

BOARD OF COUNTY COMMISSIONERS
SARPY COUNTY, NEBRASKA
RESOLUTION AWARDING ENERGY AUDIT PROJECT
FOR FACILITIES MANAGEMENT

2010-247

WHEREAS, pursuant to Neb. Rev. Stat. §23-104(6) (Reissue 1997), the County has the power to do all acts in relation to the concerns of the County necessary to the exercise of its corporate powers; and,

WHEREAS, pursuant to Neb. Rev. Stat. §23-103 (Reissue 1997), the powers of the County as a body are exercised by the County Board; and,

WHEREAS, bids for this matter have been solicited, made, opened and reviewed pursuant to applicable Nebraska State Statutes; and,

WHEREAS, based on those proceedings, and after a public hearing, this Board has duly deliberated and considered the bids received; and,

WHEREAS, this Board desires to proceed forthwith in order to expedite and facilitate service to the citizens of Sarpy County.

NOW, THEREFORE, be it resolved by this Board of County Commissioners that:

- (1) The low bid of EMG Corp. for Energy Audit Project in the amount of Twenty Seven Thousand Seven Hundred Seventy Four Dollars and No Cents (\$27,774.00) is accepted, ratified, and confirmed.
- (2) This Board's Chairman, Clerk, and Attorney are hereby authorized and directed to execute such ancillary documents as may be required to evidence the contract and take any and all steps necessary or required in order to carry out the terms of such contract after said documents have been reviewed by the Attorney, Fiscal Administrator, and County Administrator.

DATED this 27th day of July, 2010.

MOVED by Rich Jansen, seconded by Rusty Hike, that the above Resolution be adopted. Carried.

YEAS:

NAYS:

ABSENT:

[Signature]
[Signature]
[Signature]
[Signature]
[Signature]

none

none

ABSTAIN:

none

Attest:



SEAL

Approved As To Form:

[Signature]
County Clerk

[Signature]
Deputy County Attorney

AGREEMENT

This Agreement is entered into by and between the County of Sarpy, in the State of Nebraska, a body politic and corporate, and hereinafter "County", and EMG Corp., hereinafter "Vendor".

WHEREAS, County is desirous of contracting for Energy Audit Project for the Sarpy County Facilities Management; and,

WHEREAS, the Vendor has been awarded this Agreement as a result of the bid made by Vendor in response to the Specifications and Request for Proposals prepared by County;

NOW, THEREFORE, for and in consideration of the declarations and mutual promises and covenants contained herein, the County and Vendor agree as follows:

I. DUTIES OF VENDOR:

- A. Services to be rendered by Vendor under this Agreement shall be all those services necessary and proper for the installation and materials for Energy Audit Project in conformity with each and every term, condition, specification, and requirement of the Bid Specifications and the Bid submitted by the Vendor.
- B. All provisions of each document and item referred to in Paragraph A above shall be strictly complied with the same as if rewritten herein, and in the event of conflict among the provisions of said documents, the provisions most favorable to the County shall govern.
- C. Prior to the commencement of any work, Vendor will place on file with the Sarpy County Clerk, the required certificates of insurance, if applicable.
- D. The Vendor agrees to comply with the residency verification requirements of Neb. Rev. Stat. §4-108 through §4-114. The Vendor is required and hereby agrees to use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of a newly hired employee.

If the Vendor is an individual or sole proprietorship, the following applies:

- 1. The Vendor must complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at

www.das.state.ne.us.

2. If the Vendor indicates on such attestation form that he or she is a qualified alien, the Vendor agrees to provide the U.S. Citizenship and Immigration Services documentation required to verify the Vendor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.
 3. The Vendor understands and agrees that lawful presence in the United States is required and the Vendor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. Sect. 4-108.
- E. Vendor will submit an invoice to County for work completed based on the amounts specified in Vendor's bid. Such invoices shall be submitted to:

Sarpy County Facilities Management
Ross Richards
1210 Golden Gate Drive
Papillion, NE 68046

- F. The County and Vendor hereto specifically acknowledge, stipulate and agree that each and every term of the Bid Specifications and the Vendor's bid constitutes an essential term of this Agreement, and that, therefore, any violation of any term, condition, provision, or requirement constitutes a material breach hereunder, for which County shall have every right under the law to terminate this Agreement, and obtain any and all relief necessary.
- G. Vendor agrees to comply with the below federal provisions, as described in the Specifications.

Sarpy County has provided assurance that the County will comply with the provisions of the Davis Bacon Act and that workers on projects funded directly by or assisted in whole or part by Federal funds will be paid wages at rates not less than those prevailing on projects of similar character in accordance with subchapter IV of Chapter 31 of Title 40, United States Code.

Vendor must comply with Davis Bacon prevailing wage requirements and related Acts, Buy American provisions along with any other applicable Federal Provision associated with the American Recovery and Reinvestment Act of 2009.

Notice of American-Made Equipment & Products:

Vendor must comply with all Buy American provisions. This section is intended as a summary only.

In accordance to the American Recovery and Reinvestment Act of 2009 (May 2009), to the greatest extent practical, the Vendor shall use American-made iron, steel, and manufactured goods. Vendor shall abide by all Buy American provisions for iron, steel, and manufactured goods and shall provide to County a certification stating that Vendor's proposal does comply with Buy American provisions unless an exception is granted as set forth below.

A manufactured good is defined as a good brought to the site for incorporation into the building or work that has been (i) processed into a specific form and shape; or (ii) combined with other raw material to create a material that has different properties than the properties of the individual raw material.

An exception to this provision may be taken if the following conditions are both met and proved:

- a. The cost of the domestic iron, steel, and/or manufactured goods would be unreasonable. The cost of domestic iron, steel, or manufactured goods used in the project is unreasonable when the cumulative cost of such material will increase the cost of the overall project by more than 25%.
- b. The iron, steel, and/or manufactured good is not produced, or manufactured in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or
- c. The application of the restriction of section 1605 of the Recovery Act would be inconsistent with the public interest.

Exceptions to American-Made:

Any Vendor requesting to use foreign iron, steel, and/or manufactured goods in accordance with exceptions specified must include documentation of adequate information for Federal Government evaluation of the request. The request must be included with the submission of the Bid Form. This request must include:

- a. A description of the foreign and domestic iron, steel, and/or manufactured goods
- b. Unit of measure
- c. Quantity
- d. Cost
- e. Time of delivery or availability

- f. Location of the project
- g. Name and address of the proposed supplier; and
- h. A detailed justification of the reason for use of foreign iron, steel, and/or manufactured goods cited in accordance to this Specification.

A request based on unreasonable cost shall include a reasonable survey of the market and a complete cost comparison table in the format listed in Exhibit B. If there are no exceptions to the Buy American Act, Vendor shall sign the Buy American Certification in Exhibit C. Exhibit B and Exhibit C shall be submitted with Bid Form.

The cost of iron, steel, and/or manufactured goods material shall include all delivery costs to the site and any applicable duty.

Any Vendor request for a determination after project completion shall explain why the Vendor could not reasonably foresee the need for such determination and could not have requested the determination before the funds were obligated.

Davis Bacon Act:

Vendor must comply with all Davis Bacon prevailing wage requirements and related Acts. This section is intended as a summary only.

All laborers and mechanics employed or working upon the site of work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached as Exhibit "C" regardless of any contractual relationship which may be alleged to exist between the Vendor and such laborers and mechanics. Any wage determination incorporated for a secondary site of work shall be effective from the first day on which work under the award was performed at the site and shall be incorporated without any adjustment in award price or estimated cost. Laborers employed by the Vendor or any subcontractor that are transporting portions of the work between the secondary site of the work and the primary site of the work shall be paid in accordance with the wage determination applicable to the primary site of the work.

The wage determination (including any additional classifications and wage rates conformed under the Davis Bacon poster (WH-1321) shall be posted at all times by the Vendor and its subcontractors at the site of the work in a prominent and

accessible place where it can be easily seen by the workers.

Payrolls and basic records relating to Davis Bacon shall be maintained by the Vendor during the course of the work and preserved for a period of three (3) years thereafter for all laborers and mechanics working at the site of work. Such records shall contain the name, address, and social security number of each such worker, his/her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in the Davis Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid.

1. Required Davis Bacon Documentation:

The Vendor shall submit weekly for each week in which any award work is performed a copy of all payrolls to:

Beth Cunard
Sarpy County Purchasing
1210 Golden Gate Drive
Papillion, Nebraska 68046

The payrolls submitted shall set out accurately and completely all of the information required to be maintained under this section and Davis Bacon. This information may be submitted in any form desired.

The Prime Contractor is responsible for the submission of copies of payrolls by all subcontractors.

Each payroll submitted shall be accompanied by a "Statement of Compliance" signed by the Vendor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the award and shall certify:

- a. That the payroll for the payroll period contains the information required to be maintained under Davis Bacon, as described in this Section and that such information is correct and complete.
- b. That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the job during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations 29 CFR Part 3.
- c. That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of

work performed, as specified in the applicable wage determination incorporated into the award.

Weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the Statement of Compliance required by the Davis Bacon Act.

The falsification of any of the certifications may subject the Vendor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.

The Vendor or subcontractors shall make the records required under Davis Bacon available for inspection, copying, or transcription by an authorized representative of Sarpy County and the Department of Labor. The Vendor or subcontractor shall permit an authorized representative of Sarpy County or the Department of Labor to interview employees during working hours on the job. If the Vendor or subcontractor fails to submit required records or to make them available, Sarpy County may, after written notice to the Vendor, take such action as may be necessary to cause the suspension of any further payment. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

2. Withholding of Funds:

Sarpy County shall, upon his/her own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Vendor under this award or any other Federal award with the same Vendor, or any other federally assisted award subject to Davis Bacon prevailing wage requirements, which is held by the same Vendor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the award. Sarpy County may, after written notice to the Vendor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Apprentices and Trainees:

Apprentices

An apprentice will be permitted to work at less than the predetermined rate for the work they performed when they are employed:

- a. Pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and

Training Administration, Office of Apprenticeship and Training, Employer, and Labor Services (OATELS) or with a State Apprenticeship Agency recognized by the OATELS, or

- b. In the first 90 days of probationary employment as an apprentice in such an apprenticeship program, even though not individually registered in the program, if certified by the OATELS or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Vendor as to the entire work force under the registered program.

Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above shall be paid not less than the applicable wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

Where a Vendor is performing construction on a project in a locality other than that which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Vendor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as percentage of the journeyman hourly rate specified in the applicable wage determination.

Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event OATELS, or a State Apprenticeship Agency recognized by OATELS, withdraws approval of an apprenticeship program, the Vendor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

Trainees

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed

pursuant to and individually registered in a program which as received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer, and Labor Services (OATELS). The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by OATELS.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed in the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate in the wage determination which provides for less than full fringe benefits for apprentices.

In the event OATELS withdraws approval of a training program, the Vendor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

Equal Employment Opportunity

The utilization of apprentices, trainees and journeymen under Davis Bacon shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

4. Compliance with Copeland Act Requirements:

The Vendor shall comply with the requirements of 29 CFR Part 3, which are hereby incorporated by reference.

5. Subcontracts (Labor Standards):

Definition: "Construction, alteration or repair", as used in this section means all types of work done by laborers and mechanics employed by the construction Contractor or construction subcontractor on a particular building or work at the site thereof, including without limitation:

- a. Altering, remodeling, installation (if appropriate) on the site of the work of items fabricated off-site.
- b. Painting and decorating.

- c. Manufacturing or furnishing of materials, articles, supplies, or equipment on the site of the building or work.
- d. Transportation of materials and supplies between the site of the work within the meaning of the Davis Bacon Act, which is part of the "site of the work" definition in Davis Bacon Act article, and a facility which is dedicated to the construction of the building or work and is deemed part of the site of the work within the meaning of the "site of work" definition.
- e. Transportation of portions of the building or work between a secondary site where a significant portion of the building or work is construction, which is part of the "site of the work" definition in the Davis Bacon Act article, and the physical place or places where the building or work will remain of the Davis Bacon Act article, in the "site of the work" definition.

6. Compliance with Davis Bacon and Related Act Regulations:

All rulings and interpretations of the Davis Bacon and Related Acts contained in 29 CFR Parts 1, 2, and 5 are hereby incorporated by reference in this award.

7. Disputes Concerning Labor Standards:

The United States Department of Labor has set forth in 29 CFR Parts 5, 6, and 7 procedures for resolving disputes concerning labor standards requirements. Such disputes shall be resolved in accordance with those procedures and not the Disputes and Appeals as defined in 10 CFR 600.22. Disputes within the meaning of this article include disputes between the Vendor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

8. Contract Termination - Debarment:

A breach of the award articles entitled Davis-Bacon Act, Contract Work Hours and Safety Standards Act - Overtime Compensation, Apprentices and Trainees, Payrolls and Basic Records, Compliance with Copeland Act Requirements, Subcontracts (Labor Standards), Compliance with Davis Bacon and Related Act Regulations, or Certification of Eligibility may be grounds for termination of the whole award or in part for the Recovery Act covered work only, and for debarment as a Vendor and subcontractor as provided in 29 CFR 5.12.

9. Certification of Eligibility:

By entering into this award, the Vendor certifies that neither it (or he/she) nor any person or firm who has an interest in the Vendor's firm is a person or firm ineligible to be awarded Government awards by virtue of the Davis Bacon Act or

29 CFR 5.12(a)(1)

No part of this award shall be subcontracted to any person or firm ineligible for award of a Government award by virtue of the Davis Bacon Act of 29 CFR 5.12(a)(1).

The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

II. DUTIES OF COUNTY:

In return for full, faithful and diligent rendering of services set forth above, County agrees to pay to Vendor the amount specified in Vendor's bid upon submission of the required invoice and satisfactory completion of all required work.

III. BREACH:

Should Vendor breach, violate, or abrogate any term, condition, clause or provision of this agreement, the County shall notify Vendor in writing that such an action has occurred. If satisfactory provision does not occur within ten (10) days from such written notice, the County may, at its option, terminate this agreement and obtain an alternate provider to provide all required materials. This provision shall not preclude the pursuit of other remedies for breach of contract as allowed by law.

SAVINGS CLAUSE:

This Agreement shall be interpreted, construed and enforced under the laws of the State of Nebraska. It is understood and agreed by the County and Vendor hereto that if any part, term, condition, or provision of this Agreement is held to be illegal or in conflict with any law of the State of Nebraska or of the United States, the validity of the remaining parts, terms, conditions, or provisions shall not be affected, and the rights and obligations of the County and Vendor shall be construed and enforced as if the Agreement did not contain the particular part, term, condition, or provision held to be invalid.

SCOPE OF AGREEMENT

This Agreement, along with the Bid Specifications, and Bid by Vendor contains the entire Agreement between the County and Vendor, and there are no other written or oral promises, contracts or warrants which may affect it. This Agreement cannot be amended except by written agreement of both the County and Vendor. Notice to the County and Vendor shall be given in writing to the agents for each party named below:

County: Ms. Debra Houghtaling
Clerk of Sarpy County
1210 Golden Gate Drive
Papillion, NE 68046

Vendor: Mr. Matthew Munter
EMG Corp.
222 Schilling Circle
Hunt Valley, MD 21031

IN WITNESS WHEREOF, we the contracting parties, by our respective and duly authorized agents, hereto affix our signatures and seals in duplicate this 27th day of July, 2010.

(Seal)



ATTEST:

Debra J. Houghtaling
Sarpy County Clerk

COUNTY OF SARPY, NEBRASKA,
A body Politic and Corporate

Joni Albrecht 7/27/10
Chairperson
Sarpy County Board of Commissioners

Approved as to form and content:

Matthew
Deputy County Attorney

Vendor: EMG

By: Matthew Munter

Title: Senior VP

Attest:

Ralph Bredem
Witness

Matthew A. Munter

Sarpy County Purchasing Department

SARPY COUNTY COURTHOUSE
1210 GOLDEN GATE DRIVE
SUITE 1129
PAPILLION, NE 68046-2845
FAX (402) 593-4304



Brian E. Hanson, Purchasing Agent
(402) 593-2349
Debby Peoples, Assistant Purchasing Agent
(402) 593-4164
Beth Cunard, Purchaser/Contract Specialist
(402) 593-4476
Lois Spethman, Supply Clerk/Purchaser
(402) 593-2102

MEMO

To: Sarpy County Board of Commissioners
From: Beth Cunard
Re: Award of bid for Energy Audit Project

On July 15, 2010, the Purchasing Department received and opened twelve (12) bids for Energy Audit Project for Facilities Management. A bid tab is attached for your review.

After careful evaluation, it is recommended that the bid be awarded to the low bidder, EMG Corp for \$27,774.00. I contacted the references for EMG and all came back very positive. EMG has experience in ARRA projects and was stated to be "technical, complete, and cover all areas of expertise." EMG will evaluate the Courthouse, Law Enforcement Center and Juvenile Justice Center's previous energy consumption and recommend strategies for the County to become more energy efficient. This project will be paid out of grant funding.

I have placed this on the agenda for the July 27, 2010 Board meeting for your approval. If you have any questions, please feel free to contact me at 593-4476.

July 20, 2010


Beth Cunard

cc: Deb Houghtaling
Mark Wayne
Scott Bovick
Brian Hanson
Ross Richards
Greg London
Dick Shea

Energy Audit Project
for
Sarpy County Facilities Management

Proposals Opened
2:00 p.m., Thursday
July 15, 2010

	EMG	Olsson	M.E. Group	HDR	AES	KBGI
Total Fee	\$27,774.00	\$38,000.00	\$32,500.00	\$36,900.00	\$37,910.00	\$37,850.00
Number of Proposed Hours	242	410	240	282	366	600

Energy Audit Project
for
Sarpy County Facilities Management

Proposals Opened
2:00 p.m., Thursday
July 15, 2010

	GDS Associates	OPPD	Morrissey Engineering	KPE	Prochaska & Assc.	Eaton
Total Fee	\$31,325.00	\$39,825.00	\$36,955.00	\$39,832.00	\$34,094.00	\$39,832.00
Number of Proposed Hours	252	299	347		367	307

Extremely Urgent

Call 1-800-PICK-UPS® (1-800-742-5877) or visit UPS.com®.

1055 W
RECEIVED
JUL 14 2010
SARPY COUNTY CLERK'S OFFICE
ADMINISTRATION DEPT



EMG
222 Schilling Circle, Suite 275
Hunt Valley, Maryland 21031
p: 800.733.0660 | f: 410.785.6220
www.emgcorp.com

Deb Houghtaling
Sarpy County Board Business Office
1210 Golden Gate Drive
Papillion, NE 68046

SEALED BID – ENERGY AUDIT PROJECT

Title: Energy Audit Project for Facilities Management,
Sarpy County, NE
Due Date: Thursday, July 15, 2010 by 2:00pm

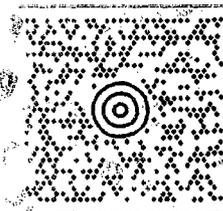
CLIENT DELIVERY SUPERVISOR
(410) 785-6200
EMG
222 SCHILLING CIRCLE, SUITE 27
HUNT VALLEY MD 21031

4 LBS

1 OF 1

SHIP TO:
DEB HOUGHTALING
SARPY COUNTY BOARD BUSINESS OFFICE
1210 GOLDEN GATE DRIVE
PAPILLION NE 68046

Next Day Air®
Worldwide Express
Next Day Air®
Worldwide Expedited
Shipping documents
Standard
Day SelectSM



NE 681 9-03



UPS NEXT DAY AIR

TRACKING #: 1Z X21 498 01 5844 9843

1



BILLING: P/P

Project # Name: Sarpy County Board Business Office

HS 11.0.15

LP2844 03.0A 04/2010



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15% Post-Consumer Content

PROPOSAL

RESPONSE

ORIGINAL

SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT

FOR FACILITIES MANAGEMENT

July 15, 2010 – 2:00pm

Prepared By:
EMG
222 Schilling Circle, Suite 275
Hunt Valley, MD 21031

800.733.0660
410.785.6220 fax

EMG Proposal # 94410.10P

Contact Info:
Matthew S. Munter, PE
Senior Vice President
800.733.0660 ext. 2709
410.785.6220 fax
msmunter@emgcorp.com

SARPY COUNTY, NEBRASKA
ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

LETTER OF INTEREST

July 13, 2010

Deb Houghtaling
Sarpy County Board Business Office
1210 Golden Gate Drive
Papillion, NE 68046

SUBJECT: Request for Proposal – Energy Audit Project for Facilities Management, Sarpy County

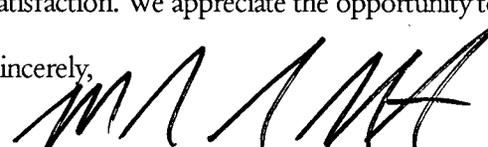
Dear Ms. Houghtaling,

EMG is pleased to provide the enclosed proposal to Sarpy County for energy audit services of the Sarpy County Courthouse, Law Enforcement Center, and Juvenile Justice Center. Founded in 1986, EMG is a leading architectural, engineering, and environmental consulting firm. We have performed energy audits of various building types for federal, state and local government entities, public housing authorities, K-12 schools, and higher education institutions. Performing energy audits is one of EMG's core services and we believe we are the most qualified firm to provide Sarpy County with such services based on the following:

- EMG has detailed experience with **energy audit** projects, software platforms, and payback analysis;
- We are an **Energy Star Partner**;
- EMG is made up of a nationwide technical team, including certified energy managers (CEM), energy auditors (CEA), certified sustainable development professionals (CSDP), licensed professional engineers (PE), registered architects (RA), and building performance institute (BPI) and project management professional (PMP) certified professionals; and
- EMG has recent experience performing **energy audits** and consulting service projects for state and local government clients including:
 - The City of Ann Arbor, Michigan;
 - Ohio Department of Administrative Services, Ohio;
 - Commonwealth of Massachusetts Division of Energy Resources;
 - Montgomery County, Maryland (including benchmarking and audits on more than 130 properties);
 - The City of Charlotte, North Carolina;
 - Washington County, PA; and
 - City of New Rochelle, NY.

EMG consistently demonstrates our corporate commitment to quality, continual improvement, and client satisfaction. We appreciate the opportunity to propose on this project and look forward to working with you.

Sincerely,


Matthew S. Munter, PE
Senior Vice President

SARPY COUNTY, NEBRASKA
ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

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SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

A. QUALIFICATIONS AND CAPABILITY

1. FIRM OVERVIEW

EMG was founded in 1986 as an architectural, engineering, and environmental consulting firm serving the real estate and finance industries. Located in 32 states nationwide, our team of more than 150 consists of certified energy managers, energy auditors, certified sustainable development professionals, licensed professional engineers, registered architects, building performance institute and project management professional certified professionals, multi-family building analysts, and environmental professionals. These individuals provide comprehensive environmental, architectural, and engineering due diligence services to our clients in various market segments.

EMG is financially sound. With more than 25 years in business and an average of 20 million dollars in annual billings, we have the depth and resources to complete this project.

Specific services include energy audits, green physical condition assessments, facility condition assessments, physical needs assessments, accessibility assessments, and construction monitoring. Annually, EMG performs thousands of assessments of varying building types for federal, state, and government entities, housing authorities, higher education institutions, K-12 school systems, and the commercial banking industry.

For each engagement, EMG takes into consideration various factors, including knowledge of property conditions, market conditions, regulations, and client objectives. Based on those factors, EMG seeks to provide the client recommendations for energy conservation measures (ECM) to assist in determining energy saving opportunities, and provide probable energy/utility savings and payback analysis.

EMG's core of architectural, construction, engineering, environmental, and seismic expertise forms the foundation on which the company teams with clients to create and implement real property management solutions, ranging from complex, web-based facility and portfolio management programs to traditional property assessments required by lenders. Our multi-disciplined team of qualified professionals have relevant experience conducting energy audits similar to the one proposed by Sarpy County.

Our unique organizational structure enables our clients to benefit from consistency in approach, as well as national coverage from our professional staff. EMG works closely with clients to ensure that our approach addresses, and is consistent with, the specific concerns, goals, and objectives of each assignment.

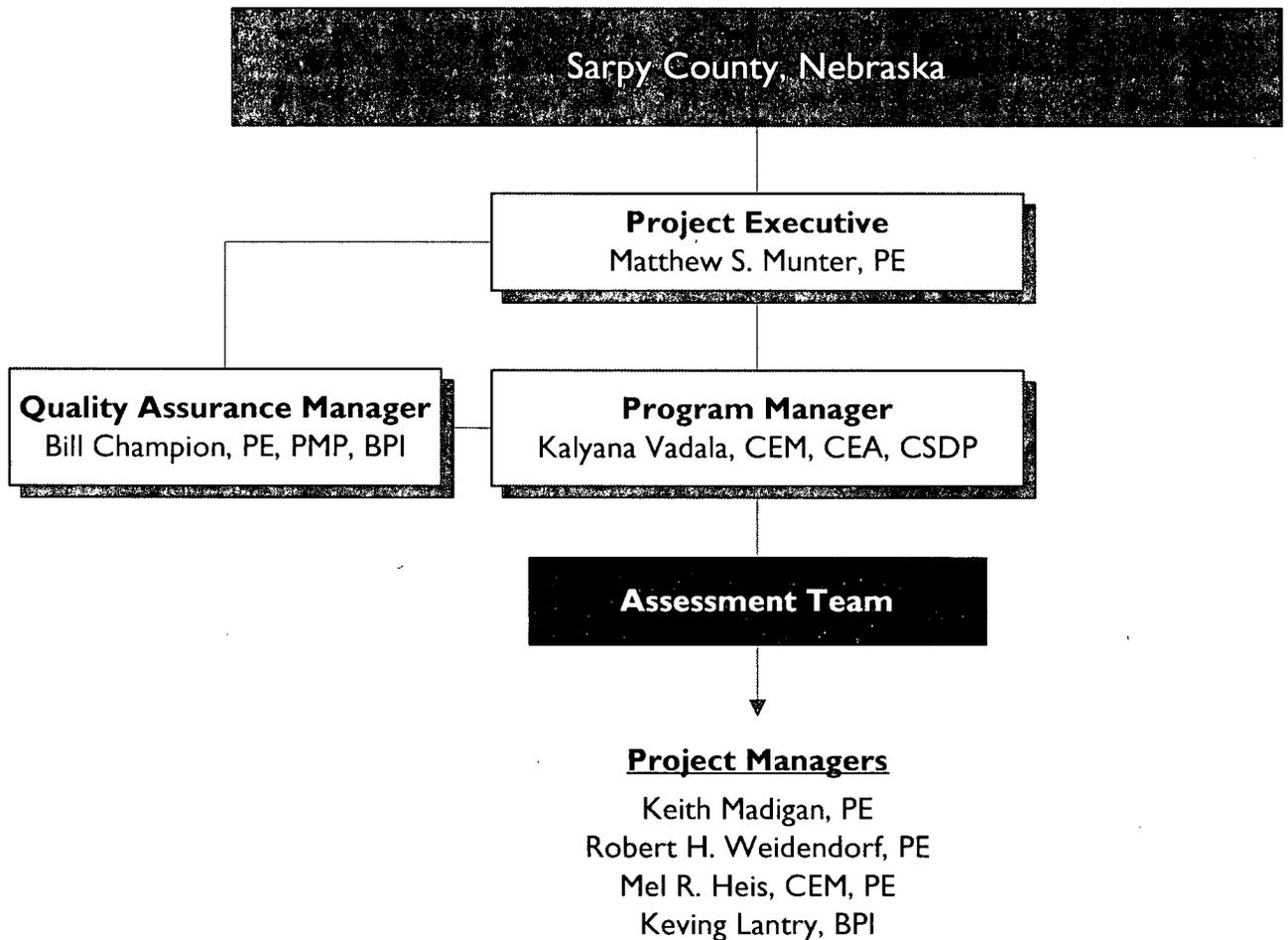
SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

2. EXPERIENCE / QUALIFICATIONS OF PERSONNEL

EMG achieves superior quality through best practices in recruiting and training. EMG hires only experienced architects, engineers and building code compliance professionals. Our current staff of project managers has more than 18 years of experience, on average, per project manager. This experience typically includes formal training, state design training, and a certifying examination by the state. At EMG, each Project Manager receives initial training of two weeks that includes technical training on major building systems and code compliance. Each project manager also receives training on special construction concerns throughout the year.

ORGANIZATIONAL CHART



SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

PROJECT EXECUTIVE: MATTHEW S. MUNTER, PE

As Project Executive, Mr. Munter will have primary responsibility for defining the scope of the engagement. Mr. Munter will also meet regularly with the Project Manager and project team to assure Sarpy County's needs are being met and that the project is adequately staffed and running smoothly and on schedule. He will also be available throughout the project to meet with Sarpy County on an as-needed basis.

QUALITY ASSURANCE MANAGER: BILL CHAMPION, PE, PMP, BPI

As Quality Assurance Manager, Mr. Champion will provide general oversight to the project, assuring the technical, process, and content quality. Mr. Champion will also have direct management responsibility for all technical personnel, which will allow for quick and effective implementation of quality assurance measures both at project inception and throughout the project duration.

PROGRAM MANAGER: KALYANA VADALA, CEM, CEA, CSDP

As Program Manager, Mr. Vadala will have full responsibility for the delivery of the overall project. He will work with the project team and Sarpy County to assure project success. He will be the **primary client contact**, will conference with Sarpy County on an agreed-upon basis, and will be accountable for the overall EMG team performance.

PROJECT MANAGERS: KEITH C. MADIGAN, PE; ROBERT H. WEIDENDORF, PE; MEL R. HEIS, CEM, PE; AND KEVIN LANTRY, BPI

The Project Managers have full responsibility for managing, coordinating, and reviewing the work performed by each of the field teams. During the assessment, the Project Managers will observe and describe building systems and components, identify physical deficiencies, and formulate recommendations to remedy the deficiencies. The Project Managers also coordinate the logistics and document collection for each assessment, and develop the assessment report.

Please refer to **Appendix A** for team resumes.

SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

3. REFERENCES

EMG provides recommendations for ECMs that assist our government clients in determining opportunities to save energy and provide probable energy/utility savings and payback analysis. Each energy audit performed is compliant with the US Department of Energy, ASHRAE and USEPA standards, and our recommendations are in accordance with local code.

WASHINGTON COUNTY - *Washington County, Pennsylvania*

EMG has completed an investment grade commercial energy audit for Washington County including the main courthouse building and family court center, high rise county correctional facility, county health center, main county municipal building, and airport. The purpose of the audit was to provide the County with a baseline of energy usage and benchmark report, the relative energy efficiency of each facility, and specific recommendations for ECMs. EMG assembled a multi-discipline project team, led by a certified energy manager, to conduct the audit. The audits consist of an inventory and operations of all energy-using equipment, an inspection of the building envelope characteristics and conditions, lighting, HVAC control systems and the recommendation of energy-saving opportunities.

CITY OF CHARLOTTE - *Charlotte, North Carolina*

EMG has completed a commercial energy audit for The City of Charlotte, including the City Hall building, Main Transportation Building and various municipal buildings. The energy audits were funded from the City's Energy Efficiency and Conservation Block Grant, and assisted the City in identifying energy deficiencies, potential energy conservation opportunities, and potential cost savings. The net result was an estimated reduction in their energy and operating costs of 34 percent compared to the baseline.

CITY OF NEW ROCHELLE - *New Rochelle, New York*

EMG is currently in process of concluding the Investment Grade energy audits for The City of New Rochelle. Audits are conducted for The City Hall building, public safety building, and firehouses. The energy audits were funded by EECBG. The audit indentified opportunities to upgrade the existing HVAC systems and air distribution systems, heat recovery systems, HVAC controls and drives, lighting, envelope improvement, and infiltration and water conservation measures. Opportunities were also identified to install renewable energy systems at the facility.

MONTGOMERY COUNTY DIVISION OF REAL ESTATE - *Montgomery County, Maryland*

EMG was commissioned by the Division of Real Estate to assist in implementing enhanced energy management programs that reduce the energy consumption and greenhouse gas footprint of County facilities. We analyzed a portfolio of more than 130 County-owned buildings. Based on the initial study, EMG prepared a phased plan that delivers more than 25 percent in annual energy savings and more than 35 percent in annual utility cost saving by Year 5 of the plan. This plan translated into more than \$2.1 million per year in utility cost savings.

SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

EMG has completed the energy audits of all the contracted County buildings and delivered individual building reports and a program wide summary report for all the buildings. Apart from standard energy audits, EMG also conducted feasibility study for solar and geothermal for the buildings and delivered detailed program reports of the same. The project is ongoing and is in direct support of Montgomery County's EECBG plan and reporting.

Please also refer to **Appendix B** for more information on our experience and contact information.

SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

B. EXPERIENCE AND EXPERTISE

1. PROJECT MANAGEMENT APPROACH

EMG has designed this audit program to be consistent with the mission and goals of Sarpy County. At project implementation, EMG will conduct a kick-off meeting to introduce key team members and present key activities to be conducted. The agenda will include the following:

- Interview Sarpy County staff to review plans and past upgrades;
- Review the work plan and schedule for the entire contract with key milestones;
- Collect energy & utility information for all facilities; and
- Confirm the final scope of work.

Following the kick-off meeting will be the benchmarking study of the facilities with EPA Portfolio Manager and a schedule to conduct on-site energy audits. EMG will deploy a team of certified energy managers and BPI certified auditors, having direct experience conducting energy audits, to perform detailed energy audit of the facilities. Once the onsite audits are concluded, our team of engineers will prepare the draft energy reports and send electronic copies to County staff for review.

EMG's Program Manager, Mr. Vadala, will serve as the single point of contact for Sarpy County throughout the process. Mr. Vadala will manage the assessment and reporting team and act as direct contact with the client.

During the term of the project, EMG will conduct weekly progress meetings to maintain open communication for the project team and Sarpy County. EMG will lead with an agenda that includes a focus on work plan, schedule, and project needs. This will permit the opportunity to proactively address challenges encountered, so that course adjustments may be made. Each meeting will conclude with task assignments, schedules, and goals to be met. EMG will provide Sarpy County with a written status report that tracks and monitors the progress of the assessments against the schedule submitted.

2. FACILITY SYSTEM ISSUES AND PERFORMING ENERGY AUDITS

EMG has an experienced team of engineering professionals having the ability to conduct energy audits on various type of facilities i.e. campus buildings, high and low pressure steam facilities, centralized and distributed systems, steam and hot water systems, large chilled water plants, HVAC process loads, campus wide lighting and energy management systems. EMG develops, and confirms with the client, an energy audit schedule prior to actual onsite work to avoid any scheduling conflicts. The onsite time will be properly planned to allow our engineering assessment team to evaluate all systems and building components properly. Should additional time be required to complete the audits, a formal request would be made to allow sufficient time for the client to schedule the additional onsite work.

SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

3. SAVINGS AND MEETING SCHEDULES

EMG conducts detailed energy audits of facilities, focusing on building envelope and insulation, HVAC systems and controls, lighting, water and waste water systems, and equipment. We evaluate savings opportunities in energy and costs in optimizing and/or upgrading the systems, controls, drives as well as savings related to purchasing energy from third party suppliers. The evaluated savings will be documented and provided as part of the energy audit report. If an energy modeling program is utilized to develop the baseline and improved building to evaluate savings, the full copy and both input/output of such program will be provided as part of the report.

EMG has a proven track record in exceeding client expectations for meeting deadlines and project schedules. EMG is well experienced in working with ARRA funded projects and is well aware of the importance of timelines and final report deliveries. We are committed to timeliness and efficiency, and are equipped with adequate onsite engineering as well as back office assessment resources to meet the promised project timelines.

SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

C. TECHNICAL APPROACH

EMG's energy audit, conducted in accordance with federal regulations and recommendations of the US Department of Energy, examines electricity, natural gas, fuel oil, propane (if applicable) and water/water water consumption to identify energy conservation opportunities. The energy and water audit will identify potential ECMs, projected savings of each ECM, cost to implement each ECM, and will report all findings in the format as described herein.

1. ENERGY BENCHMARKING

The first phase of the process, prior to conducting the energy and utility audit, is to perform the benchmarking of County facilities using US EPA Portfolio Manager, including:

1. Obtaining and reviewing the previous two years (or as available) of utility bills;
2. Establishing base year consumption and reviewing the base year calculations and analysis; and
3. Entering utility data into USEPA Energy Star Portfolio Manager Tool.

EMG will collect and analyze the energy data found in utility bills for the properties for the past 12-24 months, and review the prior property condition assessment or applicable engineering study, if available. In addition, EMG will interview the County's facility managers with knowledge of the properties, notably building systems and components, in order to provide a general overview of the facilities and identify opportunities for energy unit and cost savings.

The facilities will be compared to a large, national database of data for similar buildings. The database normalizes factors such as weather (including general regional weather patterns), occupancy, operation hours, and other building specific characteristics. Seasonal trends will be evaluated. Potential savings in energy units and dollars will be calculated by evaluating actual consumption versus national average. Based on the information gathered, EMG will identify general opportunities to save energy and will provide industry projected energy/utility savings ranges for those recommendations.

Once buildings are setup in the portfolio manager tool, the County staff can update utility information periodically and energy savings can be calculated versus base year information. This ability to measure and verify savings is an important requirement of any measurement & verification (M&V) process after the improvements are made.

SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

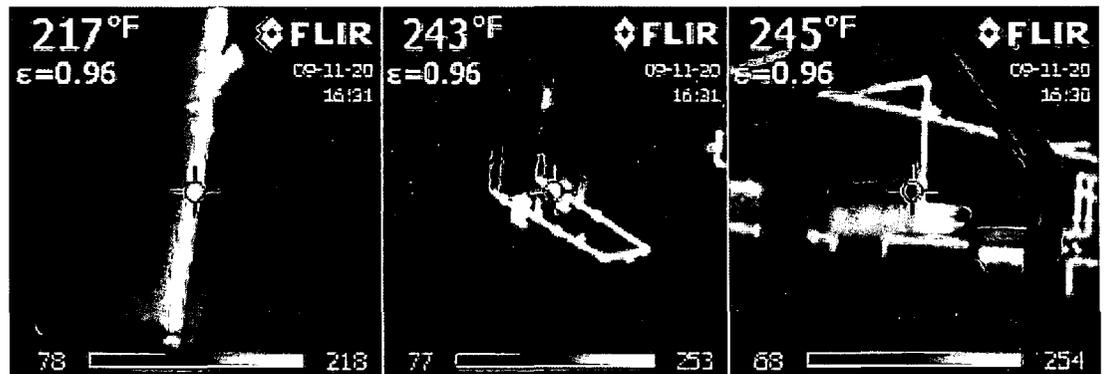
2. ENERGY AUDIT PROCESS

The energy audit consists of an on-site assessment to determine current conditions, itemize the energy consuming equipment (boilers, air conditioning equipment, AHU, DHW, lighting); review interior and exterior lighting systems; review appliances; and review efficiency of all such equipment. In addition, EMG's team will consider structural elements, such as the building envelope, for energy efficiency.

Recommendations will be made on implementing cost-saving energy conservation materials and methods. EMG will perform a savings to investment ratio (SIR) analysis in addition to the simple payback method, based on net-present value (NPV) of the recommended improvement and rate all the projects based on SIR. A life cycle cost (LCC) analysis will also be performed in addition to the SIR.

The audit will consist of the following:

- Identification of **current & historical energy** and water consumption levels;
- Development of a **detailed inventory of all HVAC equipment**, boilers, furnaces, air conditioning equipment, chillers, pumps, fans, motors, lighting, irrigation systems;
- Review of **energy metering systems**; evaluation of potential for **sub meters**;
- Audit of HVAC systems, **combustion efficiency test performance**, evaluation of piping for leaks and insulation upgrades; evaluation of chemical treatment of water, blow-down frequency, condensation of system performance; survey of steam traps; heat exchangers; and identification of opportunities for heat recovery;
- Review of current **maintenance and operations procedures** and recommendation to optimize maintenance;
- **Model the steam and chilled water plants** and individual building locations to estimate energy savings; EMG uses DOE energy modeling tools (i.e. eQuest, SSAT, CHWAT);
- **Thermal imaging performance** (with pictures in report) of HVAC, condensate tanks, hot water/steam and condensate piping to identify energy loss; perform thermal scan of building envelope (i.e., windows, doors, walls, joints, roof) to identify any heat loss through envelope and make recommendations to minimize the same through insulation upgrades, weather-stripping/air sealing;



- Model basic building features, such as internal gain, multiple zones with central HVAC, envelope measures, and architectural shading effects;
- **Photometric calculation performance** in estimating light levels;

SARPY COUNTY, NEBRASKA ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

- A **detailed lighting system audit** and development of a comprehensive lighting schedule spreadsheet with opportunities for improvement through replacing T12 light fixtures with Super T8s/T5, magnetic ballasts with electronic ballasts; identification of opportunities for delamping through measured lumen levels, occupancy and photo sensors; bi-level & tandem ballasts as applicable;
- **Evaluation of chilled water systems**; evaluation of performance of chilled and condenser water production, cooling load/demand; calculation of operating kW/ton and identify opportunities to optimize/improve performance;
- Survey, record, and evaluation of the EER/SEER of the window and split unit air conditioners serving the county buildings and other areas to identify opportunities to replace older units with Energy Star alternatives; identification of opportunities for centralized systems, as applicable.
- Evaluation of the efficiency, sizing, and performance of all motors and pumps in the entire facility and **identification of opportunities for VFD controls**;
- **Audit of air handler performance** throughout the county buildings, air distribution ducting, and potential for VFD control of supply and return fans in **VAV systems**;
- Evaluation of existing (or potential for new installation of) **Energy Management and Control EMS System**;
- **Audit of all water using equipment** and identification of opportunities for upgrade with water efficient fixtures;
- Evaluation of the feasibility of distributed generation systems including **Cogeneration/CHP** for the facility;
- Screening and feasibility report on Renewable energy systems, including:
 - Solar PV;
 - Solar hot water;
 - Geothermal Energy; and
 - Wind Energy potential.
- Prioritization of energy efficiency projects for a 20-year horizon based on building energy use, energy/water consumption, age of facility, and cost;
- Calculation of expected outcomes and benefits, energy saved, renewable energy capacity, and GHG emissions reduced; and
- Development of detailed costs and source of the cost estimate for each improvement recommended. Each cost item is to include the following sub-categories:
 - Engineering and design;
 - Equipment and material and auxiliary costs of retrofits and improvements; and
 - Labor and installation costs.

ENERGY CONSERVATION REBATES, INCENTIVES

EMG will research and identify all potential energy conservation rebates and financial incentives available from federal, state, and local utilities for energy retrofits and capital improvements. The incentives will be calculated for “pre-qualified measures” as well as “performance based methods”. All such incentives will be calculated and factored into payback and SIR calculations for more accurate project cost indications. EMG will also provide the procedure to obtain such incentives.

SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

DISTRIBUTED GENERATION & DEMAND RESPONSE OPPORTUNITY

Apart from the above, EMG will conduct a preliminary feasibility study for distributed generation including Cogeneration/CHP, CCHP as well as identify opportunities for the facility to participate in demand response and load curtailment programs. A cogeneration feasibility study will be conducted for each facility identifying opportunities for on-site electricity generation and waste heat utilization. The scope study will also include analysis of combined cooling heat and power (CCHP) for applicable facilities. EMG will research all applicable renewable energy rebates for installation of such systems and provide a detailed economic analysis with payback, life cycle costing (LCC), potential electricity generation, and thermal offset and emission reductions.

Regarding demand response/load curtailment, opportunities will be identified and recommendations made to participate in load curtailment program through cycling of equipment using existing energy management system, use of on-site generator, or other "distributed generation" sources.

SOLAR PV, AND SOLAR HOT WATER ENERGY SCREENING

EMG will develop a framework for implementation of renewable including solar hot water, and solar photovoltaic. During the site audit phase, we will compile data that will result in a feasibility ranking of sites and a plan that prioritizes the buildings best suited for retrofits based on the feasibility factors.

EMG will screen all three facilities for opportunities to utilize solar PV, and solar hot water to offset grid supplied energy loads. Screening criteria will be established at the kick-off meeting and each facility will be screened for renewable energy potential. The generation potential will be calculated using industry standard and NREL tools. A preliminary renewable energy feasibility report will be provided for each facility detailing the projected installed costs, estimated annual energy generation/offset and estimated cost savings.

GEOHERMAL SCREENING

EMG will screen each facility for opportunities to utilize geothermal energy. Any facility that has the potential for geothermal conversion will be recommended for future follow-up analysis.

3. ENERGY PROCUREMENT ASSISTANCE

EMG will provide strategic planning and assistance in the deregulated energy markets in the procurement of natural gas, electricity, fuel oil and/or propane for the County facilities. We will establish a baseline building energy profile for all accounts for each building/facility for electricity, natural gas, and fuel oil/propane and then establish a procurement profile based on individual building electric and thermal loads to optimize the load curve. EMG will analyze the energy usage load profiles with energy future markets (NYMEX for natural gas & fuel oil) and recommend a procurement strategy where multiple risk management strategies will be analyzed i.e. fixed price/hedging, long term hedging, NYMEX plus & Index pricing, Time of Use (TOU pricing), and Day-Ahead hourly pricing. Based on different purchasing strategies, EMG will assess potential savings from procuring from third party suppliers compared to conventional utility supply pricing.

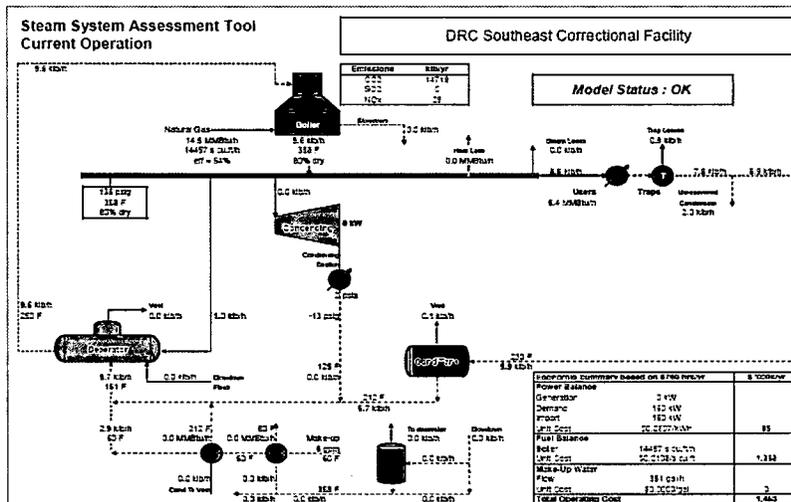
SARPY COUNTY, NEBRASKA ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

4. PROJECT DELIVERABLES

ENERGY AUDIT REPORT

EMG's energy audit report will include the following components:

- Table of Contents and Certification;
- Executive Summary;
- Building/Facility Overview and Existing Conditions for each building: This section will include an overview of the facility, HVAC, and lighting systems, and construction information. A photo log will be included as an Appendix;
- An existing conditions report of all electrical and mechanical systems serving the facility, maintenance practices and expected remaining useful life (EUL);
- A detailed baseline/historical energy and water use and cost/rate analysis report with degree days;
- Baseline Energy and Water Consumption and Cost Analysis: Monthly (and hourly if available) electricity (kWh & kW) usage, monthly heating fuel energy consumption, monthly water consumption;
- A detailed energy audit report with engineering feasibility study of energy/utility systems serving each facility audited by EMG;
- A comprehensive technical analysis report of building envelope, HVAC, lighting, energy management & control (EMS) systems, air and heat distribution systems, their operation and utility costs;
- An energy conservation report for all the evaluated systems mentioned above providing technical solutions with definitive installed cost and savings estimates resulting from each improvement recommended. Projects will be prioritized with highest cost to savings potential; each measure recommended will have a definitive installed cost with breakdown of engineering and design, equipment and material costs, annual maintenance costs and estimate of energy savings in Therms of natural gas, kWh of electricity and demand savings in kW, and related cost savings;
- A detailed inventory of all mechanical and electrical equipment serving the facility, the location and line drawings of energy and mass balance of major systems; A sample mass balance diagram of a high pressure steam boiler and steam distribution system for a recent energy assessment project EMG did for a major prison in Ohio is provided in the following sections.



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SARPY COUNTY, NEBRASKA ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

- A detailed ECM report showing all identified energy optimization and conservation opportunities for each building/facility; ECMs will be designed on a system-wide approach, with applicable interactive affects among the systems for lighting, energy distribution, HVAC and energy management control systems; for energy management systems, EMG will identify opportunities to integrate all major HVAC system components, temperature controls, and lighting into the EMS for centralized control and set-backs;
- All ECMs will be organized in the following groups:
 - a) No/Low cost & maintenance-related ECMs
 - b) Capital ECMs
 - Building envelope
 - Lighting
 - HVAC & indoor air quality
 - Energy management and control systems
 - Energy metering systems (sub-meters)
 - Water efficiency & storm water conservation
- All supporting documentation for each recommended ECM with detailed installed cost estimates, source of cost estimates, calculation of saving measures and engineering methodology followed;
- A life cycle cost (LCC) analysis will be provided for all major improvements, considering the inflation factors, discount rates, maintenance increase/benefit and first costs;
- The input variables and output of the model will be provided along with each report (if an energy model was used to develop baseline and improved buildings);
- Suggested modifications for recommended improvements will include single line drawings, proposed location of new proposed systems, and related engineering and configuration modifications;
- Energy/Utility incentive report showing all applicable federal, state, and local utility incentives for each identified ECM and effects of those incentives on the paybacks;
- A maintenance & operations (with preventative maintenancem) plan for recommend improvements, new systems installed, and/or existing retrofits to assure continued efficient operation and reliability of such systems;
- Appendix: This will include all back up calculations, energy modeling tool reports, field survey data, comprehensive room by room lighting schedule, motor and plumbing schedule, data logger outputs, and any miscellaneous information; and
- Records of Communication: This will include all EMG communications with designated client representatives, as well as all meeting minutes, e-mail, and phone communications for future reference.

SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

ENERGY CONSERVATION MEASURES

EMG will identify applicable ECMs and priority based on initial cost and payback. A portion of a sample preliminary site walk-through checklist is provided below.

- Digital photos of all major energy-using equipment, and building envelope items recommended for upgrades; and
- A narrative discussion by development of building systems/components considered and a discussion of options.

This section will also include a description of each ECM as well as estimated costs, savings, and payback. While EMG will use the required Energy Conservation Measure Summary Format Table provided in this RFP, please refer to the sample tables on the following pages for an example of EMG's understanding of this requirement.

SARPY COUNTY, NEBRASKA
ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

SAMPLE TABLE

List of Recommended Measures												
ECM #	Description of ECM	Initial Investment	Estimated Total Incentive/ Rebates	Net Estimated Initial Investment	Annual Energy Savings		Annual Water Savings	Cost Savings	Payback	S.I.R.	Life Cycle Savings	Years for LCC
					Therms	kWh						
1	Install Photo Sensors in Elevator Lobby area from 2nd to 7th Floors	\$720	\$0	\$720		7,753		\$1,202	0.60	7.64	\$4,783	5
2	Remove 125 Watt Incandescent Heat Lamps from unit bathrooms	\$499	\$0	\$499		9,555		\$1,481	0.34	25.32	\$12,134	10
3	Install Energy Miserers for Soda Machines, Vending Machines, and Water Coolers	\$337	\$0	\$337		2,289		\$355	0.95	4.82	\$1,288	5
4	Replace Top Load Washers w/ Front Load Washing Machines	\$1,100	(\$200)	\$900		2,941	18	\$835	1.42	8.90	\$8,485	15
5	Install Motion Sensors in Common Areas (Rest, Community, Game, and Storage Rooms)	\$870	\$0	\$870		4,684		\$726	1.20	3.82	\$2,455	5
6	Install Programmable Thermostats for lobby and office areas on first floor	\$180	(\$50)	\$130		454		\$70	1.85	4.67	\$660	15
7	Add Weather Stripping to Old PTAC Units and Entry Door	\$19,000	\$0	\$19,000		38,885		\$5,993	3.17	2.21	\$23,069	8
8	Replace 40 Watt Incandescent Lamps in Kitchen Vent Hood With 15 Watt CFL Bulbs	\$777	\$0	\$777		2,637		\$409	1.90	3.69	\$2,092	8
Total for Improvements		\$23,483.00	(\$250)	\$23,233.00	0	68,977	18	\$10,871	2.14		\$984,359	

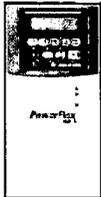


SARPY COUNTY, NEBRASKA
ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

INSTALL INTEGRATED BOILER CONTROL SYSTEM WITH VFD FOR 75HP COMBUSTION FAN BLOWER MOTOR

Currently the main Cleaver-Brooks high pressure steam boiler has a combustion fan blower that is run by one 75hp induction motor. The boiler and burner operate 24/7/365 through the facility load varies widely across the year. Substantial amount of thermal and electrical energy is wasted by running the boiler and blower continuously at lower load.

We are recommending installing Cleaver Brooks CB-HAWK ICS Integrated Boiler Control System with VFD control for the boiler plant. The CB-HAWK ICS is a state-of-the-art boiler control system that integrates the functions of a Programmable Controller and Burner Management Controller, as well as other boiler operating and ancillary controls. The CB-HAWK ICS can be added as a retrofit to existing boilers. VFD feature of the controller provides variable speed output to the burner's Combustion Air Fan blower motor for the purpose of improving boiler efficiency and reducing electrical energy consumption. Further the soft starting of the motor reduces the electrical & mechanical stresses on the motor that extends the life of the motor. Detailed calculation of savings can be found under Appendix "ECM Calculations".



Provides variable speed output to the burner's Combustion Air Fan blower motor for the purpose of improving boiler efficiency and reducing electrical energy consumption.

SAMPLE

INSTALL VFD FOR THE 40HP DIGESTER BLOWER MOTOR FOR SEWER PLANT TANK 2

Currently one 40hp motor blows air into the digester tank of the sewer plant. The motor currently runs all the time, through the plant load varies during the day. When the load is low, the air leaves the tank and is lost to the atmosphere. A Variable Frequency Drive (VFD) can adjust the fan speed and thus the CFM of the blower based on the actual facility and sewer plant load.

			# hours		% loaded
Peak flow times:	8am - 10am & 5pm - 7pm		4	17%	60%-80%
Intermediate flow times:	10am - 5pm & 7pm - 10pm		10	42%	40%-50%
Very low flow times:	10pm - 8am		10	42%	10%-30%
		total	24	100%	

Per the plant engineer the plant is peak loaded from 8am-10am and 5pm-7pm every day. The load is considerably low from 10am-5pm and 7pm-10pm and very low from 10pm to 8am. Currently the blower operates at constant speed all the time. We are recommending installing a VFD and run the blower motor to match the load.

SAMPLE



SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

RENEWABLE / DISTRIBUTED ENERGY MEASURES

EMG's report will recommend any viable renewable/distributed energy technologies, including CHP, solar, wind, or geothermal. Please refer to the chart below showing a solar feasibility study from a recent audit:

The existing single ply membrane roof for Broome Center remains in place. The flat roof is constructed of the concrete deck, single ply membrane and has an existing insulation. With minimal tree shade and with each section of the roof no more than one floor higher than the other, the Broome Center's 79,400 ft² of roof area contains optimum space for solar photovoltaic and/or solar heating.



AC Energy & Cost Savings Broome Center

Station Identification		Results			
Cell ID:	0262375	Month	Solar Radiation (kWh/m ² /day)	AC Energy (kWh)	Energy Value (\$)
State:	Maryland	1	3.45	46751	7620.41
Latitude:	39.2 ° N	2	4.02	48669	7933.05
Longitude:	77.3 ° W	3	5.32	69124	11267.21
PV System Specifications		4	5.50	66445	10830.53
DC Rating:	614.0 kW	5	5.50	65430	10665.09
DC to AC Derate Factor:	0.700	6	5.70	65078	10607.71
AC Rating:	429.8 kW	7	5.47	63539	10356.86
Array Type:	Fixed Tilt	8	5.48	64222	10468.19
Array Tilt:	39.2 °	9	5.24	61091	9957.83
Array Azimuth:	180.0 °	10	4.82	60319	9832.00
Energy Specifications		11	3.65	45113	7353.42
Cost of Electricity:	16.3 c/kWh	12	3.28	42695	6959.28
		Year	4.79	698477	113851.75

Clean/ Renewable Energy Sources	Technical Description	Potential Uses
Photo-voltaic (Solar Panels)	Use semiconductor materials to convert sunlight directly into DC electricity.	Can be used to drive exterior lights and supplement interior electrical needs.
Solar Heating	Use solar collectors to absorb the sun's energy to provide low-temperature heat used directly for hot water or space heating. Used in applications with high hot water usage.	Can be used to supplement heating the domestic water.
Wind Turbine	Uses motion of wind spinning a propeller to generate electricity from the mechanical rotation of a small generator.	Not applicable.

EMG has also included a full sample report for Sarpy County to review. This sample includes our executive summary, detailed discussion of ECMs, and our payback analysis and calculations for each ECM.



5. PROJECT SCHEDULE AND NUMBER OF HOURS PROPOSED

SCHEDULE

ID	Task Name	Duration	Start	Resource Names	August		September					October			Novem		
					7/25	8/1	8/8	8/15	8/22	8/29	9/5	9/12	9/19	9/26	10/3	10/10	10/17
1	Project Award	0 days	Fri 7/30/10	Sarpy County	7/30												
3	Utility Bill and Data Gathering	4 days	Fri 8/6/10	EMG													
2	Kickoff Meeting	2 hrs	Mon 8/9/10	EMG													
5	Format, Content, Process and Protocol Revisions	2 days	Mon 8/9/10	EMG													
4	Benchmarking and Bill Analysis	5 days	Thu 8/12/10	EMG													
33	Courthouse	30 days	Thu 8/19/10														
34	Courthouse Onsites	4 days	Thu 8/19/10	Team 2													
35	Courthouse Modeling and Analyses	7 days	Thu 8/26/10	Team 2													
36	Courthouse Report Writing	7 days	Thu 9/2/10	Team 2													
37	Courthouse Review Meeting	0 days	Wed 9/8/10	Team 2													
38	Client Review of Drafts	5 days	Thu 9/9/10	Sarpy County													
39	Report Finalization	5 days	Thu 9/16/10	Team 2													
40	Courthouse Executive Report	5 days	Thu 9/23/10	Team 2													
41	Law Enforcement Center	30 days	Thu 8/19/10														
42	Law Enforcement Center Onsites	5 days	Thu 8/19/10	Team 3													
43	Law Enforcement Center Modeling and Analyses	8 days	Thu 8/26/10	Team 3													
44	Law Enforcement Center Report Writing	8 days	Thu 9/2/10	Team 3													
45	Law Enforcement Center Review Meeting	0 days	Wed 9/8/10	Team 3													
46	Client Review of Drafts	5 days	Thu 9/9/10	Sarpy County													
47	Report Finalization	5 days	Thu 9/16/10	Team 3													
48	Law Enforcement Center Executive Report	5 days	Thu 9/23/10	Team 3													
6	Weekly Status Meetings	85.25 days	Fri 8/20/10	EMG, Sarpy County													
25	Juvenile Center	30 days	Mon 8/23/10														
26	Juvenile Center Building Onsites	5 days	Mon 8/23/10	Team 1													
27	Juvenile Center Modeling and Analyses	8 days	Mon 8/30/10	Team 1													
28	Juvenile Center Report Writing	8 days	Mon 9/6/10	Team 1													
29	Juvenile Center Review Meeting	0 days	Fri 9/10/10	Team 1													
30	client Review of Drafts	5 days	Mon 9/13/10	Sarpy County													
31	Report Finalization	5 days	Mon 9/20/10	Team 1													
32	Juvenile Center Executive Report	5 days	Mon 9/27/10	Team 1													
49	Program Report Development	10 days	Mon 10/4/10	EMG													
50	Final Presentation	5 days	Mon 10/18/10	EMG													
51	Project Completion	0 days	Fri 10/22/10	EMG, Sarpy County													

HOURS PROPOSED

Discipline	EMG Program	EMG Program	EMG Technical	EMG Project	EMG Project	EMG CADD	EMG Administrative	Total Task	Total Task
Tasks	Principal	Manager	Manager	Manager	TRR	JR Engineer		Hours	Cost
Master Development & Scheduling	1	1	2		2		2	8	775
Pre-Assessment Coordination & Consultation	1	2	2				1	6	660
Pre-Assessment Meeting / Pilot Study		2						2	250
Weekly meetings	1	2						3	400
Onsite Assessments		16		20				36	4,100
Report Writing			12	64				76	7,980
Report Review	1	2	8		6		2	19	1,910
Ship reports		2	1				1	4	405
Report Revisions		12	14	12	4			42	4,610
Post Assessment Coordination & Consultation	2	2	2					6	760
"Final" Report Review and Shipment	1	6	8		4		1	20	2,170
Other	2	4	8		4		2	20	2,120
Total Hours	9	51	57	96	20	0	9	242	26140
Hourly Rate	\$150.00	\$125.00	\$105.00	\$105.00	\$95.00	\$75.00	\$50.00		
Total by Discipline	\$1,350.00	\$6,375.00	\$5,985.00	\$10,080.00	\$1,900.00	\$0.00	\$450.00		
Sub Total	\$26,140.00								
Expenses	\$1,634.00								
EMG Total	\$27,774.00								

SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

6. ASSETCALC™

EMG proposes the option of utilizing AssetCALC™ as the platform for all data collected on this project. AssetCALC™ is a web-based system that lets users query information regarding specific items or across the entire asset portfolio. This streamlines the capital planning process by compiling funding requirements for deficiencies and to create budget models based on project priority and life cycle maintenance and repair requirements. Seat licenses and on-going hosting agreements are not required with AssetCALC™ .

Prior to populating the database, EMG will work with Sarpy County to establish the attributes and data points required to be associated with each asset. This will include a discussion of relative priority of the asset. The first step in populating the database is to create an asset inventory. This will include all of Sarpy County assets and will be grouped based on a hierarchy based on site location, asset group and function. At the facility assessment/data collection phase, EMG will use AssetCALC™ as the platform in the field for collection and analysis of asset condition and needs. EMG will use our tablet PCs in the field to enter site data directly in to the database application.

EMG has created a module for our AssetCALC™ application that allows us to ECMs on municipal buildings, and to prioritize the opportunities by first cost or by payback. The database allows ad hoc reporting if additional reports are required by the client.

Please refer to the sample AssetCALC™ screenshots provided on the following pages.

SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

ENERGY REPORTER

EMG Energy Reporter

Building Name:

Description:

Manufacturer:

Location:

System:

G-Number:

Fuel Type:

Payback Period:

Report Number:

ECM Number:

Action:

[Clear Query](#)

Categories	Id	Building	System	Report	ECM	Brief Description of ECM	Action	System	Initial Investment	Annual Savings	Payback Period	Qty	Description	Manufact
<input type="checkbox"/> Low/No Cost ECM <input type="checkbox"/> Clean Energy Opportunities <input type="checkbox"/> ESCO Contracts And Third Party <input type="checkbox"/> Renewable Resiliability Analysis <input type="checkbox"/> Carbon Offset Value RGGI <input type="checkbox"/> Low/No Cost ECM <input type="checkbox"/> Clean Energy Opportunities <input type="checkbox"/> ESCO Contracts And Third Party <input type="checkbox"/> Renewable Resiliability Analysis <input type="checkbox"/> Carbon Offset Value RGGI <input type="checkbox"/> Low/No Cost ECM <input type="checkbox"/> Clean Energy Opportunities <input type="checkbox"/> ESCO Contracts And Third Party														
<input type="checkbox"/> Energy Conservation ECM <input type="checkbox"/> RFPs And Monitoring For Low/No Cost ECMS <input type="checkbox"/> Utility And Government Incentives <input type="checkbox"/> New Construction Energy Reviews <input type="checkbox"/> Sale Of EPACT Tax Credits <input type="checkbox"/> Energy Conservation ECM <input type="checkbox"/> RFPs And Monitoring For Low/No Cost ECMS <input type="checkbox"/> Utility And Government Incentives <input type="checkbox"/> New Construction Energy Reviews <input type="checkbox"/> Sale Of EPACT Tax Credits <input type="checkbox"/> Energy Conservation ECM <input type="checkbox"/> RFPs And Monitoring For Low/No Cost ECMS <input type="checkbox"/> Utility And Government Incentives														
<input type="checkbox"/> Energy Procurement Opportunities <input type="checkbox"/> Retro Commissioning Services <input type="checkbox"/> Best Energy Procurement Options <input type="checkbox"/> Procurement Demand Response <input type="checkbox"/> Third Party Ownership <input type="checkbox"/> Energy Procurement Opportunities <input type="checkbox"/> Retro Commissioning Services <input type="checkbox"/> Best Energy Procurement Options <input type="checkbox"/> Procurement Demand Response <input type="checkbox"/> Third Party Ownership <input type="checkbox"/> Energy Procurement Opportunities <input type="checkbox"/> Retro Commissioning Services <input type="checkbox"/> Best Energy Procurement Options														
	370	Germantown Indoor Swim Center		24	1	Replace 4 lamp recessed linear fluorescent bulbs fixtures to 3 lamp fixtures	Reduce		\$0	\$485				
	380	Germantown Indoor Swim Center		24	2	Install VFDs on SEMCO's 40 Hp Supply Fan for Energy Recovery Unit (ERU) in Spectator Area	Install		\$8,000	\$14,881	0.54			
	381	Germantown Indoor Swim		24	3	Install Occupancy Sensors in	Install		\$840	\$1,188	0.71			



SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

ENERGY AUDIT: COST/BENEFIT WORKSHEET

Step 4 Estimate annual energy savings:

- a R-13 add'l insulation: $2a \times 2b \times 3a =$ /yr
- b R-30 add'l insulation: $2a \times 2b \times 3b =$ /yr
- c R-42 add'l insulation: $2a \times 2b \times 3a =$ /yr

Step 5 Calculate annual cost savings:

- a R-13 add'l insulation: $4a \times 2h =$ \$/yr
- b R-30 add'l insulation: $4b \times 2h =$ \$/yr
- c R-42 add'l insulation: $4c \times 2h =$ \$/yr

Step 6 Calculate payback period:

- a R-13 add'l insulation: $1a / 5a =$ yrs
- b R-30 add'l insulation: $1b / 5b =$ yrs
- c R-42 add'l insulation: $1b / 5b =$ yrs

5

<< Previous Next >>

Show Admin Controls

Jump to ECM:

▾

View Field Pack

Table 10: R-value vs. Thickness for Typical Attic Insulation Materials

Existing insulation level	Existing insulation type	Value
1	Batt Fiberglass	3
1	Dry Cellulose	4
1	Loose Fill Fiberglass	3
2	Batt Fiberglass	7
2	Dry Cellulose	7
2	Loose Fill Fiberglass	5
3	Batt Fiberglass	10
3	Dry Cellulose	11
3	Loose Fill Fiberglass	8
4	Batt Fiberglass	13
4	Dry Cellulose	14
4	Loose Fill Fiberglass	10
5	Batt Fiberglass	17
5	Dry Cellulose	18



SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

ENERGY AUDIT: ECMs

Exterior Walls

Wall area to be insulated sf

Wall construction and siding type

Windows and Doors

Total Area of Windows sf

Area of Windows to be Replaced sf

Window Frame Material

Average Window Fit

Are Existing Windows Adequately Weatherstripped

Area of south-facing windows in A/C spaces sf

Area of E- and W-facing windows in A/C spaces sf

Total Number of Doors

Average fit of existing doors

Are existing doors weatherstripped

Thickness of doors (if wood) Inches

Existing door type

Percentage of exterior wall above desk height that is glass (est.)

Do windows have exterior overhangs (at least 2 ft)

Exterior window glass type

Heating, Ventilation and Air Conditioning

Save Changes

Cancel

[View ECMs](#)

Sections:

[Utility Information](#)

[Site Information](#)

[Roof and Attic Areas](#)

[Exterior Walls](#)

[Windows and Doors](#)

[Heating, Ventilation and Air Conditioning](#)

[Uninsulated Piping](#)

[Interior Lighting](#)

[Exterior Lighting](#)

[Residential Refrigerators](#)

[Central Laundry Facilities](#)

SARPY COUNTY, NEBRASKA
ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

D. COST AND PRICING

Professional Services	Cost
Courthouse	\$9,258.00
Law Enforcement Center	\$9,258.00
Juvenile Justice Center	\$9,258.00
Total	\$27,774.00

As indicated in the chart above, EMG will be able to perform the Scope of Services within the proposed \$39,832.00 budget. This includes all services requested within the RFP.



SARPY COUNTY, NEBRASKA
ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

E. INSURANCE

Please find a copy of EMG's sample insurance certificate on the following page.



ACORD CERTIFICATE OF LIABILITY INSURANCE

OP ID DH
EMGHO-1

DATE (MM/DD/YYYY)
09/08/09

PRODUCER
InterContinental Ins Brks, LLC
175 Federal Street, Suite 725
Boston MA 02110-2202
Phone: 617-443-1992 Fax: 617-423-7853

INSURED
Clampett Industries, LLC dba
EMC
222 Schilling Circle, Ste 275
Hunt Valley MD 21031

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE	NAIC #
INSURER A: Zurich-American Ins. Group	
INSURER B: Steadfast Insurance Company	26387
INSURER C:	
INSURER D:	
INSURER E:	

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR ADD'L LTR INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	GENERAL LIABILITY	GLP9213976-04	09/13/09	09/13/10	EACH OCCURRENCE	\$ 1,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY				DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 100,000
	<input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR				MED EXP (Any one person)	\$ 5,000
	<input checked="" type="checkbox"/> Pollution				PERSONAL & ADV INJURY	\$ 1,000,000
	<input checked="" type="checkbox"/> Professional				GENERAL AGGREGATE	\$ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:				PRODUCTS - COMP/OP AGG	\$ 2,000,000
	<input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC				PROFESSIONAL CLAIMS MADE	
					BI PD Ded	10,000
B B	AUTOMOBILE LIABILITY	BAP915948202	09/13/09	09/13/10	COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000,000
	<input type="checkbox"/> ANY AUTO				BODILY INJURY (Per person)	\$
	<input type="checkbox"/> ALL OWNED AUTOS				BODILY INJURY (Per accident)	\$
	<input checked="" type="checkbox"/> HIRED AUTOS				PROPERTY DAMAGE (Per accident)	\$
	<input checked="" type="checkbox"/> NON-OWNED AUTOS					
	GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT	\$
	<input type="checkbox"/> ANY AUTO				OTHER THAN EA ACC	\$
					AUTO ONLY: AGG	\$
	EXCESS/UMBRELLA LIABILITY				EACH OCCURRENCE	\$
	<input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE				AGGREGATE	\$
	<input type="checkbox"/> DEDUCTIBLE					\$
	<input type="checkbox"/> RETENTION \$					\$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	WC9213978-04	09/13/09	09/13/10	<input checked="" type="checkbox"/> WC STATU-TORY LIMITS	<input type="checkbox"/> OTH-ER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED?				E.L. EACH ACCIDENT	\$ 1,000,000
	If yes, describe under SPECIAL PROVISIONS below				E.L. DISEASE - EA EMPLOYEE	\$ 1,000,000
	OTHER				E.L. DISEASE - POLICY LIMIT	\$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

CERTIFICATE HOLDER

SAMP001

SAMPLE CERTIFICATE OF INS.

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.



SARPY COUNTY, NEBRASKA
ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

APPENDIX A — RESUMES

▶ MATTHEW S. MUNTER, PE A-2
▶ BILL CHAMPION, PE, PMP, BPI..... A-3
▶ KALYANA VADALA, CEM, CEA, CSDP..... A-4
▶ KEITH C. MADIGAN, PE..... A-5
▶ ROBERT H. WEIDENDORF, PE A-6
▶ MEL R. HEIS, CEM, PE..... A-7
▶ KEVIN M. LANTRY, BPI A-8



SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

MATTHEW S. MUNTER, PE

Project Executive

Education

- Bachelor of Science, Mechanical Engineering - Clemson University, 1986.

Project Experience

- **Massachusetts Department of Energy Resources; Boston, MA** - As Project Executive, Mr. Munter managed the energy audit for the Massachusetts DOER. This project included more than 60 buildings, including schools, offices and residential units. Mr. Munter was responsible for all contractual issues associated with this project.
- **Montgomery County Department of General Services; Gaithersburg, MD** - As Project Executive, Mr. Munter managed this project for Montgomery County, consisting of more than 130 County-owned buildings, including offices, housing, emergency facilities, IT facilities, and performing arts facilities. As a result of Mr. Munter's supervision, EMG prepared a phased plan that delivers 45 percent in annual energy savings and more than 55 percent in annual utility cost saving by year 5 of the plan. This plan translates to more than \$2.1 million per year in utility cost savings.
- **Hillsborough County Department of Procurement Services; Tampa, FL** - As Project Executive, Mr. Munter was responsible for all programming and coordination for this energy audit project for Hillsborough County. Mr. Munter facilitated communication between EMG and Hillsborough County and managed technical oversight of the project. The energy audits were conducted on several types of buildings for Hillsborough, including a waste water treatment plant, correctional facility, resource recovery building, animal services building, office space, and storage warehouses.
- **Ohio Department of Administrative Services; Columbus, OH** - EMG was selected by the Ohio DAS to conduct statewide energy audits. Audits were conducted to identify opportunities to maximize energy savings and financial benefits through ECMs. Audits included a preliminary energy use analysis, a walk-through analysis, and an energy study and engineering analysis. As Project Executive, Mr. Munter worked with the DAS to establish and define the scope of the project, and served as the DAS's main point of contact.

Industry Tenure

- A/E: 1987
- EMG: August, 1998

Industry Experience

- Government
- K-12
- Higher Education
- Office
- Industrial
- Hospitality
- Retail
- Multifamily Housing

Active Licenses/Registration

- Professional Engineer, State of Maryland (# 22604)
- Professional Engineer, Commonwealth of Virginia (# 024858)
- Asbestos Project Designer, Inspector and Project Monitor

Memberships

- The Association of Higher Education Facilities Officers (APPA)
- National Council of State Housing Agencies
- Council of Educational Facility Planners, International (CEFPI)
- The Society of American Military Engineers (SAME)

SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

BILL CHAMPION, PE, PMP, BPI

Quality Assurance Manager

Education

- Master of Business Administration - University of Rochester, 2001.
- Master of Science, Mechanical Engineering - State University of New York at Buffalo, 1998.
- Bachelor of Science, Mechanical Engineering - State University of New York at Buffalo, 1994.

Project Experience

- **Massachusetts Department of Energy Resources; Boston, MA** - As Quality Assurance Manager, Mr. Champion assisted in performing an energy audit of more than 60 buildings under the Massachusetts DOER to determine possible energy conserving measures as per HUD directive. EMG provided the Massachusetts DOER with recommended ECMs.
- **Montgomery County; Gaithersburg, MD** - Montgomery County selected EMG to provide an overall energy cost savings and utility saving plan, to include more than 120 buildings and 4 million square feet. Mr. Champion provided general oversight for this project and managed the EMG team performing the audit. EMG identified more than \$250,000 in annual savings opportunities in the buildings surveyed.
- **City of Charlotte; Charlotte, NC** - EMG completed a commercial energy audit for the City of Charlotte. As Quality Assurance Manager, Mr. Champion managed the EMG team conducting the audit of municipal buildings, transportation facilities, and office buildings. The team developed a list of potential ECMs and water conservation measures, as well as energy-efficient product recommendations. The energy audits assisted the City in identifying energy deficiencies, potential energy conservation opportunities, and potential cost savings.
- **Ohio Department of Administrative Services; Columbus, OH** - EMG was selected by the Ohio DAS to conduct statewide energy audits. Audits were conducted to identify opportunities to maximize energy savings and financial benefits through ECMs. Audits included a preliminary energy use analysis, a walk-through analysis, and an energy study and engineering analysis. Mr. Champion managed the technical review of the audit, assuring appropriate staffing levels and project adherence to budget and timeline.

Industry Tenure

- A/E: 1994
- EMG: August, 2002

Industry Experience

- Government
- Industrial
- K-12 Education
- Higher Education
- Retail
- Multifamily Housing
- Cost Segregation

Active Licenses/Registrations

- Professional Engineer, State of New York, (# 087867)
- Certified Project Management Professional (PMP) by the Project Management Institute, (# 50241)

Memberships

- American Society of Mechanical Engineers

Certifications

- Multi-Family Building Analyst; conducted by Building Performance Institute, Inc. (BPI); Pennsylvania Housing Finance Authority

SARPY COUNTY, NEBRASKA
ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

KALYANA VADALA, CEM, CE A, CSDP

Program Manager

Education

- Master of Science, Computer Science – New York Institute of Technology, 2003.
- Bachelor of Science, Electrical, Electronics & Communication Engineering – N.B.K.R. Institute of Science & Technology, India, 1999.

Project Experience

- ***Town of Bedford; Bedford, NH*** – The Town of Bedford selected EMG to conduct an energy assessment of Town-owned buildings, including the library, town hall, and municipal offices. As Program Manager, Mr. Vadala managed the review of the existing energy systems and preparation of a comprehensive energy efficiency and savings report. The EMG team also identified measures to maximize energy cost savings and minimize operational and maintenance costs, as well as projected the estimated savings from the implementation of these measures.
- ***Montgomery County Department of General Services; Gaithersburg, MD*** – Montgomery County selected EMG to provide an overall energy cost savings and utility saving plan for the County-owned facilities. The portfolio included more than 150 buildings totaling more than 4 million square feet. The EMG team conducted the audits in compliance with HUD regulations, recommended energy saving opportunities and itemized costs of immediate and reserve repair needs. As Technical Report Reviewer, Mr. Vadala provided a final review of EMG's conclusions and recommendations.
- ***City of Charlotte; Charlotte, NC*** – EMG completed a commercial energy audit for the City of Charlotte. As Program Manager, Mr. Vadala provided guidance to the EMG team auditing municipal buildings, transportation facilities, and office buildings. The team developed a list of potential ECMs and water conservation measures, as well as energy-efficient product recommendations. The energy audits assisted the City in identifying energy deficiencies, and potential energy conservation opportunities and cost savings.

Industry Tenure

- A/E: 2002
- EMG: 2009

Industry Experience

- Energy Audits
- Energy Efficiency & Cost Management
- Energy Master Planning
- Energy Procurement
- Demand Side Management
- Distributed Electric Generation & Demand Response

Active Licenses/Registration

- Certified Energy Manager (CEM)
- Certified Energy Auditor (CEA)
- Certified Sustainable Development Professional (CSDP)

Memberships

- Member of Association of Energy Engineers
- Member of Cogeneration & Competitive Power Institute

SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

KEITH C. MADIGAN, PE

Project Manager

Education

- Master of Business Administration – Loyola College, 1992.
- Bachelor of Science, Mechanical Engineering – Northwestern University, 1985.

Project Experience

- *Montgomery County; Gaithersburg, MD* – The Montgomery County Department of Public Works selected EMG to provide an overall energy cost savings and utility saving plan for the county's owned facilities. The portfolio included more than 120 buildings totaling over 4 million square feet. Mr. Madigan, a Project Manager, performed a detailed review of utility costs and an analysis of potential ECMs.
- *City of Charlotte; Charlotte, NC* – EMG completed a commercial Energy Audit for the City of Charlotte, North Carolina. Mr. Madigan, a Project Manager, conducted audits of municipal buildings, transportation facilities, and office buildings. The EMG team developed a list of potential ECMs and water conservation measures, as well as energy-efficient product recommendations. The Energy Audits assisted the City in identifying energy deficiencies, potential energy conservation opportunities, and potential cost savings.
- *Carlos Rosario International Public Charter School; Washington, D.C.* – EMG conducted a Facility Condition Assessment and preliminary Energy Audit for the Carlos Rosario International Public Charter School, a leading charter school and adult-education institution in Washington, D.C. As Project Manager, Mr. Madigan analyzed utility bills and identified ECMs for the school. EMG identified the initial cost, annual energy savings and payback period for each ECM.

Industry Tenure

- A/E: 1987
- EMG: 2009

Industry Experience

- Government
- Higher Education
- Multifamily Housing
- Green Assessments

Active Licenses/Registrations

- Professional Engineer, State of Maryland (29365)
- Professional Engineer, Commonwealth of Virginia (037126)

Certifications and Training

- Primavera SureTrack
- RS Means CostWorks

Memberships

- International Code Council
- Construction Specifications Institute

SARPY COUNTY, NEBRASKA
ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

ROBERT H. WEIDENDORF, PE

Project Manager

Education

- Bachelor of Science, Mechanical Engineering - Lawrence Institute of Technology, 1976

Project Experience

- ***Ann Arbor Housing Commission; Ann Arbor, MI*** - The Ann Arbor Housing Commission and the City of Ann Arbor selected EMG to conduct a physical needs assessment and energy audit for 361 housing units at 17 locations. The EMG team conducted site inspections and identified estimated repair/rehab needs for the PNA, and the team performed an energy audit of all energy and water-using equipment. As Project Manager, Mr. Weidendorf prepared a final report that included the estimates of cost, savings, payback, and useful life per ECMs.
- ***Housing Authority of Bergen County; Englewood, NJ*** - EMG performed a capital needs assessment, 504/UFAS Certification, and energy audit for the Housing Authority of Bergen County. The Housing Authority manages eight sites in New Jersey, including more than 600 units. As Project Manager, Mr. Weidendorf prepared an energy/utilities audit report that provided analysis and cost-saving recommendations. The project team reviewed the properties' buildings and systems to determine remaining useful life, and reviewed drawings and maintenance records for compliance with Section 504.
- ***Philadelphia Housing Authority; Philadelphia, PA*** - As a Project Manager, Mr. Weidendorf helped perform an energy audit for nearly 8,100 housing units, located on 37 multi-family sites. The audit also included common areas, management offices, and community spaces to determine possible energy conserving measures as per HUD directive. The audit provided the client with recommended ECMs to perform on each property.

Industry Tenure

- A/E: 1982
- EMG: December, 2002

Related Experience

- Educational Facility Condition Assessments
- Assisted Living Portfolios
- Hospitality Portfolios
- Retail Portfolios

Industry Experience

- Government Facilities
- Office
- Industrial
- Housing/Multi-family
- K-12
- Higher Education
- Hospitality
- Healthcare
- Retail/Wholesale

Active Licenses/Registration

- Professional Engineer, State of Michigan (# 29442), 1992

Regional Location

- Detroit, Michigan

SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

MEL R. HEIS, CEM, PE

Project Manager

Education

- Bachelor of Science, Engineering Science – University of Cincinnati, 1974.

Project Experience

- *Montgomery County Department of General Services; Gaithersburg, MD* – Montgomery County selected EMG to provide an overall energy cost savings and utility saving plan for the County-owned facilities. The portfolio included more than 150 buildings totaling more than four million square feet. As a member of the EMG team, Mr. Heis conducted the audits in compliance with HUD regulations, recommended energy saving opportunities and itemized costs of immediate and reserve repair needs.
- *City of Charlotte; Charlotte, NC* – EMG completed a commercial energy audit for the City of Charlotte. As a Project Manager, Mr. Heis conducted audits of municipal buildings, transportation facilities, and office buildings. The EMG team developed a list of potential ECMs and water conservation measures, as well as energy-efficient product recommendations. The energy audits assisted the City in identifying energy deficiencies, potential energy conservation opportunities, and potential cost savings.

Industry Tenure

- A/E: 1975
- EMG: 2009

Industry Experience

- Commercial
- Government
- Retail

Active Licenses/ Registrations

- Professional Engineer, State of Kentucky (# 13766), 1984
- Certified Energy Manager
- Certified Plant Engineer
- Systems Maintenance Administrator, Building Owners and Managers Institute (BOMI)

Awards and Certifications

- Cincinnati ASHRAE First Place Energy Awards for Existing Building Energy Projects (3 times)
- Cincinnati ASHRAE Regional First Place Award
- Southwest Ohio AEE Energy Engineer of the Year, 1989
- Regional AEE Energy Engineer of the Year, 2005
- AEE Professional Development Award, 1990, 1996

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SARPY COUNTY, NEBRASKA

ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

KEVIN M. LANTRY, BPI

Project Manager

Education

- Bachelor of Science, Mechanical Engineering - Purdue University, School of Mechanical Engineering, 2003

Project Experience

- *Ann Arbor Housing Commission; Ann Arbor, MI* - The Ann Arbor Housing Commission and the City of Ann Arbor selected EMG to conduct an energy audit for 361 housing units at 17 locations. The EMG team conducted the audits in compliance with HUD regulations and recommended energy saving opportunities. As Project Manager, Mr. Lantry prepared a final report including the estimates of cost, savings, payback, and useful life per ECM.
- *Housing Authority of Bergen County; Englewood, NJ* - EMG performed a capital needs assessment, 504/UFAS Certification, and energy audit for the Housing Authority of Bergen County. The Housing Authority manages eight sites in New Jersey, including more than 600 units. As Project Manager, Mr. Lantry prepared an energy/utilities audit report that provided analysis and cost-saving recommendations. The project team reviewed buildings and systems to determine remaining useful life, and reviewed drawings and maintenance records for compliance with Section 504.
- *Housing Authority of the City of Paterson; Paterson, NJ* - EMG performed an energy audit of eight developments at 12 sites in Paterson. As Project Manager, Mr. Lantry prepared reports including estimates of cost, savings, payback, and useful life per ECM. All procedures were in accordance with HUD rules and regulations, State of New Jersey Energy Conservation Code and Uniform Building Code, and Building Officials Code Administrators Code.
- *First Energy Facility Assessments; Multiple Sites, PA* - As Project Manager, Mr. Lantry performed facility condition assessments on more than 40 sites for a large electric utility in central and eastern Pennsylvania. He evaluated a wide range of site, including district officers, regional headquarters, and maintenance facilities. The team compiled the results into individual facility condition reports and EMG's AssetCALC™ software was used for capital planning and facility investment purposes.
- *Mark to Market Green PCAs; Various Locations* - As Project Manager, Mr. Lantry completed multiple Mark to Market Green PCAs per HUD protocol. Final reports included standard assessments with energy audits and sustainability recommendations.

Industry Tenure

- A/E: 2001
- EMG: August, 2004

Industry Experience

- Green Assessments
- Multifamily Housing
- Industrial
- Commercial

Certifications

- Multi-Family Building Analyst; conducted by Building Performance Institute (BPI); Pennsylvania Housing Finance Authority
- VFA Facility Certified

Special Skills & Training

- ISO 9000
- AutoCAD
- Cross Trained for Environmental Assessments

Memberships

- ASHRAE
- U.S. Green Building Council

Regional Location

- Indianapolis, Indiana

SARPY COUNTY, NEBRASKA
ENERGY AUDIT PROJECT FOR FACILITIES MANAGEMENT

APPENDIX B — PROJECT PROFILES

- ▶ WASHINGTON COUNTY, PENNSYLVANIA.....B-2
- ▶ CITY OF NEW ROCHELLE, NEW YORK.....B-3
- ▶ MONTGOMERY COUNTY, MARYLAND.....B-4
- ▶ CITY OF CHARLOTTE, NORTH CAROLINA.....B-5

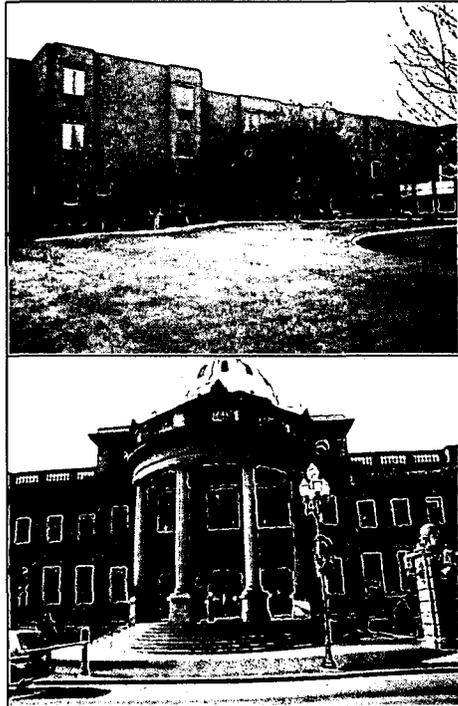


CITY OF NEW ROCHELLE
ENERGY AUDIT CONTRACTING SERVICES



WASHINGTON COUNTY, PENNSYLVANIA

Investment Grade Energy Audits



Project Detail

EMG was contracted to conduct an investment grade energy audit for municipal buildings throughout the county, including the courthouse, health center, correctional facility, and airport. The purpose was to provide a baseline of energy usage, relative energy efficiency of the facility, and specific recommendations to optimize energy performance of buildings, improve reliability, and reduce overall energy consumption at the facilities.

Solution

EMG performed a comprehensive energy audit of all facilities within the projected time frame and delivered final reports with energy optimization recommendations. EMG assembled a multi-disciplined project team, led by a certified energy manager, to conduct the audits. The audit was conducted in two phases. Phase I included benchmarking facilities with Portfolio Manager. Phase II included actual facility audits. The engineering team surveyed all building HVAC systems, lighting, operations, controls, structural elements, envelope, R-values of components, and energy management controls systems. Based on the information gathered in the field, review of utility rates, interview of field engineers, and field records, EMG identified opportunities for energy savings, reductions in fossil fuel emissions, and projected energy/utility savings.

Results

EMG provided the County with a final report that identified recommended ECMs and operational changes for the facilities. Some recommendations included adding VFD for system pumps and isolation valves for heat pumps, replacing aged conventional boilers with high efficiency condensing boilers, new chiller controls, upgrading the energy management system, adding heat recovery for make-up air units, and conversion of constant volume multi-zone air handler system to VAV-TR system. EMG is assisting the County in selection of equipment for upgrades and with purchasing of electricity and natural gas from third parties.

Organization

- Government

Building Type

- Courthouse
- Correctional Facility
- Health Center
- Airport

Service Provided

- Investment Grade Energy Audit

Project Elements

- EMG Role: Prime
- Size: 6 buildings; 468,605 SF
- Timing: October 2009 – February 2010
- Cost: \$40,439

Client

Washington County
Nancy Bielawski, Director of Purchasing
100 West Beau Street, Suite 406
Washington, Pennsylvania 15301
Telephone: (724) 228 - 6729
Fax: (724) 250 - 6555
Email: bielawsn@co.washington.pa.us



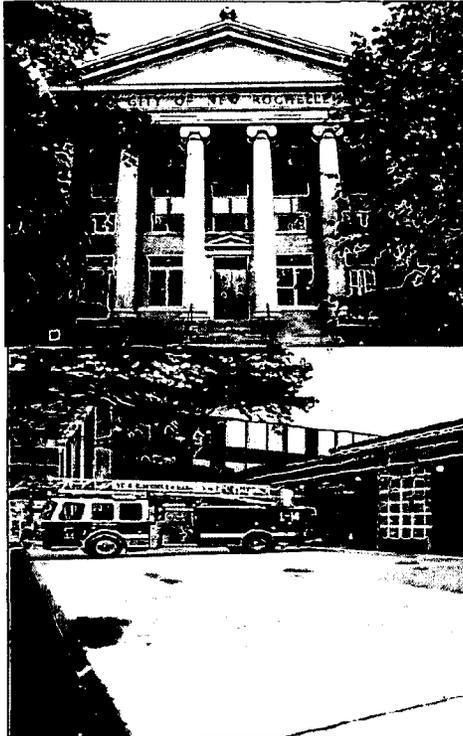
CITY OF NEW ROCHELLE

ENERGY AUDIT CONTRACTING SERVICES



CITY OF NEW ROCHELLE, NEW YORK

Investment Grade Energy Audit



Project Detail

The City of New Rochelle received an Energy Efficiency and Conservation Block Grant under 2009's American Recovery and Reinvestment Act (ARRA). The City contracted EMG to conduct investment grade energy audits for City facilities, with the purpose of upgrading the original HVAC systems, energy distribution systems and controls; energy conservation and cost savings opportunities.

Solution

EMG assembled a team of qualified energy auditors, led by a certified energy manager and a professional engineer. Investment grade audits were performed on the city hall, public safety building, and fire stations. During the audits, EMG identified opportunities for HVAC distribution system upgrades, VFD additions for hot/chilled and condenser water pumps, air handling units and occupancy/motion sensor additions for common area and task lighting. EMG found opportunities to retro commission (RCx) existing controls, upgrade existing EMS, and add additional controls to the system.

Results

EMG is currently in the final stages of concluding the reporting process. The results of the observation and recommendations have been discussed with the client in congruence with our final recommendations. EMG utilized eQUEST energy simulation software to develop the energy model scenarios for the buildings to evaluate the interactive energy savings opportunities.

Client

The City of New Rochelle
John B. Clemente, PE
Deputy Commissioner, City Engineer
City Hall
515 North Avenue
New Rochelle, New York 10801
Telephone: (914) 654 - 2134
Email: jclemente@ci.new-rochelle.ny.us

Organization

- Government

Building Type

- City Hall
- Public Safety Building
- Fire House

Service Provided

- Investment Grade Energy Audit

Project Elements

- EMG Role: Prime
- Size: 3 buildings
- Timing: July 2010
- Cost: \$42,280

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CITY OF NEW ROCHELLE

ENERGY AUDIT CONTRACTING SERVICES

MONTGOMERY COUNTY, MARYLAND

Commercial Energy Audit



Project Detail

The Montgomery County Department of Public Works selected EMG as consultant to provide an overall energy cost savings and utility saving plan for the County's owned facilities. The portfolio included over 150 buildings totaling over 4 million square feet.

Solution

To date, EMG has performed detailed audits on 50 buildings within the portfolio. EMG performed a detailed review of utility costs and an analysis of potential ECMs. Each report contains:

- Energy and water using equipment
- Building Envelope
- Analysis of energy usage
- Recommendations for energy savings

Results

EMG identified over \$550,000 in annual savings opportunities in the buildings surveyed. EMG has completed Level 2 audits on 80 of the 123-building sample included in this project.

Organization

- County Government

Building Type

- Emergency Response
- Library
- Office
- Correctional Facility

Service Provided

- Energy Audit

Project Elements

- EMG Role: Prime
- # of buildings: 150
- Timing: 2007-Present
- Cost: \$500,000+

Client

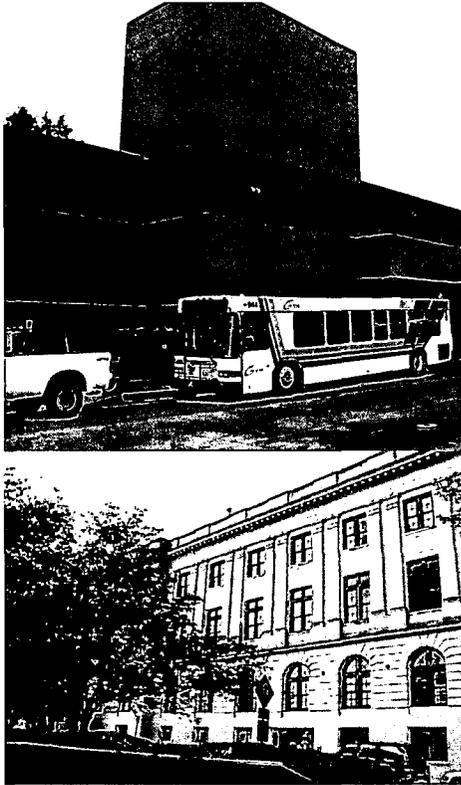
Montgomery County, Maryland
Victor Sousa, Division of Operations, DPWT
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Rockville, Maryland 20850
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Fax: (240) 777 - 7277

Email: victor.sousa@montgomerycountymd.gov



CITY OF NEW ROCHELLE
ENERGY AUDIT CONTRACTING SERVICES

CITY OF CHARLOTTE, NORTH CAROLINA
Energy Audit, Facility Condition Assessment



Project Detail

The City of Charlotte received an Energy Efficiency and Conservation Block Grant under 2009's American Recovery and Reinvestment Act (ARRA). The City contracted EMG to conduct commercial Energy Audits and project scoping studies for City facilities, with the purpose of identifying energy deficiencies and needs, energy conservation opportunities, and cost savings opportunities. Energy Conservation projects were prioritized and became part of the City's ARRA-funded energy improvement program now underway.

Solution

EMG assembled a team of qualified energy auditors, led by a Certified Energy Manager (CEM). The Energy Audits were conducted in two phases. In Phase I, EMG established baseline energy and water usage for each facility and reviewed the utility bills and rate structures. The team also met with facility personnel to review the billing data and future plans for each facility.

Phase II consisted of a commercial Energy Audit that assessed the feasibility and potential for energy conservation, water conservation, and renewable energy measures. EMG's team identified energy deficiencies, energy needs, and potential ECMs, and the team also created a prioritized list of short-term and long-term investment opportunities.

Results

EMG's final report was based on site observations and analysis during Phase I and Phase II. The team developed a list of potential ECMs and water conservation measures, as well as energy-efficient product recommendations. The team also provided a site-specific evaluation of co-generation application potentials.

Client

The City of Charlotte
David M. Miller, Project Manager
531 Spratt Street
Charlotte, North Carolina 28206
Telephone: (704) 336 - 2250
Email: dmiller@ci.charlotte.nc.us

Organization

- Government

Building Type

- Transportation Facilities
- Municipal Buildings

Service Provided

- Commercial Energy Audit

Project Elements

- EMG Role: Prime
- Size: 6 buildings
- Timing: September 2009 - October 2009
- Cost: \$37,181.00

