors, valve manifolds, flow switches, thermal sensors shall be furnished and installed by the EMS contractor. All piping taps and wells shall be provided by the mechanical contractor in locations shown on plans and/or locations directed by the EMS contractor for optimal performance.
- D. Duct air flow monitors shall be furnished by the EMS contractor and installed by the Mechanical Contractor.
- E. Smoke Detectors: All smoke detectors, including duct mounted smoke detectors, will be provided and wired to the Fire Alarm Panel by the Fire Alarm Contractor. Duct smoke detectors will be installed by the Mechanical Contractor. Shutdown interlock wiring between starters/variable frequency drives and the Fire Alarm system shutdown contacts shall be installed by the EMS Contractor.
- F. Dedicated 120VAC to all control panels will be provided by the Electrical Contractor.
- G. Terminal Box DDC controllers will be furnished by the EMS Contractor to the Terminal Box Manufacturer for installation.
- H. 24V power for fan powered box DDC controllers will be derived from factory provided 24V transformer in the fan powered boxes. Transformer shall be oversized to serve three (3) adjacent VAV (cooling only) box controllers. All 24V wiring shall be extended from fan powered box to the VAV box by the EMS contractor.

## PART 2 - PRODUCTS

### 2.1 GENERAL DESCRIPTION

- A. The Energy Management System shall be LonWorks based system.

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- B. The system shall be modular in nature, and shall permit expansion of both capacity and functionality through the addition of sensors, actuators, standalone DDC panels, and operator devices.
- C. System architectural design shall eliminate dependence upon any single device for alarm reporting and control execution. Each DDC panel shall operate independently by performing its own specified control, alarm management, operator I/O, and historical data collection. The failure of any single component or network connection shall not interrupt the execution of control strategies at other operational devices.
- D. Standalone DDC panels shall be able to access any data from, or send control commands and alarm reports directly to any other DDC panel or combination of panels on the network without dependence upon a central processing device, such as a central file server. Standalone DDC panels shall also be able to send alarm reports to multiple operator workstations, terminals, and printers without dependence upon a central processing device or File Server.

## 2.2 NETWORKING/COMMUNICATIONS

- A. The design of the EMS shall network Standalone DDC Panels. Inherent in the system's design shall be the ability to expand or modify the network.

## 2.3 STANDALONE DDC PANELS

- A. General: Standalone DDC panels shall be microprocessor based, multi-tasking, multi-user, real-time digital control processors. Each standalone DDC panel shall consist of modular hardware with plug-in enclosed processors, communication controllers, power supplies, and input/output modules. A sufficient number of controllers shall be supplied to fully meet the requirements of this specification and the attached point list.
- B. Expandability: The system shall be modular in nature, and shall permit easy expansion through the addition of software applications, workstation hardware, field controllers, sensors, and actuators. The system architecture shall support expansion capacity of all types of DDC panels, and all point types included in the initial installation for tenant finish-out and future buildings.
- C. Serial Communication Ports: Standalone DDC panels shall provide at least two RS-232C serial data communication ports for simultaneous operation of operator I/O devices such as industry standard printers, laptop workstations, PC workstations, and panel mounted or portable DDC panel Operator's Terminals.
- D. Surge and Transient Protection: Isolation shall be provided at all network terminations, as well as all field point terminations to suppress induced voltage transients consistent with IEEE Standard 587-1980.
- E. Power-Fail Restart: In the event of the loss of normal power, there shall be an orderly shutdown of all standalone DDC panels to prevent the loss of database or operating system software. Non-volatile memory shall be incorporated for all critical controller configuration data, and battery back-up shall be provided to support the real-time clock and all volatile memory for a minimum of 72 hours.
- F. Upon restoration of normal power, the DDC panel shall automatically resume full operation without manual intervention.

## 2.4 SYSTEM SOFTWARE FEATURES

- A. General:
  - 1. All necessary software to form a complete operating system shall be provided.
  - 2. The software programs shall be provided as an integral part of the DDC panel and shall not be dependent upon any higher level computer for execution.

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- B. Control Software Description:
1. Pre-Tested Control Algorithms: The DDC panels shall have the ability to perform the following pre-tested control algorithms:
    - a. Two Position Control
    - b. Proportional Control
    - c. Proportional plus Integral Control
    - d. Proportional, Integral, plus Derivative Control
    - e. Automatic Control Loop Tuning
  2. Equipment Cycling Protection: Control software shall include a provision for limiting the number of times each piece of equipment may be cycled within any one-hour period.
  3. Heavy Equipment Delays: The system shall provide protection against excessive demand situations during start-up periods by automatically introducing time delays between successive start commands to heavy electrical loads.
  4. Power-Fail Motor Restart: Upon the resumption of normal power, the DDC panel shall analyze the status of all controlled equipment, compare it with normal occupancy scheduling, and turn equipment on or off as necessary to resume normal operation.
- C. Energy Management Applications:
1. DDC Panels shall have the ability to perform any or all of the following energy management routines:
    - Time of Day Scheduling
    - Calendar Based Scheduling
    - Holiday Scheduling
    - Temporary Schedule Overrides
    - Optimal Start/Stop of all mechanical equipment
    - Automatic Daylight Savings Time switchover
    - Night Setback Control
    - Peak Demand Limiting
    - Fan Speed/CFM Control
    - Heating/Cooling Interlock
    - Supply Air Reset
    - Chilled Water Reset

## 2.5 APPLICATION SPECIFIC CONTROLLERS (ASC)

- A. Each DDC controller shall be able to extend its performance and capacity through the use of remote application specific controllers (ASCs).
1. Each ASC shall operate as a stand-alone controller capable of performing its specified control responsibilities independently of other controllers in the network. Each ASC shall be a microprocessor-based, multi-tasking, real-time digital control processor.
- B. Terminal Equipment Controllers
1. DDC controllers for VAV/CAV boxes shall be LonMark compliant 8010 products.
  2. The controls contractor shall furnish the terminal equipment controller (controller, damper motor, flow transducer) to the terminal unit manufacturer, for factory mounting. Costs associated with factory mounting of terminal equipment controller shall be covered by terminal unit manufacturer. The terminal box manufacturer shall provide an averaging air velocity sensor suitable for interfacing with the TEC's differential pressure transducer.
  3. Each TEC shall be accessible for purposes of control and monitoring from a central or remote operator's terminals.

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4. TEC damper actuator shall be of the 24V AC floating point type. Upon power loss, the actuator maintains its current damper position. Position status is shown in percentage open notation.
5. TEC room temperature sensor shall come complete with a terminal jack and programmable override switch integral to the sensor assembly, temperature sensor shall have ability for temperature adjustment. The terminal jack shall be used to connect a portable operator's terminal to control and monitor all hardware and software points associated with the terminal unit. An override switch shall initiate override of the night setback or unoccupied mode to normal operation when activated. The switch function may be locked out, cancelled, or limited as to time or temperature in software. The TEC room temperature sensor shall have aluminum silk screened graphic with the box designation.
6. TEC differential pressure transducer shall accept an overage air flow measurement signal from the terminal box averaging air velocity sensor. The value is converted through a square root function to average air flow by the TEC.

## 2.6 FIELD EQUIPMENT

### A. Dampers, Valves and Operators:

1. Dampers shall be provided in 2-inch size increments from 8 inches (horizontal and vertical) to 48 inches. Individual damper panels shall not exceed 48 inches in width (blade length).
2. Dampers shall be of the special low-leakage type, with opposed-acting blades not exceeding 6 inches in width. Each damper panel shall be not more than 48 inches in width (damper blade length), and each panel shall be provided with a separate, independent electric operator.
3. Dampers shall have continuous extruded vinyl seals on the edges of each damper blade where blade edges meet when the damper is closed, and flexible stainless steel or aluminum compression seals at the jambs.
4. Blades and frames shall be constructed of 6063-T5 aluminum, with frames extruded in the form of channels, and blades extruded in the form of airfoils.
5. Blades shall be operated by glass-filled nylon gears, or the equivalent, located outside of the air stream.
6. Dampers shall be designed so that the maximum air leakage does not exceed 6.2 CFM/sq. ft. of damper area when the damper is subjected to a 4-inch water column pressure differential, with a maximum torque of 210 inch-pounds applied to the damper operator.
7. Dampers shall be tested in accordance with AMCA-500 with calculations of leakage based on a 48-inch by 48-inch damper. Test data shall be included with shop drawings.
8. Dampers shall be Ruskin low leakage Model CD-50 or approved equal.

### B. Valves:

1. Water valves shall be sized by the temperature controls manufacturer to produce the required capacity at a pressure loss of not more than 5 psi. Nominal body rating shall be not less than 150 psig. However, the valve body and packing selected shall be designed and rated for the maximum system operating pressure and temperature at the point of installation. Each valve shall be equipped with proper packing to assure that there will be no leakage at the valve stem. Valves shall be fully proportioning with modulating plugs for equal percentage of linear flow characteristics. Water valves 2" and smaller shall be constructed with a cast brass body and screwed ends. Trim shall consist of a removable cage providing valve plug guiding throughout the entire travel range. A stainless steel stem shall be provided. Bonnet, cage and the stem and plug assembly shall be removable for servicing. Body rating shall be 400 psi at 150 degrees F. Body rating shall also meet or exceed ANSI B16.5 Class 250. All

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chilled water valves shall be normally open (open to coil if 3-way). Water valves 2-1/2" and larger shall be ANSI B-16.1, Class 125 with cast iron body, flanged connections, stainless steel stem and brass plug and seats. **Provide globe style valve body for hydronic applications.**

- C. Electronic actuators shall be direct-coupled type which requires no crankarm or linkage. Actuators shall be modulating or two-position type as required by the application, and shall be spring-return type where indicated. Actuators shall be sized to provide sufficient torque to smoothly modulate the controlled device over the entire span of travel. All actuators shall incorporate current limiting circuitry to protect the motor from overload and damage at all angles of rotation. Actuators shall incorporate integral position indication switches where indicated in the sequence of operation to confirm the open/closed status of the controlled device. Actuators shall be UL listed and CSI certified, shall have a two-year manufacturer's warranty, and shall be manufactured under ISO 9001 International Quality Controls Standards. Actuators shall be manufactured by Belimo Aircontrols, Inc. or approved equal.
1. Spring return actuators shall be provided on all outside air dampers.
- D. Air Terminal Units: Electric actuators, DDC controllers, and transducers shall be furnished under this Section. The terminal unit manufacturer shall factory mount the devices and connect all wiring and tubing in accordance with drawings furnished under this Section. The terminal unit manufacturer shall furnish and install on fan powered boxes a properly sized 24V transformer and toggle switch on a 4 x 4 electrical box securely fastened to the terminal unit. The terminal unit manufacturer shall furnish and install a flow cross in the inlets of the unit to measure the differential between the total and static pressures. Manufacturer shall extend the tubing from the flow cross and connect to the differential pressure transducer furnished by the EMS contractor. The control sequences shall be as described within this Section and the terminal unit shall be shipped from the manufacturer with all the necessary control devices to accomplish each sequence. 24 volt power wiring for VAV cooling only boxes shall be provided by the EMS contractor from fan powered box 24V transformer. Room space temperature sensors and associated cabling shall be furnished and installed by the EMS contractor.
- E. Temperature Elements:
1. Room, duct and immersion temperature elements shall be of the precision nickel wire wound type or platinum or Thermistor type sensors. Where the element is used for sensing mixed air temperature or coil discharge temperatures and/or the duct area is in excess of 14 square feet, the element shall be of the averaging type. This element shall be a minimum of 96 inches long.
  2. Temperature elements shall have a minimum accuracy of .1% for room and insertion elements and 1% for averaging type.
  3. Where temperature elements are used for sensing liquid temperatures, they shall be furnished with separable brass wells.
  4. Room temperature sensors shall incorporate integral pushbutton for after-hours HVAC zone operation. Depressing the button shall place the associated equipment into occupied operation for a period from 1 - 12 hours (adjustable at the Operator Workstation). Depressing the after-hours request button prior to expiration of the after-hours timer shall re-initialize the timer. All after-hours requests shall be recorded at the Operator Workstation, indicating the time, date, duration, and the zone sensor from which the request was made. After hours operation shall be enabled/disabled for each individual zone sensor from the Operator Workstation.
  5. Provide low temperature protection thermostats of manual reset type with sensing elements 8'-0" or 20' in length. Provide thermostat designed to operate in response to coldest 1' -0" length of sensing element, regardless of temperature at other parts of element. Support element properly to cover entire duct or

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equipment width. Provide separate thermostats for each 25 sq. ft. of coil face area or fraction thereof.

- F. Water Flow Meters:
  - 1. Onicon dual paddle flow meter, 4-20 ma output, calibrated for installed conditions
  
- G. Static Pressure Transducer:
  - 1. Static pressure transducers shall be of the low differential type for use in air and similar non-conducting gases. The transducer shall produce an output voltage that varies proportionally with a change in static pressure.
  - 2. The range for the static pressure sensor shall be matched to the static pressure of the system being sensed, 0 to .5 inches, 0 to 2 inches, 0 to 5 inches, or 0 to 10 inches.
  - 3. Accuracy shall be plus or minus 2% of the full range being sensed.
  
- H. Humidity Sensor/Transmitter
  - 1. System Accuracy: +/-2% RH @ 77°F from 20-95% RH
  - 2. Output Signal: Two wire 4-20 ma linear, proportional to 5-95% RH.
  
- I. Current Switches:
  - 1. Provide a solid state switch which when the current level sensed by the internal current transformer exceeds the adjustable trip point. Internal circuits are to be totally powered by induction from the line being monitored.
  
- J. Air Flow Monitors:
  - 1. Ruskin AMS 50 with integral control damper

### **PART 3 - EXECUTION**

#### **3.1 INSTALLATION**

- A. EMS Contractor shall review the SEQUENCE OF OPERATIONS and coordinate any interface requirements with the appropriate sub-contractor as soon as possible. EMS Contractor is responsible for verifying that all equipment is provided with interface modules capable of communicating with this specific EMS system, or providing the proper communication modules to communicate with the equipment to achieve the SEQUENCE OF OPERATIONS.
  
- B. All wiring and tubing shall be properly supported and run in a neat and workmanlike manner.
  - 1. All wiring and tubing exposed in equipment rooms and office areas with exposed ceilings shall run parallel to or at right angles to the building structure. Exposed wiring (including wiring in exposed areas in office areas) and tubing subject to damage shall be run in conduit.
  - 2. All piping and wiring within enclosures shall be neatly bundled and anchored to prevent restriction to devices and terminals.
  - 3. Control wiring above accessible ceilings shall be plenum rated cable.
  
- C. Power wiring:
  - 1. 120V power will be provided by Division 16 for final connection to Application Specific Controller panels by the EMS contractor.
  
- D. Enclosures
  - 1. Provide a means of disconnecting the panel from the supply power without affecting the supply power to other panels or devices.
  - 2. Construct and locate panels in the manner that facilitates easy access and maintenance.
  - 3. Meet or exceed NEMA 1 requirements for panels in indoor environments.

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4. Meet or exceed NEMA 4X requirements for panels in outdoor and penthouse applications.
  5. Surface-mount panels on walls or framing channel. Provide framing channel and hardware as needed. Coordinate location with Owner and Architect prior to installation.
  6. Provide a pocket on the inside of the panel to hold wiring diagrams, schematics, and termination schedules.
- E. Equipment
1. Temperature sensing wells:
    - a. Provide list with shop drawing of well locations to Mechanical Contractor.
  2. In general, locate temperature sensors and temperature sensors for room control immediately inside of door, adjacent to light switch, or where directed by Architect.
    - a. Where light switch is in an entryway to room, locate sensor and/or stat on wall within room so it is capable of sensing true space conditions.
    - b. Prior to installation, coordinate sensor and/or thermostat locations with Architect.
  3. Mount local control panels at convenient locations adjacent to equipment served.
    - a. Mount all relays, PE switches, pressure switches, etc., internal to the temperature control panels.
    - b. Tag each instrument corresponding to symbols used on control diagrams.
    - c. Make fully compensated capillaries connected to instruments of sufficient length to allow them to be run in neat and workmanlike manner and placed in such position so that they will not obstruct service on equipment controlled.
  4. Mounting of field microprocessors on air handling units, rooftop units, etc. shall not be allowed.

### 3.2 COMMISSIONING

- A. Control system to be set up and checked out by factory trained competent technicians skilled in the setting and adjustment of EMS equipment used in this project. This technician to be experienced in the type of systems associated with this EMS.
- B. At time of final observation, demonstrate all sequence of operation for each system and graphic display to Engineer.

### 3.3 TRAINING

- A. Provide 5 four hour instruction periods to Owner's personnel in the operation and maintenance of the control system. Provide training after the system has been installed and checked out. Training sessions shall be digitally videotaped by the EMS contractor. Digital data shall be turned over to Owner at completion of training.

### 3.4 WARRANTY

- A. At completion of final test of installation and acceptance by Owner, provide any service incidental to proper performance for a period of one year.
- B. Equipment shall be warranted for one year (including defects in workmanship and material) under normal use and service. During warranty period supplier shall also replace or repair, free of charge, any equipment proven to be defective in workmanship or material.
- C. Certain electronic devices not manufactured by the EMS supplier shall carry the original manufacturers warranty. Pass any registration and warranty documents and warranty rights to the Owner.

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**END OF SECTION 15973**

TAC Xenta

# TAC Xenta® 280 Controller, Freely Programmable



The TAC Xenta 280 is a family of freely programmable controllers designed for zone control or small-sized heating and air handling systems. A TAC Xenta 280 controller contains basic HVAC functionality including control loops, curves, time control, alarm handling etc. The TAC Xenta 283 has a LonMark Real Time Keeper object.

The Xenta 280 controller is available with three different I/O configurations, the TAC Xenta 281, 282, and 283. The controllers are designed for cabinet mounting. The controller can be removed/inserted from/to the terminal part without disconnecting the power supply. When adding or replacing a controller it's also possible to pre-configure it in order to achieve plug and play functionality without any on-site configurations. They are simple to program and put into operation, using the TAC Menta graphical software tool. The controller communicates on a LonTalk TP/FT-10 network via a twisted-pair, unshielded cable. It is able to operate as a stand-alone unit and can be easily connected to a large LonWorks based network.

For local use, the TAC Xenta OP (Operator Panel) can be connected. The operator panel has a display and push buttons for navigating and altering settings. The operator panel can be snapped onto the TAC Xenta controller unit, mounted on the front of the cabinet, or used as a portable terminal.

### SYSTEM CONFIGURATIONS

- The TAC Xenta 280 controller can be used in different configurations:
- as a stand-alone unit
- as a controller (with operator panel) in a small network
- as a controller (with operator panel) and other equipment in a full network with suitable adapters, possibly connected to a TAC Vista Building Management System

Fig. 1 shows an example of a networked TAC Xenta configuration.

Sensors and actuators on the field level are mostly connected to the conventional inputs/outputs of the controllers. Some external units, however, may connect directly to the network to communicate input/output data, using Standard Network Variable Types (SNVTs).

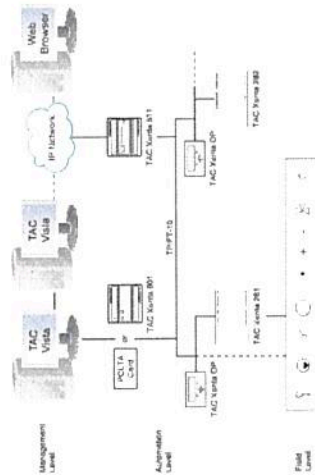


Figure 1

### DESIGN

The TAC Xenta 280 controller has been designed as a general purpose unitary (one-to-one) controller. Thus it can be mounted in close proximity to the controlled equipment, minimizing the wiring required.

The TAC Xenta 280 is microprocessor based. It consists of a terminal and electronics mounted together (Fig. 2). The Xenta 280 can be interfaced with a wide variety of field sensors/transducers and controlled devices. All terminations of field wires are done on the terminal part only. Thus the electronics part may be removed for service without affecting the terminal connections.

### Local Operator Panel

The TAC Xenta OP (Operator Panel) is a small operator panel which can be connected to the unit through its enclosure. The operator can read the point status, perform manual override, read measured values, alter set points etc., from the operator panel.

The functions are selected from menus. Access to the unit is enabled by using an access code. It is possible to access other TAC Xenta units on the same network.

### Real Time Clock

The clock provides data such as the year, month, date, day, hour, minute and second.

A built-in capacitor guarantees operation of the clock for at least 72 hours in the event of a power outage.

The TAC Xenta 283 is intended to be used as a Real Time Keeper. Real time is exposed as an output network variable. SNVT time stamp which can be bound to other LonWorks devices.

### Daylight Saving Time:

European, Australian or USA/Canada Once set, Daylight Saving Time (DST) is fully automatic. The change-over date and the number of hours to change are programmable. This function can also be disabled.

### Digital Inputs

The digital inputs are used to sense alarm contacts, status indications, pulse counting, etc. Each digital input can be used as a pulse counter (e.g. for flow measurement). Another application available when using the digital inputs is for alarm monitoring. Each time an alarm is tripped, the corresponding counter can be incremented. The digital inputs circuits are internally powered.

### Universal Inputs

The universal inputs can be individually configured as analog or digital inputs. A high and a low limit can be set for each universal input. If configured as digital inputs, the universal inputs may be used, for example, for sensing switch positions. The universal input types are selected via the application program.

### Thermistor Inputs

The TAC Xenta 282 and 283 have the thermistor inputs, 1.8 kΩ at 25°C (+77°F).

In the Xenta 283, these inputs are also individually configurable for 10 kΩ at 25°C (+77°F).

### Digital Outputs

There are digital outputs for the control of equipment such as fans, pumps or similar devices. The output signal can be

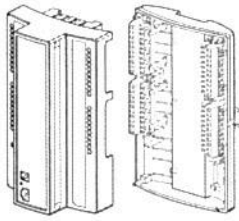


Figure 2

pulse width modulated and can be used to control increase/decrease actuators, in the TAC Xenta 283, the digital outputs are designed as TRIAC outputs.

### Analog Outputs

There are analog outputs for controlling actuators or other analog equipment.

### LonWorks SNVT Support

The use of Standard Network Variable Types (SNVT), in accordance with the Echelon specification, makes it possible to communicate with nodes made by other manufacturers.

### Power Outage Protection

Using non-volatile (flash) memory, the unit will start up with user settings and work normally after a power outage.

### TAC Xenta Operator Panel Port

The TAC Xenta OP (Operator Panel) is also connected to the network and can thus act as an operator panel for other units in the network. The connection is made via the modular jack on the front of the controller or directly, using the network cable.

### RS-232 Port

The TAC Xenta 280 controller has an RS-232 port. This port is intended for connection to a PC using the TAC Menta programming tool for loading and commissioning the application program.

The port can also be used for connection between TAC Vista and specific TAC Xenta 280 units (see 2 under "TAC Vista Building Management System" above). Connection via a modem is not supported.

### TAC Vista Building Management System

When connected to a TAC Vista Building Management System (version 4.0 or higher, for Xenta 283 version 4.10 or higher), the operating conditions of the fans, pumps, heat exchangers etc. can be monitored in color graphics or printed reports.

Temperatures and alarms can be read, while setpoints and time settings may be altered as required.

TAC Xenta controllers can be reached from TAC Vista in one of the following ways:

- 1 Any controller in the network via a PC/LTA card.
  - 2 A specific controller via the RS-232 connection.
  - 3 Any controller in the network via the TAC Xenta 501 LonTalk adapter.
- Application programs generated in TAC Menta may be downloaded from TAC Vista via the network.



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Air Handler	Northwest	Courthouse
-------------	-----------	------------

Schedule Occupied
Zone Loads Call False
Zone Controller Occupied
System Enable

Min Outdoor Damper Open
Status Open
Max Outdoor Damper 0 %
Position 1 %
Outdoor Iso Damper 0 %
Position -0 %

Supply Temperature 55.0 °F	Log
Supply Temperature Setpoint 55.0 °F	Set

Valve Details

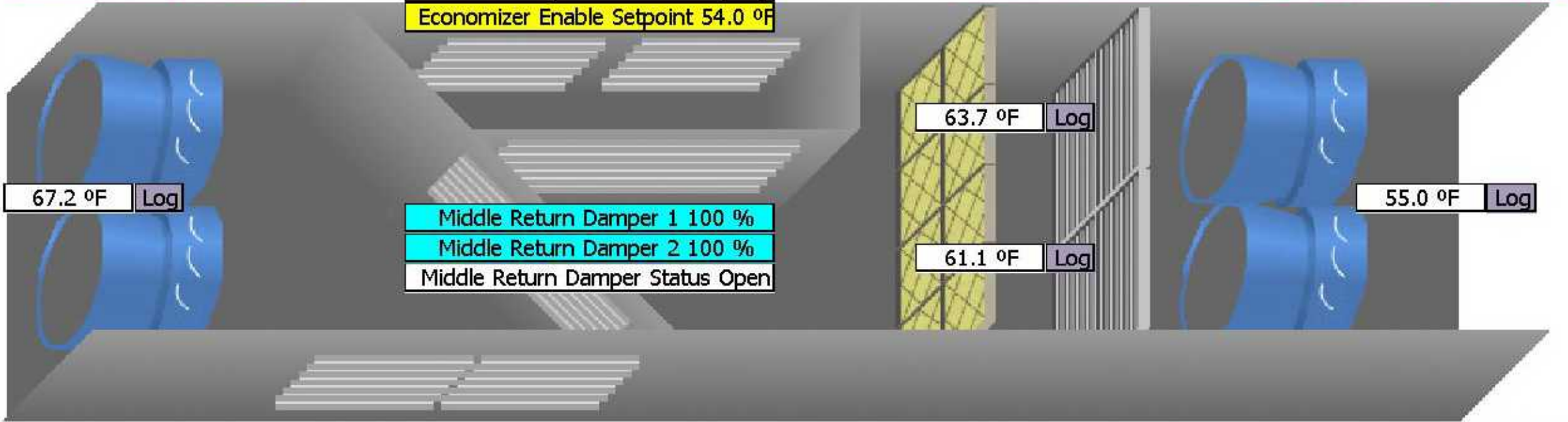
Air Flow Details

Return Air Damper 2 Open
Isolation Damper 2 Open

Outdoor Temperature 57.1 °F	Log
Economizer Enable Setpoint 54.0 °F	

Chilled Water Valve 2 0 %
---------------------------

Supply Air Damper 2 Open
--------------------------



Return Air Damper 1 Open
Isolation Damper 1 Open

Relief Air Damper 0 %
Status Closed

Chilled Water Valve 1 0 %
---------------------------

Supply Air Damper 1 Open
--------------------------

Valve Details

Air Flow Details

Indoor Air Quality	
Outdoor Air CO2 1992 ppm	Log
Return Air CO2 553 ppm	Log
Return Air CO2 Setpoint 800 ppm	

Filter Status Clean

Air Handler Fans						
Fan	Command	Emergency	Status	Speed	VSD	Flow
Supply 1	Enable	Permit	On	45 %	Normal	13900 cfm
Supply 2	Enable	Permit	On	45 %	Normal	16833 cfm
Return 1	Enable	Permit	On	27 %	Normal	0 cfm
Return 2	Enable	Permit	On	27 %	Normal	541 cfm

Morning Warmup	
Building Warmup Cycle False	
Return Temperature 67.2 °F	Log
Warmup Return Setpoint 60.0 °F	
Outdoor Temperature 57.1 °F	Log
Warmup Outdoor Setpoint 45.0 °F	

Duct Pressure	
Duct Static Press L3 1.31 in/wc	Log
Duct Static Press L2 1.41 in/wc	Log
Duct Static Press L1 1.44 in/wc	Log
Duct Static Press L0 1.44 in/wc	Log
Duct Static Pressure Setpoint 1.00 in/wc	

FpVav 12

First Floor

Northwest

Courthouse

Room Number 10174

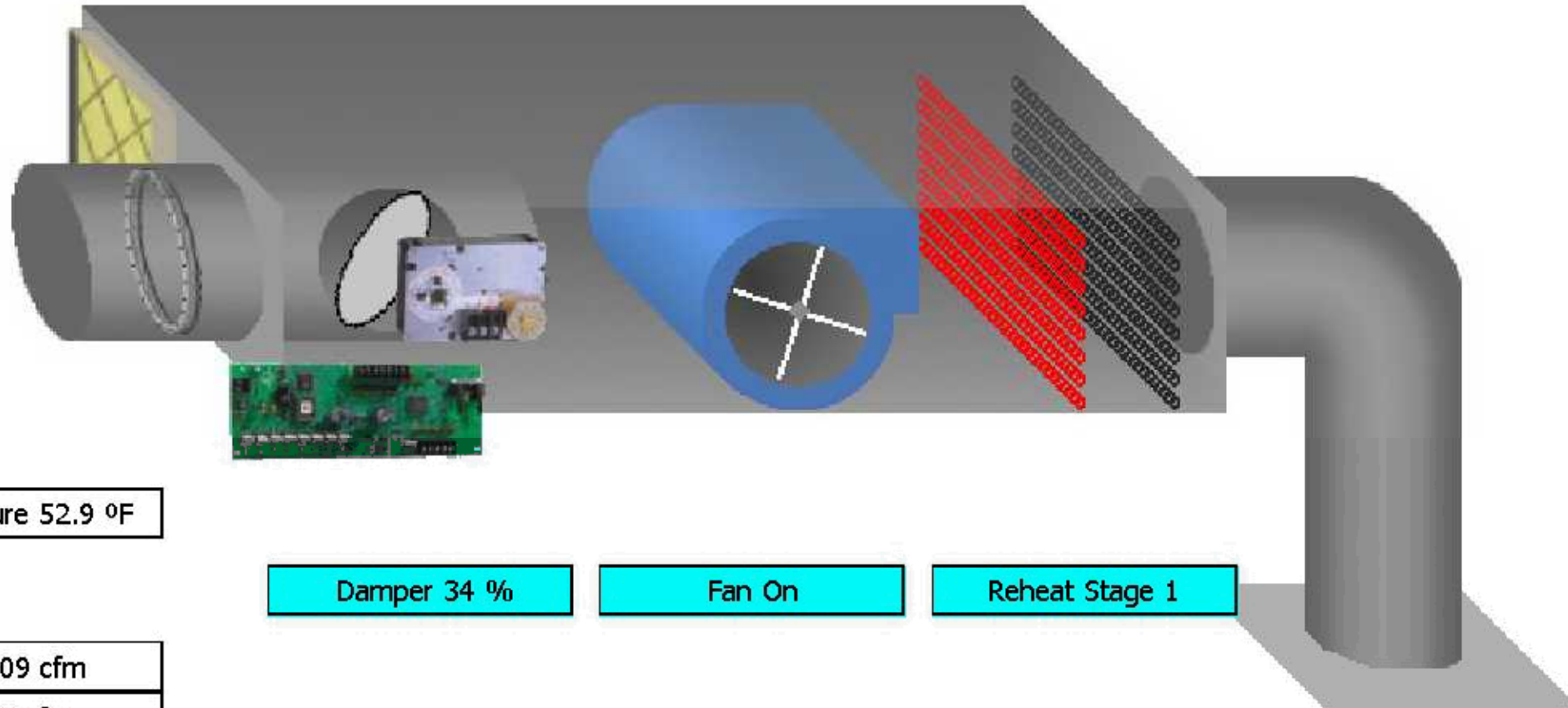
Schedule

Bypass Timer 0 min

Occupied Status Occupied

Status Mode Reheat

Terminal Load -19 %



Air Handler Supply Temperature 52.9 °F

Damper 34 %

Fan On

Reheat Stage 1

Measured Inlet Air Flow 309 cfm

Desired Inlet Air Flow 297 cfm

Temperature Setpoints	Cooling	Heating
Occupant Dial	73.3 °F	
Occupied	74.0 °F	72.0 °F
Unoccupied	79.0 °F	71.0 °F
Effective Setpoint	72.1 °F	

If setpoint dial is used, occupied setpoints are ignored

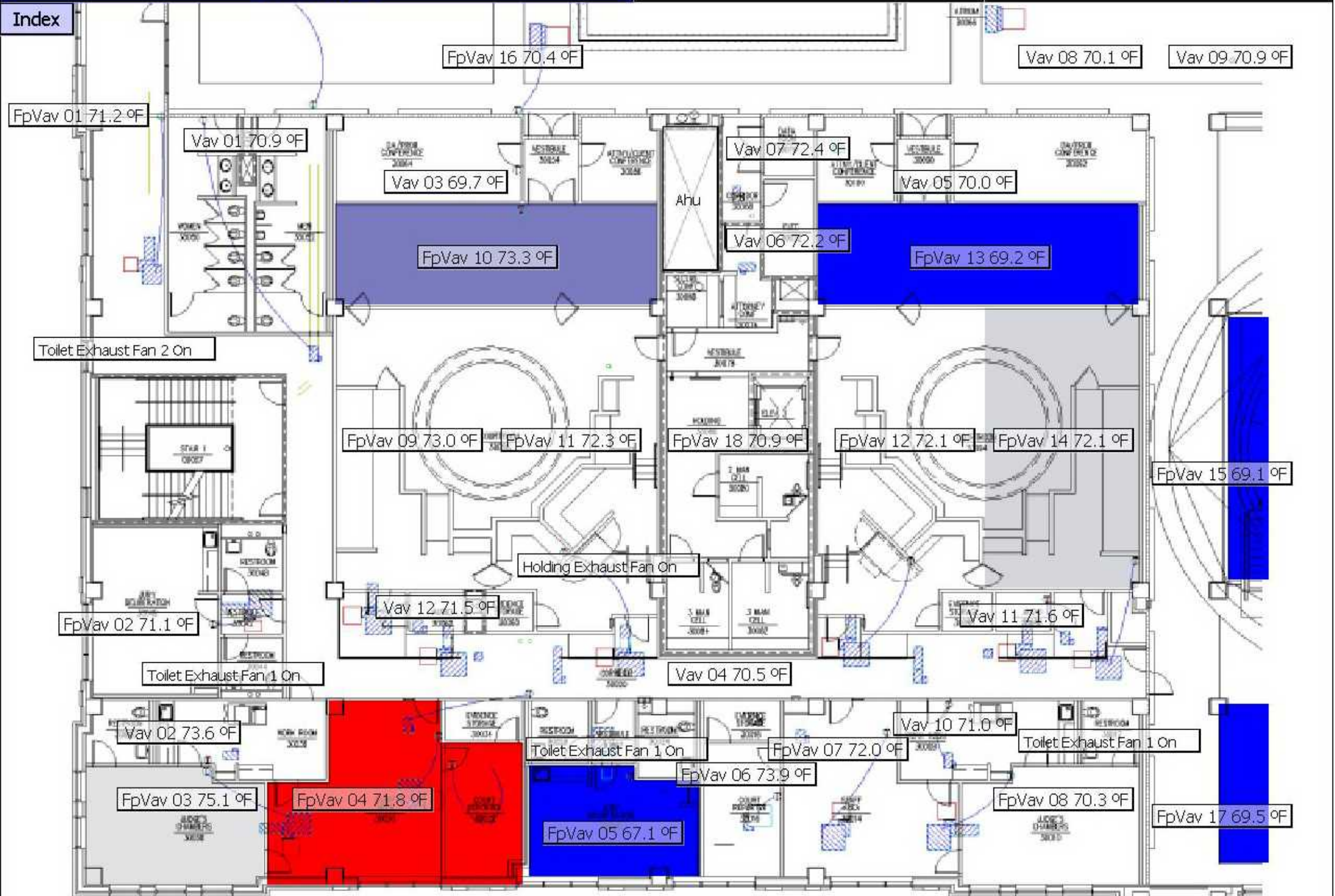


Network Status Normal

Zone Temperature 70.6 °F

Log

## Third Floor Southwest Courthouse





## Utility Fans

## Courthouse

Utility Exhaust Fans							
Fan	Serves	Control Location	Command	Status	Log	Damper Command	Damper Status
Toilet Exhaust Fan 1	NW Restrooms	Southwest	On	On	Log		
Toilet Exhaust Fan 2	NW Restrooms	Southwest	On	On	Log		
Toilet Exhaust Fan 3	NW Restrooms	Northwest	On	On	Log		
Toilet Exhaust Fan 4	NW Restrooms	Northwest	On	On	Log		
Toilet Exhaust Fan 5	NW Restrooms	Northeast	On	On	Log		
Toilet Exhaust Fan 6	NW Restrooms	Northeast	On	On	Log		
Toilet Exhaust Fan 7	NW Restrooms	Southeast	On	On	Log		
Toilet Exhaust Fan 8	NW Restrooms	Southeast	Off	Off	Log		
Toilet Exhaust Fan 9	Lower Level Restroom	Pump Room	On	Off	Log	Close	Closed
Holding Exhaust Fan	NW 1st thru 3rd holding	Northwest	On	On	Log		
Holding Exhaust Fan	NW 1st thru 3rd holding	Northeast	On	On	Log		
Holding Exhaust Fan	NW 1st thru 3rd holding	Southwest	On	On	Log		
Holding Exhaust Fan	NW 1st thru 3rd holding	Southeast	Off	Off	Log		
NW Exhaust Fan 0-1	Sally Port	Pump Room		On	Log	Open	Closed
NW Exhaust Fan 0-2	UPS	Pump Room		Off	Log	Open	Closed
NE Exhaust Fan 0-1	Truck Dock	Pump Room	On			Open	Open
NE Exhaust Fan 0-2	Juvenile Holding	Pump Room	On			Open	Open
Toilet Exhaust Fan 0-1	Unknown	Pump Room	Off				
Toilet Exhaust Fan 0-2	Unknown	Pump Room	On				

Vav 03

First Floor

Northwest

Courthouse

Room Number 10174

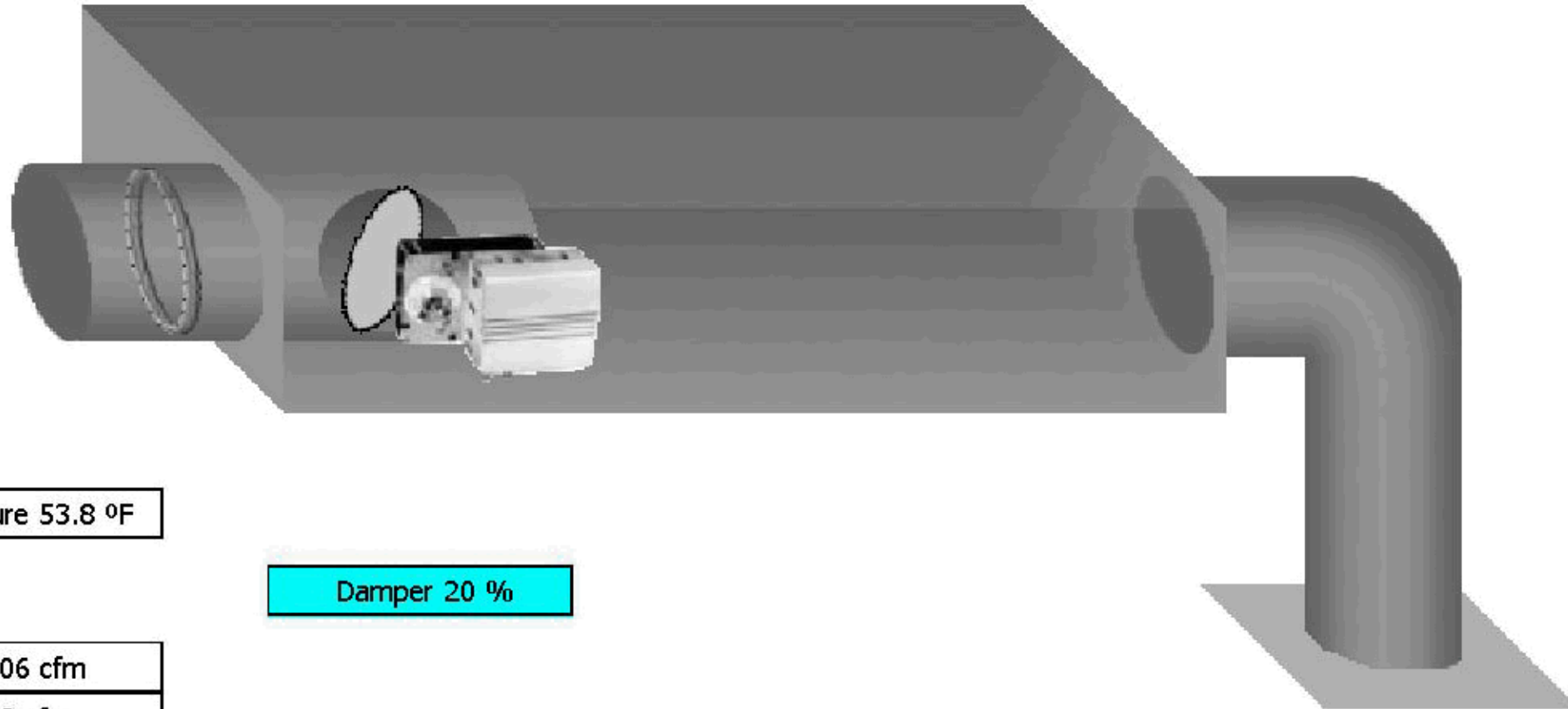
Schedule

Bypass Timer 0 min

Occupied Status Occupied

Status Mode Cool

Terminal Load 0 %



Air Handler Supply Temperature 53.8 °F

Damper 20 %

Measured Inlet Air Flow 106 cfm

Desired Inlet Air Flow 102 cfm

Temperature Setpoints	Cooling	Heating
Occupant Dial	70.0 °F	
Occupied	72.0 °F	70.0 °F
Unoccupied	85.0 °F	60.0 °F
Effective Setpoint	71.0 °F	

If setpoint dial is used, occupied setpoints are ignored



Network Status Normal

Zone Temperature 70.8 °F

Log

## Integration Points for Bloomdale Courthouse Addition and Renovation

### Bloomdale Addition

Qty	Device	Device Model
1	Router 1	LIP-3333ECTB
132	FPVAV Controllers	102-AX
8	VAV Controllers	102-AX
4	FCU Controllers	281
8	Data Room Split Unit Controllers w/ Thermostat	STR350
2	AHU Controller	401
2	AHU Controller	421A
6	AHU Controller	451A
6	AHU Controller	411
1	Crawl Space Leak Detection	281
5	Exhaust Fans tied to AHU Controller	
115	FP and VAV Thermostats	STR202
4	FCU Thermostats	STR103
5	Shell Space Thermostats	STR200
1	Outdoor Air/Humidity Temp Sensor	EHO110-100
4	Dry Differential Pressure Sensor	EPP102
2	Dry Differential Pressure Sensor in Bldg	EPP101
12	Duct Temp Sensors	TFKNR0
2	CHWR Immersion Temp	ETI100-4
2	Humidity-Duct Mount	EHD110
1	Room Humidity Transmitter	HW2V-T1
4	Pressure Switch w/ Manual Reset	AFS-460-131
4	Low Temperature Thermostat	TC-5242
2	Pressure Switch w/ Auto Reset	AFS-222-131

### Bloomdale Renovation

Qty	Device	Device Model
1	Router 2	LIP-3333ECTB
83	FPVAV Controllers	102-AX
16	VAV Controllers	102-AX
30	Existing FPVAV Controllers	?????
1	Chilled Water Controller	281
100	Thermostats	STR202

### Unknown if in Addition or Renovation

Qty	Device	Device Model
1	Flow Meter	ONI-F-1210

**\*\*There will be additional points that will need  
to be integrated, created, and customized in  
AHU's.**

### SIGNATURE FORM COLLIN COUNTY, TEXAS

DELIVERY WILL BE F.O.B. INSIDE DELIVERY AT COLLIN COUNTY DESIGNATED LOCATIONS AND ALL TRANSPORTATION CHARGES PAID BY THE SUPPLIER TO DESTINATION.

DELIVERY TO BE SPECIFIED IN CALENDAR DAYS FROM DATE OF ORDER.

WE **DO NOT** TAKE EXCEPTION TO THE BID SPECIFICATIONS.

WE **TAKE** EXCEPTION TO THE BID SPECIFICATIONS (EXPLAIN):

#### COMPANY INFORMATION/PROFILE/REFERENCES

Preferential Requirement: The County of Collin, as a governmental agency of the State of Texas, may not award a contract to a nonresident bidder unless the nonresident's bid is lower than the lowest bid submitted by a responsible Texas resident bidder by the same amount that a Texas resident bidder would be required to underbid a nonresident bidder to obtain a comparable contract in the state in which the nonresident's principal place of business is located (Government Code, Title 10, V.T.C.A., Chapter 2252, Subchapter A). Bidder shall make answer to the following questions by selecting the appropriate radio button or inserting information in the box provided:

Is your principal place of business in the State of Texas?       Yes       No

If the answer to question is "yes", no further information is necessary; if "no", please indicate:

in which state is your principal place of business is located:

if that state favors resident bidders (bidders in your state) by some dollar increment or percentage:  Yes  No

if "yes", what is that dollar increment or percentage?

**Company Profile: IS YOUR FIRM?**

- Sole Proprietorship  Yes  No
- General Partnership  Yes  No
- Limited Partnership  Yes  No
- Corporation  Yes  No
- Other   Yes  No

List Legal Names in Company:

**List at least three (3) companies or governmental agencies where these same/like products/services, as stated herein, have been provided. Include company name, address, contact name and telephone number.**

AS PERMITTED UNDER TITLE 8, CHAPTER 271, SUBCHAPTER F, SECTION 271.101 AND 271.102 V.T.C.A. AND TITLE 7, CHAPTER 791, SUBCHAPTER C, SECTION 791.025, V.T.C.A., OTHER LOCAL GOVERNMENTAL ENTITIES MAY WISH TO ALSO PARTICIPATE UNDER THE SAME TERMS AND CONDITIONS CONTAINED IN THIS CONTRACT. EACH ENTITY WISHING TO PARTICIPATE MUST ENTER INTO AN INTERLOCAL AGREEMENT WITH COLLIN COUNTY AND HAVE PRIOR AUTHORIZATION FROM VENDOR. IF SUCH PARTICIPATION IS AUTHORIZED, ALL PURCHASE ORDERS WILL BE ISSUED DIRECTLY FROM AND SHIPPED DIRECTLY TO THE LOCAL GOVERNMENTAL ENTITY REQUIRING SUPPLIES/SERVICES. COLLIN COUNTY SHALL NOT BE HELD RESPONSIBLE FOR ANY ORDERS PLACED, DELIVERIES MADE OR PAYMENT FOR SUPPLIES/SERVICES ORDERED BY THESE ENTITIES. EACH ENTITY RESERVES THE RIGHT TO DETERMINE THEIR PARTICIPATION IN THIS CONTRACT. WOULD BIDDER BE WILLING TO ALLOW OTHER LOCAL GOVERNMENTAL ENTITIES TO PARTICIPATE IN THIS CONTRACT, IF AWARDED, UNDER THE SAME TERMS AND CONDITIONS?  Yes  No

By signing and submitting this Bid/Proposal, Bidder/Offeror acknowledges, understands the specifications, any and all addenda, and agrees to the bid/proposal terms and conditions and can provide the minimum requirements stated herein. Bidder/Offeror acknowledges they have read the document in its entirety, visited the site, performed investigations and verifications as deemed necessary, is familiar with local conditions under which work is to be performed and will be responsible for any and all errors in Bid/Proposal submittal resulting from Bidder/Offeror's failure to do so. Bidder/Offeror acknowledges the prices submitted in this Bid/Proposal have been carefully reviewed and are submitted as correct and final. If Bid/Proposal is accepted, vendor further certifies and agrees to furnish any and all products/services upon which prices are extended at the price submitted, and upon conditions in the specifications of the Invitation for Bid/Request for Proposal.

THE UNDERSIGNED HEREBY CERTIFIES THE FOREGOING BID/PROPOSAL SUBMITTED BY THE COMPANY LISTED BELOW HEREINAFTER CALLED "BIDDER/OFFEROR" IS THE DULY AUTHORIZED AGENT OF SAID COMPANY AND THE PERSON SIGNING SAID BID/PROPOSAL HAS BEEN DULY AUTHORIZED TO EXECUTE SAME. BIDDER/OFFEROR AFFIRMS THAT THEY ARE DULY AUTHORIZED TO EXECUTE THIS CONTRACT; THIS COMPANY; CORPORATION, FIRM, PARTNERSHIP OR INDIVIDUAL HAS NOT PREPARED THIS BID/PROPOSAL IN COLLUSION WITH ANY OTHER BIDDER/OFFEROR OR OTHER PERSON OR PERSONS ENGAGED IN THE SAME LINE OF BUSINESS; AND THAT THE CONTENTS OF THIS BID/PROPOSAL AS TO PRICES, TERMS AND CONDITIONS OF SAID BID/PROPOSAL HAVE NOT BEEN COMMUNICATED BY THE UNDERSIGNED NOR BY ANY EMPLOYEE OR AGENT TO ANY OTHER PERSON ENGAGED IN THIS TYPE OF BUSINESS PRIOR TO THE OFFICIAL OPENING OF THIS BID/PROPOSAL.

Company Name	<input type="text"/>
Street Address of Principal Place of Business	<input type="text"/>
City, State, Zip	<input type="text"/>
Phone of Principal Place of Business	<input type="text"/>
Fax of Principal Place of Business	<input type="text"/>
E-mail Address of Representative	<input type="text"/>
Federal Identification Number	<input type="text"/>
Date	<input type="text"/>
Acknowledgement of Addenda	#1 € #2 € #3 € #4 € #5 € #6 €
Authorized Representative Name	<input type="text"/>
Authorized Representative Title	<input type="text"/>
Signature (Required for paper bid submission)	<input type="text"/>

**AFFIDAVIT OF COMPLIANCE**

I, the undersigned, declare and affirm that my company is in compliance with the Immigration and Reform Act of 1986 and all employees are legally eligible to work in the United States of America.

I further understand and acknowledge that any non-compliance with the Immigration and Reform Act of 1986 at any time during the term of this contract will render the contract voidable.

Name of Company	<input type="text"/>
Title of Officer	<input type="text"/>
Name of Officer	<input type="text"/>
Date:	<input type="text"/>



**FORM CIQ**

**CONFLICT OF INTEREST QUESTIONNAIRE**

**Page 2**

**For vendor or other person doing business with local governmental entity**

**5 Name of local government officer with whom filer has affiliation or business relationship.  
(Complete this section only if the answer to A, B, or C is YES.)**

This section, item 5 including subparts A, B, C & D, must be completed for each officer with whom the filer has affiliation or other relationship. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer named in this section receiving or likely to receive taxable income from the filer of the questionnaire?  Yes  No

B. Is the filer of the questionnaire receiving or likely to receive taxable income from or at the direction of the local government officer named in this section AND the taxable income is not from the local governmental entity?  Yes  No

C. Is the filer of this questionnaire affiliated with a corporation or other business entity that the local government officer serves as an officer or director, or holds an ownership of 10 percent or more?  Yes  No

D. Describe each affiliation or business relationship.

Empty text box for describing affiliation or business relationship.

**6**

Signature line

Signature of person doing business with the governmental entity

Date line

Date

Adopted 11/02/2005

**COLLIN COUNTY**

OFFICE OF COUNTY AUDITOR  
2300 Bloomdale Road • Suite 3100  
McKinney, Texas 75071  
(972) 548-4731 • Metro (972) 424-1460  
Fax (972) 548-4696

Dear Vendor:

In order for Collin County to comply with Internal Revenue Service Guidelines, we are required to keep a W-9 on file for each vendor to whom we have remitted payment(s). Collin County is in the process of up dating their files.

Please complete the attached/faxed W-9 form and **fax** to (972) 548-4696 OR **mail** the original to 2300 Bloomdale Road, Suite 3100, McKinney, Tx 75071. Failure to do so may result in delay(s) of future payments.

Thank you in advance for your assistance in this matter.

Sincerely,

Jeffry May  
Collin County Auditor

JM/pac

Form **W-9**  
(Rev. October 2007)  
Department of the Treasury  
Internal Revenue Service

## Request for Taxpayer Identification Number and Certification

**Give form to the  
requester. Do not  
send to the IRS.**

<b>Print or type See Specific Instructions on page 2.</b>	Name (as shown on your income tax return)	
	Business name, if different from above	
	Check appropriate box: <input type="checkbox"/> Individual/Sole proprietor <input type="checkbox"/> Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Limited liability company. Enter the tax classification (D=disregarded entity, C=corporation, P=partnership) ▶ ..... <input type="checkbox"/> Other (see instructions) ▶	<input type="checkbox"/> Exempt payee
	Address (number, street, and apt. or suite no.)	Requester's name and address (optional)
	City, state, and ZIP code	
List account number(s) here (optional)		

### Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on Line 1 to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I Instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Social security number
:                    :
:                    :
or
Employer identification number
:                    :

**Note.** If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

### Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
3. I am a U.S. citizen or other U.S. person (defined below).

**Certification instructions.** You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the Certification, but you must provide your correct TIN. See the instructions on page 4.

<b>Sign Here</b>	Signature of U.S. person ▶	Date ▶
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### General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

#### Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

**Note.** If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

**Definition of a U.S. person.** For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

**Special rules for partnerships.** Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.

The person who gives Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States is in the following cases:

- The U.S. owner of a disregarded entity and not the entity,

In order to better serve our bidders, the Collin County Purchasing Department is conducting the following survey. We appreciate your time and effort expended to submit your bid. Please take a moment to complete the below. Should you have any questions or require more information please call (972) 548-4165.

HOW DID YOU RECEIVE NOTICE OF THIS REQUEST FOR BID OR PROPOSALS?

McKinney Courier-Gazette?	€	Yes	€	No
Plan Room?	€	Yes	€	No
Collin County Web-Site?	€	Yes	€	No
Facsimile or email from BidSync?	€	Yes	€	No
Other <input type="text"/>				

HOW DID YOU RECEIVE THE BID DOCUMENTS?

Downloaded from Home Computer?	€	Yes	€	No
Downloaded from Company Computer?	€	Yes	€	No
Requested a Copy from Collin County?	€	Yes	€	No
Other <input type="text"/>				

Thank You,

Collin County Purchasing Department

## Question and Answers for Bid #2013-112 - Services, Energy Management Integration

### OVERALL BID QUESTIONS

There are no questions associated with this bid. If you would like to submit a question, please click on the "Create New Question" button below.