PROFESSIONAL SERVICES AGREEMENT
BETWEEN
TEXAS A&M UNIVERSITY
AND
BURNS & MCDONNELL

This Professional Services Agreement (this "Agreement") between Texas A&M University, a member of The Texas A&M University System ("TAMUS"), an agency of the State of Texas ("Texas A&M") and Burns & McDonnell ("Provider") is made and entered into by and between Texas A&M and Provider.

Texas A&M and Provider hereby agree as follows:

1. SCOPE OF WORK

Provider will assist Texas A&M with campus thermal system improvements in accordance with TAMU RFQ 17-0008 ("RFQ") and Provider's response to RFQ ("RFQ response"). In the event of any conflict or ambiguity between any part of the RFQ and the RFQ response, the provisions of the RFQ shall in all respect govern and control. Both the RFQ and RFQ response are attached hereto as Appendix A and B, respectively.

2. TIME FOR COMMENCEMENT AND COMPLETION

Provider shall only be responsible for performing the work as outlined in the Scope of Work. While on site, Provider is responsible for project-related data gathering but is not responsible for construction means, methods, safety precautions or programs, or other construction contractor's failure to perform. Provider shall complete all authorized work in accordance with the time for performance described for the work, and in a minimum of time consistent with the ordinary customs, standards, and practices of Provider's business or profession. Texas A&M anticipates a time frame of approximately 6 to 8 months for specific tasks as outlined in the Scope of Work.

3. PAYMENT TERMS

A. For the satisfactory performance of the work, Texas A&M shall pay Provider a lump sum of Nine Hundred Sixty-two Thousand, Three Hundred Seventy-five Dollars ($962,375.00) as outlined in Client's Proposal attached hereto as Appendix C. Texas A&M reserves the right to increase the scope of this engagement as necessary.

B. Payments of the amount due to Provider will be provided by Texas A&M upon receipt of an invoice which details the date of service, description of
work performed, billing rate as set forth in Appendix C, and provides supporting documentation for reimbursable expenses relating to work requested by Texas A&M, if any. The invoice must be signed by the Provider and submitted to Texas A&M at the address as specified on the accompanying Texas A&M Purchase Order. Payment for travel related expenses shall be in accordance with State of Texas Travel Guidelines.

4. DEFAULT AND TERMINATION

A. In the event of substantial failure by a party hereunder to perform in accordance with the material terms hereof, the other party may terminate this Agreement upon fifteen (15) days written notice of termination setting forth the nature of the failure (the termination shall not be effective if the failure is fully cured prior to the end of the fifteen-day period), provided that said failure is through no fault of the terminating party.

B. Texas A&M may, without cause, terminate this Agreement at any time upon giving thirty (30) days advance notice to Provider. Upon termination pursuant to this paragraph, Provider shall be entitled to payment of such amount as shall compensate Provider for the services satisfactorily performed from the time of the last payment date to the termination date in accordance with this Agreement, provided Provider shall have delivered to Texas A&M a final report describing the work completed to the date of termination. Texas A&M shall not be required to reimburse Provider for any services performed or expenses incurred after the date of termination notice.

5. UNIVERSITY FACILITIES

Texas A&M will provide Provider with office space, as needed, to carry out Provider’s duties under this Agreement. Any non-consumable items provided by Texas A&M will remain Texas A&M property at the termination of this Agreement unless otherwise agreed in writing. Provider and its employees will be permitted access to and use of the allocated office space, but Texas A&M reserves the right to enter the premises to conduct Texas A&M business, as may be reasonably necessary or for health and safety purposes.

6. PUBLIC INFORMATION

Information provided to Provider by Texas A&M, including but not limited to information from the members, officers, agents, or employees of The Texas A&M University System or any of its members, and information provided to Provider by members of the public or any other third party shall belong to Texas A&M.
Information created, derived, or otherwise produced by Provider shall remain the exclusive property of Provider. Provider acknowledges any final report or papers will be provided in accordance with this Agreement, and that any information contained in any report or papers, which Provider believes is confidential under Texas law will be clearly designated as such by Provider. In the event Texas A&M receives a request for public information for any portion of any final report or papers that have been designated by Provider to be confidential, Provider acknowledges that Texas A&M is obligated to strictly comply with the Public Information Act, Chapter 552, Texas Government Code, in responding to any request for public information pertaining to this Agreement, as well as any other disclosure of information required by applicable Texas law. Upon Texas A&M’s written request, Provider will provide specified public information exchanged or created under this Agreement that is not otherwise excepted from disclosure under Chapter 552, Texas Government Code, to Texas A&M in a non-proprietary format acceptable to Texas A&M. As used in this provision, “public information” has the meaning assigned Section 552.002, Texas Government Code, but only includes information to which Texas A&M has a right of access. Provider acknowledges that Texas A&M may be required to post a copy of the fully executed Agreement on its Internet website in compliance with Section 2261.253(a)(1), Texas Government Code.

7. DISPUTE RESOLUTION

The dispute resolution process provided in Chapter 2260, Texas Government Code, and the related rules adopted by the Texas Attorney General pursuant to Chapter 2260, shall be used by Texas A&M and Provider to attempt to resolve any claim for breach of contract made by Provider that cannot be resolved in the ordinary course of business. Provider shall submit written notice of a claim of breach of contract under this Chapter to the University Contracts Officer of Texas A&M, who shall examine Provider’s claim and any counterclaim and negotiate with Provider in an effort to resolve the claim.

8. MISCELLANEOUS

A. Provider agrees to indemnify and hold harmless Texas A&M from any claim, damage, liability, expense or loss arising out of Provider’s performance under this Agreement, but only to the extent the Provider is negligent.

B. Provider shall neither assign its rights nor delegate its duties under this Agreement without the prior written consent of Texas A&M.

C. Provider shall be an independent contractor, and neither Provider nor any employee of Provider shall be deemed to be an agent or employee of Texas A&M. As an independent contractor, Provider will be solely
responsible for determining the means and methods for performing the services described. Provider shall observe and abide by all applicable laws and regulations, policies and procedures, including but not limited to, those of Texas A&M relative to conduct on its premises.

D. This Agreement constitutes the sole agreement of the parties and supersedes any other oral or written understanding or agreement. This Agreement may not be amended or otherwise altered except upon the written agreement of both parties.

E. The validity of this Agreement and all matters pertaining to this Agreement, including but not limited to, matters of performance, non-performance, breach, remedies, procedures, rights, duties, and interpretation or construction, shall be governed and determined by the Constitution and the laws of the State of Texas. Pursuant to Section 85.18, Texas Education Code, venue for any suit filed against Texas A&M shall be in the county in which the primary office of the chief executive officer of Texas A&M is located.

F. If Provider is a taxable entity subject to the Texas Franchise Tax (Chapter 171, Texas Tax Code), then Provider certifies that it is not currently delinquent in the payment of any franchise (margin) taxes or that Provider is exempt from the payment of franchise (margin) taxes.

G. Any notice required or permitted under this Agreement must be in writing, and shall be deemed to be delivered (whether actually received or not) when deposited with the United States Postal Service, postage prepaid, certified mail, return receipt requested, and addressed to the intended recipient at the address set out below. Notice may also be given by regular mail, personal delivery, courier delivery, facsimile transmission, email, or other commercially reasonably means and will be effective when actually received. Texas A&M and Provider can change their respective notice address by sending to the other party a notice of the new address. Notices should be addressed as follows:

Texas A&M: Clyde Oberg
Assistant Director
Texas A&M University
Department of Procurement Services
1477 TAMU
College Station, TX 77843-1477
Telephone: (979) 845-1042
Fax: (979) 845-8171
Email: co@tamu.edu
Provider: Jon Schwartz
Manager, OnSite Energy & Power
Burns & McDonnell
6500 West Freeway
Ft. Worth, TX 76116
Telephone: (817) 377-0361
Fax: (817) 377-0394
Email: jschwartz@burnsmcd.com

H. Texas A&M may request a consultant to perform a criminal background check on any employee and/or representative of Provider who conducts business pursuant to this Agreement on the campus of Texas A&M.

I. Under Section 231.006, Texas Family Code, the vendor or applicant certifies that the individual or business entity named in this contract, bid, or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate.

J. Pursuant to Section 2252.903, Texas Government Code, Provider agrees that any payments owing to Provider under this Agreement may be applied directly toward certain debts or delinquencies that Provider owes the State of Texas or any agency of the State of Texas regardless of when they arise, until such debts or delinquencies are paid in full.

K. Provider expressly acknowledges that Texas A&M is an agency of the State of Texas and nothing in this Agreement will be construed as a waiver or relinquishment by Texas A&M of its right to claim such exemptions, privileges, and immunities as may be provided by law.

L. Provider acknowledges and understands that Section 2252.901, Texas Government Code, prohibits Texas A&M from using state appropriated funds to enter into any employment contract, consulting contract, or professional services contract with any individual who has been previously employed, as an employee, by the agency within the past twelve (12) months. If Provider is an individual, by signing this Agreement, Provider certifies that Section 2252.901, Texas Government Code, does not prohibit the use of state appropriated funds for satisfying the payment obligations herein.

M. Performance by Texas A&M under this Agreement may be dependent upon the appropriation and allotment of funds by the Texas State Legislature (the “Legislature”). If the Legislature fails to appropriate or allot the necessary funds, Texas A&M will issue written notice to Provider and Texas A&M may terminate this Agreement without further duty or
obligation hereunder. Provider acknowledges that appropriation of funds is beyond the control of Texas A&M.

N. By executing and/or accepting this Agreement, Provider and each person signing on behalf of Provider certifies, and in the case of a sole proprietorship, partnership or corporation, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of their knowledge and belief, no member of TAMUS or TAMUS Board of Regents, nor any employee, or person, whose salary is payable in whole or in part by Texas A&M or TAMUS, has direct or indirect financial interest in the award of this Agreement, or in the services to which this Agreement relates, or in any of the profits, real or potential, thereof.

O. Provider will exercise reasonable skill, care, and diligence in the performance of its services and will carry out its responsibilities in accordance with customarily accepted professional practices.

P. To the extent permitted by the Constitution and laws of the State of Texas, in no event will either party be liable for any special, indirect, or consequential damages including, without limitation, damages or losses in the nature of increased project costs, loss of revenue or profit, lost production, claims by customers of Texas A&M, and/or governmental fines or penalties.

Q. To the extent permitted by the Constitution and laws of the State of Texas, Provider’s aggregate liability for all damages connected with its services for the project not excluded by the preceding subparagraph, whether or not covered by Provider’s insurance, will not exceed the contract price including any change orders. These mutually negotiated obligations and remedies stated in this Agreement are the sole and exclusive obligations of Provider and remedies of Texas A&M, whether liability of Provider is based on contract, warranty, strict liability, tort (including negligence), indemnity, or otherwise.

R. Estimates, schedules, forecasts, and projections prepared by Provider relating to loads, interest rates and other financial analysis parameters, construction costs and schedules, operation and maintenance costs, equipment characteristics and performance, and operating results are opinions based on Provider’s experience, qualifications, and judgment as a professional.

IN WITNESS WHEREOF, the parties have signed this Agreement on the date indicated below their signatures.

Texas A&M University

Pelcy R. Strawser
Vice President for Finance and Administration & CFO

03/15/17
(Date)

Burns & McDonnell

Scott Clark
Vice President

3-21-17
(Date)
REQUEST FOR QUALIFICATIONS

RFQ MAIN 17-0008
CAMPUS THERMAL SYSTEMS IMPROVEMENTS

Submittal Deadline: November 17, 2016 @ 2:00 PM

MAIL QUALIFICATIONS TO:

Texas A&M University
Procurement Services
P. O. Box 30013
College Station, TX 77842-3013

HAND DELIVER AND/OR EXPRESS MAIL TO:

Texas A&M University
Procurement Services
1477 TAMU Agronomy Road
College Station, TX 77843-1477

Show RFQ Number, Opening Date, and Time on Return Envelope

NOTE: RESPONSE must be time stamped at Texas A&M University's Department of Procurement Services before the hour and date specified for receipt of response. Sealed responses will be received until the date and time established for receipt. After receipt, only the names of proposers will be made public. Other details will only be divulged after the contract award, if one is made. All questions related to the RFQ shall be in writing via e-mail to the contact provided below.

REFER INQUIRIES TO:

Clyde Oberg, Assistant Director
Texas A&M University
Procurement Services
979-845-1042
E-mail: co@tamu.edu

All qualification statements shall become the property of the State of Texas upon receipt.
SECTION 1
Introduction

1.1 Introduction

The Utilities and Energy Services Department (UES) of the Division of Finance and Administration at Texas A&M University in College Station, TX is seeking qualification statements from qualified Architectural/Engineering firms, with experience in the design and installation of thermal transmission and distribution systems.

1.2 Tentative Timetable

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>RFQ available</td>
<td>10/21/2016</td>
<td>5:00 p.m.</td>
</tr>
<tr>
<td>Deadline for questions</td>
<td>10/27/2016</td>
<td>5:00 p.m.</td>
</tr>
<tr>
<td>Response to questions from Purchasing</td>
<td>11/2/2016</td>
<td>5:00 p.m.</td>
</tr>
<tr>
<td>Proposals due</td>
<td>11/17/2016</td>
<td>2:00 p.m.</td>
</tr>
</tbody>
</table>

1.2 Scope of Work

The project Scope of Work (SOW) includes:

1. **Thermal Energy System Upgrades/Replacements** – A/E will be responsible for the design, cost estimates, assistance with bidding, and implementation of approximately 15 sub-projects valued at slightly less than $10MM. Several of these sub-projects are in the highly developed, highly congested main portion of campus. Project phasing will be critical for several of these projects. It is probable that the sub-projects will be grouped into larger projects. Some projects will be bid and others will be done by UES personnel. These projects include:

- Add new air separator at the CUP for heating hot water. Replace existing CHW expansion tank at the CUP and the HHW expansion tank at SUP1.
- New 24" CHW line and 12" HHW line from Enterprise Avenue to George Bush Library
- New 24" CHW line and 12" HHW line from Enterprise Avenue to 1111 Research Parkway.
- Replace 18" CHW and 8" HHW lines with 24-inch HDPE CHW and 12-inch HDPE HHW from Lubbock Street tunnel to Mosher Hall. Replace existing 10" CHW and 8" HHW lines with 12-inch HDPE CHW and 8-inch HDPE HHW from tunnel on Lubbock Street to Rudder Hall, extend to 24-inch HDPE CHW and 12-inch HDPE HHW at Bizzell Street.
- Replace the existing 18" CHW and 8" HHW lines from the western edge of parking lot 23 to Harrington with HDPE piping. Utilize the existing routing and make ties to Francis, Harrington Tower, Harrington Education, Chemistry 59 and the Library. Combine design with 1-2016-TSI-1705.
- Replace the existing 24" and 20" CHW lines starting at Ross Street near gate 5 and Thompson Hall and stop on the Cushing side of the Academic building. Combine design with 1-2016-TSI-1704.
- Replace 20" CHW and 10" HHW lines starting at the valve pit box on the eastern edge of PA74 (set valves at the western edge of PA74) to the Forest Horticulture building.
- Replace 16" CHW across PA36 to 24" loop along Agronomy. Upgrade 18" CHW line south along Agronomy Road to 24". Upgrade existing 10" CHW line east of Agronomy Road to PA37 to 16". Replace 8" HHW line across PA36 to Agronomy Road.
- Replace 10" HHW lines from Evans library to Peterson building and 6" HHW lines from Peterson building to Heep Lab.
- Replace 12" HHW lines from Adriance Lab Road to existing valve box behind Borloug and Ag Life HQ.
- Replace 4" HHW lines from Hobby-Neely to NSG.
- New 12" CHW and 8" HHW lines from Mitchell Physics to Spence Street.
• Re-route Kleberg CHW and HHW lines from basement to outside dock area.

The Project Architect/Engineer (Project A/E) team is responsible for the design as requested for this project, to effectively allow for competitive sealed proposal (CSP) construction bidding when requested.

The Scope of Work is intended only to establish basic design criteria. This RFQ does not include all User requirements that may be identified in the project during the design process. Further, the RFQ is to be used in conjunction with TAMU Utilities and Energy Design Standards to ensure all requirements are achieved. The design team shall make professional evaluations of design problems and issues related to this project, analyze the advantages and disadvantages of each, evaluate and recommend solutions to the design issues during the design process.

It is emphasized that the Project A/E team is responsible to the UES Manager for Technical Services for performing professional evaluations and any needed detailed studies using sound architectural and engineering principles required to establish the most functional, economical, and efficient use of materials, the site and construction methods in order to provide the requested facilities within an approved budget during the design phases. The project will use the Competitive Sealed Proposal (CSP) delivery method.

The Project A/E team is charged with the responsibility of establishing the final locations, configuration and layout taking into consideration site conditions and requirements established in this program.

Project Requirements:

• The Project A/E team will provide all geotechnical, site survey and construction phase services including project meetings and reports required to ensure proper installation of the design of this project.

• This project has a very tight schedule (see below). A/E firms will have to demonstrate their ability to commit the resources required to meet this schedule in order to be considered for this project.

Project Schedule:

October 21, 2016  RFQ Posted to Hire A/E
November 17, 2016  RFQ Due
December 15, 2016  A/E Contract Signed
February 16, 2017  50% CDs for Review
April 14, 2017  75% CDs for Review including initial Cost Estimates
June 8, 2017  100% CDs for Review including final cost estimates
June 22, 2017  Issue Request for CSP
July 20, 2017  CSP Due
July 31, 2017  Chancellor Approval of Ranked Order
August 17, 2017  BOR Approval
September 1, 2017  Issue Construction Notice to Proceed
1.4 Qualifications

The Texas Engineering Practices Act defines the practice of engineering as performing any public or private service or creative work which requires engineering education, training, and experience in applying special knowledge or judgment of the mathematical, physical or engineering sciences to that service or creative work.

Detailed engineering calculations as described above are required for this scope of work and hence the services of a licensed professional engineer are required.

A professional engineer licensed to practice in the State of Texas shall be responsible for and in charge of all work performed on this project.

1.5 Electronic State Business Daily

This RFQ has been posted on the Electronic State Business Daily at http://esbd.cpa.state.tx.us/. It is the responsibility of proposers who download this RFQ from the Electronic State Business Daily to check the website for any addenda for this RFQ. All such addenda issued by Texas A&M prior to the time that responses are received shall be considered part of the RFQ, and the Respondent shall consider and acknowledge receipt of such in their response.

SECTION 2
Requirements

2.1 Statement of Qualifications Content

Statement of Qualifications shall contain the following information in the same order in which they are set forth below. Respondents must present all information, in adequate detail, necessary to demonstrate how they best satisfy the evaluation criteria for establishing the most qualified professional engineering firm to provide the requested services.

Interested respondents shall present for consideration one original, two (2) copies and one (1) Virus Free Flash Drive of response document including, as a minimum, all of the following:

2.2.1 Statement to indicate interest and availability to provide the required services and include credentials to perform requested services.

2.2.2 Provide a general overview of the organization and its professional staffing, including:
   - Total staff
   - Number of Civil Engineers
   - Quantity of Project Managers

2.2.3 Please include the following information regarding any previous experience:
   - Name of Owner
   - Completion Date
   - Time from notice to proceed to construction documents
2.2.4 For Projects that involved project phasing including drawing examples

2.2.5 Provide examples of actual project inspection notes

2.2.6 Provide credentials and/or certification of everyone who will be assigned to this project. Identify all individuals by name and title that will provide support to the project including their locations, position, specific responsibilities, educational background, experience, and technical capabilities.

2.2.7 List and description of services provided.

2.2.8 References related to services as outlined in this RFQ. References shall include all contact information (Name, address, phone number, fax number, e-mail, etc)

2.2.9 Three (3) hard copies (one original in the three) and one (1) Virus Free Flash Drive copy of the complete response is required. The flash Drive copy must either be in Microsoft Office software or Adobe Portable Document Format (PDF). All image files must be in one of the following formats: .jpg, .gif, .bmp, or .tiff. We prefer image files to already be inserted as part of a document such as Word. Individual image files on the flash Drive must be clearly named and referenced in your proposal.

Any additional information that is submitted shall be included in the bound document with the information described above.

2.2 HUB SUBCONTRACTING (HSP)

It is the policy of the State of Texas and Texas A&M University (TAMU) to encourage the use of Historically Underutilized Businesses (HUBs) in our prime contracts, subcontractors, and purchasing transactions. The goal of the HUB Program is to promote equal access and equal opportunity in TAMU contracting and purchasing.

Subcontracting opportunities are anticipated for this Request for Qualifications and therefore a HUB Subcontracting Plan (HSP) is required. Failure to submit a comprehensive, acceptable HSP will be considered a material failure to comply with the requirements of the Request for Qualifications and will result in rejection of the submittal. Prepare the HUB Subcontracting Plan in accordance (Appendix C – attached) and submit one copy to the Buyer at the address and by the submittal deadline given in the Request for Qualifications. The HUB Subcontracting Plan shall be submitted as a separate document appropriately tabbed for easy reference.

Documents attached (Appendix B) are the State of Texas HUB Subcontracting Plan form, an HSP checklist, and HUB Subcontracting Plan Instructions.

A completed HUB packet will be required ONLY from the successful Responder.

For information regarding the TAMU HUB Program and HUB Subcontracting Plan requirements, please contact Clyde Oberg at 979-845-1042 or via email at co@tamu.edu.

SECTION 3
EVALUATION CRITERIA

3.1 Selection Criteria

The professional engineering firm/individual will be selected based on the following criteria:
1. Experience in specifying and design of thermal transmission and distribution systems.
2. Demonstrated ability to complete projects of a similar nature on time and within budget.
3. Ability to provide the manpower and other resources required to complete this project in a timely fashion per the schedule in this RFQ.
4. References

3.2 Selection

The University will select the responder or respondents based on the responders’ demonstrated competence and qualifications for the type of services to be performed. The University shall be the sole judge in evaluating a respondent’s demonstrated competence and qualifications. Upon identification of the most qualified response(s), the University will attempt to negotiate an agreement for the work with the potential provider(s).

SECTION 4
GENERAL INFORMATION

4.1 Submittal Deadline and Location

4.1.1 All responses must be received prior to 2:00 p.m. on November 17, 2016. Response envelope or box must indicate firm's name, the submittal deadline date, and RFQ number.

4.1.2 Responses are to be submitted to:

U. S. POSTAL SERVICE:
Texas A&M University
Procurement Services
Attn: Clyde Oberg
P. O. Box 30013
College Station, TX 77842-3013

HAND DELIVER AND/OR EXPRESS MAIL TO:
Texas A&M University
Procurement Services
Attn: Clyde Oberg
1477 TAMU Agronomy Road
College Station, TX 77843-1477

Late responses properly identified will be returned to respondent unopened. Late responses will not be considered under any circumstances.

Telephone and/or facsimile (Fax) responses to this RFQ are not acceptable.

4.2 Questions

Any questions regarding this Request for Qualifications are to be directed in writing to Clyde Oberg, Assistant Director, at co@tamu.edu by Friday October 27, 2016, 5:00 p.m. Texas A&M specifically requests that respondents restrict all contact and questions regarding this RFQ to the above named individual. Responses to any submitted questions are due back to bidders by Tuesday November 1, 2016 at the close of the business day.

4.3 Inquiries and Interpretations

Responses to inquiries which directly affect an interpretation or change to this RFQ will be issued in writing by addendum (amendment) and mailed and or faxed to all parties recorded by Texas A&M as having received a copy of the RFQ. All such addenda issued by Texas A&M prior to the time that
proposals are received shall be considered part of the RFQ, and the respondent shall consider and acknowledge receipt of such in their response.

Only interpretations or clarifications which are made by formal written addendum shall be binding. Oral and other interpretations or clarification will be without legal effect.

4.4 Open Records

Texas A&M considers all information, documentation and other materials requested to be submitted in response to this solicitation to be of a non-confidential and/or non-proprietary nature and therefore shall be subject to public disclosure under the Texas Public Information Act (Texas Government code, Chapter 552) after an agreement is entered into.

Respondents are hereby notified that Texas A&M strictly adheres to all Statutes, court decisions and the opinions of the Texas Attorney General regarding the disclosure of RFQ information.

4.5 Insurance Requirements

The selected A/E firm shall be responsible for providing a Certificate of Insurance which meets or exceeds the requirements listed on Appendix A – Insurance Requirements.

RFQ ATTACHMENTS

APPENDIX A – TAMU INSURANCE REQUIREMENTS

APPENDIX B – HUB SUBCONTRACTING PACKET
STATEMENT OF QUALIFICATIONS
FOR
CAMPUS
THERMAL SYSTEMS
IMPROVEMENTS
SUBMITTED TO
TEXAS A&M UNIVERSITY
PROCUREMENT SERVICES
RFQ #
MAIN 17-0008
November 17, 2016
CONTENTS

2.2.1 STATEMENT OF INTEREST ......................................................... 2

2.2.2 GENERAL OVERVIEW ................................................................. 4

2.2.3 PREVIOUS EXPERIENCE .............................................................. 6

2.2.4 PROJECT PHASING DRAWING EXAMPLES ................................... 11

2.2.5 PROJECT PHASING INSPECTION NOTES ...................................... 14

2.2.6 CREDENTIALS AND CERTIFICATION ........................................ 15

2.2.7 SERVICES PROVIDED ................................................................. 24

2.2.8 REFERENCES .............................................................................. 25
Clyde Oberg  
Assistant Director – Procurement Services  
Texas A&M University  
P.O. Box 30013  
College Station, Texas 77842-3013

RE: 2.2.1 Statement of Interest  
RFQ Main 17-0008 Campus Thermal System Improvements

Dear Mr. Oberg,

We are excited to submit Burns & McDonnell's qualifications for the Campus Thermal Systems Improvements project. We have assembled a very strong and uniquely experienced team. No other firm brings the direct Texas A&M Main Campus infrastructure experience that we offer.

To accomplish the goals and objectives set forth in the Request for Qualifications, we have assembled a team that provides the University with the following:

► Direct and Long Term Texas A&M Infrastructure Knowledge - We have been providing utility infrastructure services to Texas A&M for more than 10 years. Our team provided the 2012 Utility Master Plan and subsequent design implementation projects (FY13, FY14, Chiller 206) for Texas A&M University. No other firm knows your thermal utility system, your staff, or your processes like we do. To implement these projects according to the very tight schedule outlined in the RFQ, UES needs a team that is up to speed with TAMU issues and opportunities. Our knowledge of the Texas A&M University utility systems and project standards positions our team to hit the ground running, and will provide UES with an unmatched level of project attentiveness.

► HUB Partnership Demonstrated Success - Our team includes HUB partners (JQ, HVJ) from previous TAMU projects and will meet or exceed your target participation goal of 28.12%. We have worked with JQ and HVJ on multiple projects on your campus – we know each other’s process and approach to project success.

► Design-led Design-Build Firm - This unique distinction allows us to draw on our extensive construction experience to develop the best overall design solutions. We deliver our design projects with a focus on constructability and achievable project schedules. We provide cost estimates that are highly accurate and reliable because we use real construction project data for comparison.

► Campus Coordination and Phasing - There are many aspects to consider when implementing the diverse portfolio of projects presented in the RFQ. Coordination and phasing of multiple underground utilities on an existing campus is one of the bigger challenges. We have visited every project site listed in the RFQ, and understand the unique challenges associated with each individual location. We understand and expect many meetings and discussions will be required to aid in the development of an overall coordinated plan for everything from cranes, laydown areas, site security and parking. Our project phasing successes on the recent TAMU Utility
Upgrade Projects (which affected all four central plants on campus at once) are directly relevant to this effort. From TAMU EH&S to Transportation Services, BMcD has interfaced efficiently with many entities on campus. We will build upon these previous contacts to ensure seamless project implementation, minimal impact to stakeholders, and no unplanned campus disruptions.

▶ Unique Group Focused on University Infrastructure - Our OnSite Energy & Power team and HUB partners have extensive campus infrastructure experience and understand the unique university campus environment. It’s what we do, day in and day out – we’re not doing HVAC, lights, and plugs one day and then valves and piping the next. We focus on campus level systems so we can deliver those projects at the highest level of quality. BMcD has the depth, breadth, and world class, leading edge experience to deliver on all of your needs with a multidisciplined staff of more than 5,300 employee-owners, including a local presence of more than 700 people in Texas.

We appreciate the consideration of our team, and we look forward to continuing the dialog on how our team can provide the most functional, economical, and efficient utility projects possible. If you have any questions, please do not hesitate to contact me or Jon.

Best Regards,

Justin Grissom, PE
Section Manager
817-840-1253 | jgrissom@burnsmcd.com

Jon Schwartz, PE
Principal-in-Charge
817-840-1234 | jschwartz@burnsmcd.com
2.2.1 STATEMENT OF INTEREST

Please refer to our cover letter.

2.2.2 GENERAL OVERVIEW

Burns & McDonnell
Burns & McDonnell is an internationally recognized engineering, architectural, and construction services firm. To better serve our clients, we maintain regional offices across the country, including more than 700 professionals in four Texas offices (Austin, Dallas, Fort Worth and Houston).

Honored with numerous awards for excellence by professional organizations, government agencies and the armed forces, we’ve established a reputation for providing innovative solutions and high-quality service to our clients.

With more than 100 years of experience, we have developed an expertise in providing comprehensive energy solutions to institutional, industrial, and commercial clients. Our central utility plant, thermal distribution, central power generation, and combined heat and power experience encompasses utility master planning, feasibility studies, financial modeling, energy studies, evaluation of fuel sources, design, construction management, commissioning, controls, design, and environmental services. Our designs focus on energy efficiency, maintainability, reliability, sustainability, and cost-effectiveness.

Burns & McDonnell’s operating philosophy is built upon the depth of resources throughout our firm. We offer more than 500 unique services to assist clients with their projects. Nationally, we have located regional offices closer to our clients to provide “boots on the ground” responsiveness to client needs and understanding of local issues.

Our team has access to the latest technologies allowing for efficient, seamless collaboration such that our clients receive the full benefit of more than 5,300 highly qualified professional team members. This will provide consistent and coordinated delivery of any type of design or planning projects required to support Texas A&M University on this very important program.

Dedicated OnSite Energy & Power Group
Our OnSite Energy & Power team specializes in utility planning and design. The members of our group have led utility planning for more than $2.0 billion in infrastructure development

OnSite Energy & Power led over $2.0 Billion
at over 45 universities
within the last several years.
and campus-wide demand side projects in the last ten years. Our team has led more than 45 major campus utility system improvements at various locations, including Texas A&M University, the University of Texas, University of Alabama, the New Parkland Hospital, Princeton University, University of Texas at San Antonio, and Thermal Energy Corporation (TECO) that serves University of Texas MD Anderson, to name a few.

A partial list of partners that we have provided utility infrastructure planning and design services to include:

- Texas A&M University
- Penn State University
- University of Georgia
- Texas A&M University-San Antonio
- Mayo Clinic
- University of Iowa
- Auburn University
- Princeton University
- University of Missouri - St. Louis
- Chicago O'Hare International Airport
- Purdue University
- University of Northern Iowa
- Clemson University
- Tampa General Hospital
- University of Oklahoma
- EnwaveUSA District Energy
- Tarrant Regional Water District
- Denver International Airport
- Trinity River Authority
- Harvard University
- University of Alabama
- University of Texas at Austin
- Houston University
- University of California – Davis
- University of Texas Southwestern Medical Center
- Oklahoma State
- University of South Alabama
- University of Utah
- University of Florida Shands Hospital

**HVJ Associates, Inc. (HVJ)**

HVJ Associates, a Texas corporation founded in Houston in 1985, has been providing a range of geotechnical, construction materials testing and inspection, environmental and pavement engineering services to public and private clients for more than 30 years. HVJ, a certified HUB and MBE/DBE firm, is one of the largest minority owned firms in the state of Texas. Headquartered in Houston with branch locations in Austin, Dallas and San Antonio, HVJ employs more than 85 personnel. Throughout the last 30 years, HVJ Associates has conducted hundreds of geotechnical investigations and environmental and materials testing services for a variety of ISD's, high schools, universities and colleges throughout Texas. With their extensive relevant experience and overall familiarity with the processes and procedures of K-12 through college/university renovation and new construction projects, they are able to perform their services in a timely and quality manner that offers great value to this project.

**JQ Infrastructure, LLC (JQ)**

A multi-disciplinary firm established in 1984. Initially providing structural engineering services for building projects to the local community, the firm has now grown to provide structural engineering, civil engineering, environmental engineering, land surveying, and facility assessments throughout Texas and the southern United States. JQ Infrastructure, LLC holds the following certifications: Minority Business Enterprise, Disadvantaged Business Enterprise, and Small Business Enterprise. The firm has offices in Austin, Dallas, Fort Worth, Houston and Lubbock. This project will be managed from the Dallas office. Educational facilities have been the backbone of JQ since its inception. Whether working with a large university system or a single school district, each project receives the full attention and benefit of their deep experience. Their team understands that each project has its own criteria for success, from economizing to create the most classrooms for the funds available to working with the designer to create a showpiece in the center of campus.

<table>
<thead>
<tr>
<th>Firm</th>
<th>Total Staff</th>
<th>Civil Engineers</th>
<th>Project Managers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burns &amp; McDonnell</td>
<td>531</td>
<td>378</td>
<td>574</td>
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<tr>
<td>JQ Infrastructure</td>
<td>391</td>
<td>201</td>
<td>31</td>
</tr>
<tr>
<td>HVJ</td>
<td>63</td>
<td>121</td>
<td>6</td>
</tr>
</tbody>
</table>
2.2.3 PREVIOUS EXPERIENCE

FY13/14 UTILITY UPGRADES AND UTILITY MASTER PLANNING
College Station, Texas

► Project Statistics
Owner Texas A&M University
Completion Date FY13 Dec. 2014, FY14 July 2016
NTP to Construction Documents FY13 & FY14: 9 months
Total Installed Cost $27,800,000

Replacement and upgrade of utility production equipment and systems within campus utility plants (Central Utility Plant (CUP), Satellite Utility Plant 1 (SUP1), Satellite Utility Plant 2 (SUP2) and Satellite Utility Plant 3 (SUP3)) will increase the ability to meet the cooling and heating requirements of the growing Texas A&M campus in College Station, Texas. These projects were directly recommended by Burns & McDonnell based on the results of the Utility Master Plan analysis and will improve reliability and efficiency of mission-critical services and reduce maintenance costs. They provide new and expanded capacity, reliability, and efficiency – plus substantial energy cost savings.

► Electric Chiller Replacements and Additions: Chillers 012, 103, 301, and 302 were existing electrical centrifugal units of various sizes and were replaced with new electric centrifugal variable speed drive (VSD) machines. The existing condenser water system (cooling tower cells, pumps, etc.) were upgraded to achieve the maximum capacity attainable within the existing tower footprint by optimizing the tower’s fill, water distribution, and fan. Chiller 206 is a new 2,500 electric centrifugal VSD machine that was installed in an empty bay.

► Heat Recovery Chiller 207 Installation: The new heat recovery chiller at SUP2 will increase production capacity and improve operating efficiency by generating both HHW and CHW at the same time. This project includes all associated mechanical, electrical, piping, and controls.

► Steam Chiller Replacement: Chiller 09 was a 3,350 ton steam centrifugal unit and it has been replaced with a new electric centrifugal VSD unit of similar capacity.

► New Heating Hot Water Boilers at SUP1: Scope includes the installation of 1,000 BHP at SUP1 with new variable speed pumping to meet projected loads on the West Campus. Dual fuel capacity with condensing technology was included to provide efficient operation and allow for emergency heating in the event natural gas service is interrupted.

► Thermal Energy Storage: Scope includes the installation of a new nominal 3.0 million gallon (24,000 ton-hours) chilled water storage tank within the Texas A&M thermal utility system together with aesthetic upgrades. The installation of a thermal energy storage tank provides the capacity to shift chilled water production to off-peak hours allowing the University to reduce electricity consumption and increase system capacity.

► Utility & Energy Master Planning: The project included planning for chilled water, steam, heating hot water, power generation, electrical distribution, and civil utilities. Analysis included near term and long term projections and analysis to develop most economic, reliable, and flexible production and distribution systems for the University. The update recommended thermal energy storage, a heat pump chiller, plant optimization, and $170 million in capital projects over 30 years that result in $33 million in life cycle savings. Many of these projects are currently in design or construction on campus by Burns & McDonnell, and many more are planned as future projects.
Design-Build of Central Chilling Station #7 and Hot Water Plant #1
Austin, Texas

Project Statistics
Owner University of Texas at Austin
Completion Date Aug. 2016
NTP to Construction Documents 12 months
Total Installed Cost $75,700,000

The University of Texas at Austin (UT), through its Capital Improvement Program hired Burns & McDonnell for design, commissioning, and construction services to expand its facilities for a new Medical School district. Burns & McDonnell teamed with Flintco Construction under one contract to provide integrated design-build services to the campus. This project, under the direction of the Utilities and Energy Management (UEM) Department, involved the addition of a new chilled water and hot water plant.

The chilled water expansion included design and construction of a new 15,000 ton central Chilling Station 7 (CS7), field-erected cooling tower located at grade, and a 5,500,000 gallon Thermal Energy Storage Tank (TES 2) which can offset 5 MW of peak electrical use.

Within CS7, a new hot water generation facility was designed and constructed which included gas-fired hot water boilers. As an additional alternative (which was installed), Burns & McDonnell evaluated the feasibility of installing a heat pump chiller in CS7 to generate hot water and chilled water simultaneously. The result was the installation of a 600 ton heat pump chiller for high efficiency heating and cooling with projected savings of $287,000 per year in gas and 17 million gallons of water per year.

A new hot water generation facility (Hot Water Plant 1, or HWP 1) was also designed and constructed, which included steam to hot water generators to provide backup capacity and geographic diversity to the new heating loop.

BMcD designed 3,500 LF hot water and chilled water distribution piping on the CS7 site including new direct-buried lines and tie-in points to the existing tunnel system.

Our team also developed standard CHW/HW building connection details including metering, I/O, and accessories as required. Additionally, our team performed a cost benefit analysis to determine if insulation was warranted for the distribution piping.

The design of the new UEM facilities was carefully coordinated and had to interface exactly with the OFPC-managed project(s) that were designing and constructing the piping and other utility distribution infrastructure. The plant, once constructed, will be integrated into UT’s existing 48,000 ton chilled water system, which includes four central plants and a 4 MG Thermal Energy Storage Tank.
Infrastructure Master Plan & North Neil Ave Tunnel Utility Distribution
Columbus, Ohio

Project Statistics
Owner Ohio State University
Completion Date Aug, 2014
NTP to Construction Documents 30 months (all projects)
Total Installed Cost $6,300,000

Infrastructure Master Plan
The goal of The Ohio State University Infrastructure Master Plan (IMP) update was to develop a 40-year “Utilities Roadmap” for the University that provides benefits related to capacity, reliability, efficiency, and emissions. The original Ohio State University Infrastructure Master Plan (IMP) was completed in 2006 and required an update to align with the recent architectural One Ohio State Framework. The One Ohio State Framework Plan, completed in 2010, changed many of the assumptions utilized in the previous IMP to forecast future infrastructure needs.

The systems evaluated are steam/condensate, chilled water, natural gas, domestic water, telecommunications, and district electrical service associated with CHP. The study focused on the modeling and conceptual design of production and utilities distribution, and it included evaluations of CHP and thermal storage, geothermal systems, while utilizing life cycle cost and sensitivity analyses.

A series of decentralized analyses were performed to evaluate the most effective thermal-utility application between local assets, a tie into an existing plant, or the construction of a new central plant. Each evaluation included differences in energy consumption, operation and maintenance, redundancy requirements, allocated building space, and distribution. These aspects contributed to the build-up of each option’s life cycle cost and sensitivity models to determine the best path forward for the University.

Tunnel Condition Assessment
Scope of services included a high-level assessment of a majority of the University’s tunnel system containing more than eight miles of tunnels with some portions over a century old. Conditions of the tunnel’s structural and mechanical piping systems were evaluated and long-term capital renewal requirements to maintain functionality of the tunnels were provided.

North Neil Ave Tunnel Replacement Utility Distribution
This $6.3 million, in-progress rehabilitation project includes approximately 1,200 LF of walkable distribution tunnel which will provide a much needed revitalization to 1970s original design. In addition to adding new high pressure steam and stainless steel condensate piping, this project also includes structural repairs to the existing tunnel piping support structures, buried polyethylene natural gas piping, tunnel ventilation shafts, and improvements to the tunnel’s lighting and power systems. These renovations, along with new piping supports and expansion joints, will provide an increase in well-lit, maintainable space inside the tunnel for University staff, and an essential revival in overall performance.

This project was separated into two phases of construction to minimize the steam and natural gas outage impact on the Campus’ buildings. Pre-design support included the selection of long-lead high performance butterfly valves, expansion joints, and piping support shoes for pre-purchase to meet a fast track construction schedule.
Utilities & Energy Upgrade Projects
Mobile, Alabama

Project Statistics
Owner University of South Alabama
Completion Date Sep. 2016
NTP to Construction Documents 3 months
Total Installed Cost $6,000,000 (all distribution projects)

Since 2011, Burns & McDonnell has been working with the University of South Alabama (USA) on multiple study and design projects. The partnership began when USA retained Burns & McDonnell to study thermal utility building connections throughout the campus. The study included modeling the chilled and hot water distribution systems and performing a detailed analysis of opportunities related to reducing chilled and hot water flow throughout the campus. Recommended projects included removing building bypasses and installing variable frequency drives on all building pumps. The implementation of these recommendations directly led to the Central Utility Plant being able to reduce the total number of chillers operated during the peak cooling season from five to three.

As the University distribution system has aged, problems with the buried hot water piping has become more frequent. Burns & McDonnell was retained to study multiple sections in the hot water distribution system and then to design piping replacement solutions. Future load increases utility corridor options were analyzed. It was recommended that the University increase the size of the replacement lines to increase the capacity of the hot water system. For chilled water and hot water, we have modeled the entire distribution system and designed 10,000 LF of new piping.

Burns & McDonnell was later retained to study and design the replacement of the aging cooling towers at the Central Utility Plant. The study included an analysis of new tower location combined with the University's need for future chilled water capacity growth. To date, all original cooling towers have been removed and the recommended seven 1,250 ton cooling tower cells have been installed.
Utility Distribution Design
Project
Stillwater, Oklahoma

Project Statistics
Owner Oklahoma State University
Completion Date Dec. 2015
NTP to Construction Documents 12 months
Total Installed Cost $15,500,000

Oklahoma State University is de-commissioning an existing utility plant and constructing a new plant to serve their increasing thermal utility loads on campus. As a result of this capacity increase, an upgrade to their utility distribution system was required. Burns & McDonnell designed new direct buried steam, condensate return, chilled water, and domestic water distribution lines. As part of this project, Burns & McDonnell also designed the removal of portions of existing tunnel that had deteriorated beyond repair.

The scope includes approximately 12,000 total linear feet of new chilled water, steam, and condensate return piping to serve the campus distribution loop from the new Central Utility Plant. Design and analysis includes the evaluation of direct buried vs. tunnel installation of distribution piping and complex coordination with existing site utilities. Burns & McDonnell designed the new valve vaults to allow for service and access to the underground valves that would have been previously located in a walkable steam tunnel. In order to properly account for the expansion and contraction inherent to a steam distribution system, Burns & McDonnell developed a full stress analysis model to determine the expected thermal expansion. The results of this model were used to specify the expansion compensation provisions, which consist of buried anchors and expansion joints.

Additionally, BMcD is engaged in an Owner's Engineer role reviewing the new Central Utility Plant Design being provided by another firm.
2.2.4 PROJECT PHASING EXAMPLES

When dealing with utility distribution systems on an operating university campus, coordination and project phasing is of critical importance. The dynamic utility environment at TAMU is no exception. Burns & McDonnell has coordinated meetings, responded to RFIs, and developed phasing plans for many efforts, including the TAMU FY13/FY14 Utility Production Upgrades, to ensure projects could be constructed efficiently while still maintaining reliable utility service to the campus at large.

For the FY14 Utility Production Upgrade, project phasing and timing was especially important. As the new chillers installed at the CUP and SUP3 were replacing existing machines, there was serious concern that UES would be short on capacity during installation and testing of the new equipment. Our team, along with UES staff members, conducted extensive and detailed thermal load analysis to project the windows of time when the campus could manage anticipated chilled and hot water needs without the affected equipment. In order to plan for all potential scenarios, the BMcD team also conducted an analysis to determine the number of hours per month the plants would not be able to meet the projected loads, and how much capacity would be needed if rental equipment was procured.

### FY14 Load Analysis

<table>
<thead>
<tr>
<th>Month</th>
<th>Existing Plant Analysis</th>
<th>Rental Chiller Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours &gt;2500</td>
<td>Hours &gt;2600</td>
</tr>
<tr>
<td>Peak Tons</td>
<td>tons</td>
<td>tons</td>
</tr>
<tr>
<td>November</td>
<td>3,934</td>
<td>261</td>
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<tr>
<td>December</td>
<td>4,433</td>
<td>220</td>
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<tr>
<td>January</td>
<td>4,189</td>
<td>248</td>
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<tr>
<td>February</td>
<td>2,854</td>
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<td>March</td>
<td>3,999</td>
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<tr>
<td>April</td>
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<td>483</td>
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<tr>
<td>May</td>
<td>4,187</td>
<td>547</td>
</tr>
<tr>
<td>June</td>
<td>4,365</td>
<td>636</td>
</tr>
</tbody>
</table>

Additionally, BMcD developed detailed phasing diagrams for the aforementioned projects to assist the contractor during construction. These diagrams proved to be very useful to UES and the contractor during critical construction windows and planned utility outages.

### Sample SUP3 Construction Phasing Diagrams
As a result of the combined efforts of the Burns & McDonnell team, UES staff, and the contractor, all of the chiller projects were able to be completed without major campus utility disruption and without the use of rental thermal equipment. This was a major benefit to TAMU, both from an operational and cost standpoint.

We provided similar phasing services for Oklahoma State University’s New Central Plant project. This project will replace the existing thermal plant at OSU, which is the only steam production source on campus and located across from the football stadium in an extremely high profile area. This created the need for careful pre-planning and phasing to ensure steam service and chilled water service would not be disrupted as the old plant was decommissioned and the new plant brought on line. Burns & McDonnell held many meetings and work sessions with the contractor, university management, and plant operators to understand the thermal needs on campus and to discuss alternate service methods that might be feasible. This “no bad ideas” open forum yielded many options and ultimately allowed our team to produce a phasing plan that has allowed OSU to maintain utility service to its critical buildings during construction.

**Oklahoma State University Phasing Work Session Diagrams**

Traffic Control is another phasing element of importance. JQ will lead this effort in direct coordination with TAMU. Our team will look at options to minimize the impact to students and faculty while providing a safe environment for drivers and the construction team.

**UT Southwestern Medical Center Traffic Control Phasing Plans**
Additionally, we have visited all the project sites listed in the RFQ. Based on our preliminary field investigation, a thoughtful approach to project phasing will be of the utmost importance for a number of these sites. While some locations (Research Park in the area of Enterprise Avenue and the heating hot water line from Adriance Lab Road to Horticulture) are less encumbered and will be fairly straightforward, there are other high impact areas (Southside Modular Dorms, Ross Street Crossing, etc.) that will be much more complicated and will require close scrutiny.
2.2.5 PROJECT INSPECTION NOTES

Burns & McDonnell typically provides construction administration services for all of our design projects. Project inspections are a crucial part of CA services, as they review how construction is progressing related to schedule and in accordance with the construction documents. We have conducted countless site walks, construction progress inspections, and punch list evaluations on your campus with many members of UES and FP&C.

As a result of these investigations, we have generated numerous pages of notes and punch list items. Our standard process is to transfer these field comments into an Excel spreadsheet to facilitate efficient tracking and ensure a timely resolution. Each comment or field issue is assigned a unique number and responsible party, and is linked to a photograph or sketch if applicable. This method has proven successful on numerous TAMU projects, and we can employ a similar project inspection process to ensure your distribution projects are delivered successfully. We have included a sample punch-list excerpt from the FY13 Utility Production Upgrade project for your review below.

Sample Project Inspection Notes

<table>
<thead>
<tr>
<th>Keynote</th>
<th>RESPONSIBLE</th>
<th>LOCATION</th>
<th>DESCRIPTION OF WORK ITEM TO BE CORRECTED</th>
<th>DATE PUNCHED</th>
<th>DATE CORRECTED</th>
<th>DATE ACCEPTED</th>
<th>Notes/Photos</th>
<th>BMCD Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BMcD</td>
<td>Elbow stanchions, typical</td>
<td>Insulate stanchions supporting insulated piping.</td>
<td>9/2/2014</td>
<td>10/16/2014</td>
<td>7/8/2015</td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>BMcD</td>
<td>Test port, typical</td>
<td>Provide insulation cap on all test ports on insulated piping</td>
<td>9/2/2014</td>
<td>10/18/2014</td>
<td>7/8/2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>BMcD</td>
<td>Lighting, typical</td>
<td>Restore lighting to pre-construction arrangements. Reconfigure lighting as necessary.</td>
<td>9/2/2014</td>
<td>10/13/2014</td>
<td>7/8/2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>BMcD</td>
<td>Piping</td>
<td>Complete painting of piping including chiller refrigerant relief.</td>
<td>9/2/2014</td>
<td>10/10/2014</td>
<td>7/8/2015</td>
<td>Relief NA</td>
<td>per 230553, &quot;Refrigerants&quot; piping to be painted white. Piping is now copper and will remain unpainted per UES.</td>
</tr>
</tbody>
</table>
2.2.6 KEY PERSONNEL CREDENTIALS

Burns & McDonnell has proposed a team of professionals who have worked together both currently and in the past, specifically on projects at Texas A&M University. The individuals presented in our project organization chart will be committed to the project for its duration. Our project management and technical experience, combined with an in-depth knowledge of your campus, UES standards, and the Central Utility and Satellite Utility Plants, will enable us to efficiently and effectively deliver this project. This level of familiarity is only available with the Burns & McDonnell team, and is not available with any other engineering firm.

We have assembled a world class team of talented individuals with the skills required to exceed TAMU’s project objectives. The key personnel designated by Burns & McDonnell are:

PROJECT MANAGER/MECHANICAL ENGINEER: Justin Grissom, PE, CEM, LEED AP BD+C will lead our efforts as Project Manager. He will be responsible for overseeing all of the work which will be performed and will also provide mechanical engineering services. Mr. Grissom worked on TAMU projects such as the FY13 and FY14 Utility Production Upgrade Projects, the Chiller 206 Installation Design Project, and the Chilled Water Optimization Program. He also provided development and analysis services for the most recent TAMU Utility & Energy Master Plan.

PRINCIPAL-IN-CHARGE & QA/QC: Jon Schwartz, PE, CEM, LEED AP will serve as Principal-in-Charge. He has extensive experience working on the TAMU campus with UES personnel and brings a wealth of utility planning and design experience. Mr. Schwartz will provide project oversight, ensure team resources are available, and will be ultimately responsible for all project efforts.

MECHANICAL ENGINEER: Wade Jansa will provide mechanical engineering services for this project. Mr. Jansa worked on TAMU projects such as the FY13 and FY14 Utility Production Upgrade Projects, the Chiller 206 Installation Design Project, and the Chilled Water Optimization Program. He also provided development and analysis services for the recent TAMU Utility & Energy Master Plan.

ELECTRICAL ENGINEER: Brad Shuffield serves as an electrical engineer for Burns & McDonnell’s OnSite Energy & Power Group. He has more than 10 years of experience in project management, electrical engineering design and utility master planning. He has worked on multiple Texas A&M University projects.

STRUCTURAL ENGINEER: John Bremer brings more than 35 years of combined experience in the architectural, power, industrial and petrochemical structural fields. His leadership is integral to the firm’s reputation for extraordinary industrial work and includes infrastructure support for new campuses and central utility plants. John will be responsible for the structural engineering design for the entire project duration.

CIVIL ENGINEER: Robert Pretus has more than 15 years of experience providing civil engineering design and construction management with for education, industrial, commercial and municipal clients. His expertise includes project feasibility studies, project cost analysis, streets, railroads, water and sanitary sewer utilities, and storm drainage systems.

SURVEYOR: Matteo has more than 15 years of experience in land surveying, which includes research, deed sketches, compiling field data (conventional and GPS), boundary resolution, layouts and concept plans as well as experience in traversing boundary, collecting field topography, field reconnaissance, staking and troubleshooting. He has extensive experience on a wide range of projects including higher education, public works, infrastructure and commercial.

GEOTECHNICAL ENGINEER: Sharmi Vedantam's career extends more than 12 years and covers a wide range of geotechnical engineering experience. She has been involved in projects during various phases, conducted field investigations, lab testing, engineering analyses, and prepared reports. Ms. Vedantam’s expertise covers infrastructure, transportation, foundation design projects, and water/wastewater treatment plants.
JUSTIN GRISSOM, PE, CEM, LEED AP BD+C
Project Manager and Lead Mechanical Engineer

Just a senior mechanical engineer and project manager in the OnSite Energy and Power Group. He has more than 10 years of diversified experience in the management, design, and analysis of large district energy and power projects. His technical expertise lies in central plant design, utility and energy planning, energy modeling, sustainability, and energy conservation.

Utility Production Upgrades | Texas A&M University
College Station, Texas

Senior mechanical engineer and project manager for the Utility Production Upgrade projects involving design and construction administration services. These projects included replacement chillers sized at 2,500 tons (3) and 3,350 tons (2), 1000 BHP of new heating hot water boiler capacity, a new 1,250 ton heat pump chiller, a new 2,500 ton chiller, and a new 3.0 million gallon thermal energy storage system. These projects also included upgrades to the cooling towers, pumping, electrical, and building systems. This was a complex, multi-year portfolio of projects which necessitated a focused leadership approach and a high degree of technical skill to properly coordinate over the multi-year timeline. As Project Manager, Justin managed the sub-consultant team, coordinated client reviews, lead construction meetings, and conducted project closeout inspections. As a testament to Justin’s abilities, Burns & McDonnell was selected to design four consecutive projects within this portfolio.

Utility Distribution Design Project | Oklahoma State University
Stillwater, Oklahoma

Senior mechanical engineer and project manager for the design of approximately 12,000 total linear feet of chilled water, steam, and condensate return piping to serve the campus distribution loop from the new Central Utility Plant. Design and analysis included the evaluation of direct buried vs. tunnel installation of distribution piping and complex coordination with existing site utilities. Justin seamlessly managed a leadership transition within another firm working on this project, which maintained client satisfaction and allowed the project to progress according to the original schedule.

Utilities & Energy Master Plan | Texas A&M University
College Station, Texas

Senior mechanical engineer and assistant project manager of utility master planning for chilled water, steam, heating hot water, power generation, electrical distribution, and civil utilities. Analysis included near term and long term projections and analysis to develop most economic, reliable, and flexible production and distribution systems for the University. The update recommended thermal energy storage, a heat pump chiller, plant optimization, and $170 million in capital projects over 30 years that result in $33 million in life cycle savings. Many of these projects are currently in design or construction on campus by Burns & McDonnell, and many more are planned as future projects.

Utility Master Plan | Texas A&M San Antonio
San Antonio, Texas

Project manager of utility master planning for chilled water, heating hot water, and electrical distribution. Analysis includes near term and long term projections to develop the most economic, reliable, and flexible production and distribution systems for the University with a focus on determining the ideal time period to transition from local thermal utilities to centralized service. This project has experienced multiple personnel changes on the client side, which have necessitated immediate action by Justin to ensure the evolving project needs are met.
JON SCHWARTZ, PE, CEM, LEED AP
Principal-in-Charge and QA/QC

Mr. Schwartz has more than 20 years of diversified experience and is a Principal with the OnSite Energy & Power Group for Burns & McDonnell. His experience is specialized in utility systems serving campus type facilities. He focuses on utility master planning, CUP/CHP design and optimization, energy conservation, utility infrastructure, thermal energy storage, and thermal distribution.

Utility Production Upgrades | Texas A&M University
College Station, Texas

Principal-in-charge for the Utility Production Upgrade projects involving design and construction administration services. These projects included replacement chillers sized at 2,500 tons (3) and 3,350 tons (2), 1000 BHP of new heating hot water boiler capacity, a new 1,250 ton heat pump chiller, a new 2,500 ton chiller, and a new 3.0 million gallon thermal energy storage system. These projects also included upgrades to the cooling towers, pumping, electrical, and building systems.

Utilities & Energy Master Plan | Texas A&M University
College Station, Texas

Principal-in-charge of utility master planning for chilled water, steam, heating hot water, power generation, electrical distribution, and civil utilities. Analysis included near term and long term projections and analysis to develop most economic, reliable, and flexible production and distribution systems for the University. The update recommended thermal energy storage, a heat pump chiller, plant optimization, and $170 million in capital projects over 30 years that result in $33 million in life cycle savings. Many of these projects are currently in design or construction on campus by Burns & McDonnell, and many more are planned as future projects.

Chilling Station #7 | University of Texas at Austin
Austin, Texas

Project director for the new Chilling Station #7 on the campus of the University of Texas at Austin. The project consists of the complete design responsibilities and construction support services (on design-build team) of a new central utility plant to support the new Dell Medical School district as well as other current and future campus loads. The project includes the addition of 15,000 tons of cooling, more than 52,000 ton-hours of Thermal Energy Storage (TES) and 52.2 MMBtu of heating, with accommodations for future expansion.

Utility Distribution Design Project | Oklahoma State University
Stillwater, Oklahoma

Principal-in-charge for the design of approximately 12,000 total linear feet of chilled water, steam, and condensate return piping to serve the campus distribution loop from the new Central Utility Plant. Design and analysis included the evaluation of direct buried vs. tunnel installation of distribution piping and complex coordination with existing site utilities. Justin seamlessly managed a leadership transition within another firm working on this project, which maintained client satisfaction and allowed the project to progress according to the original schedule.
WADE JANSA, CEM
Assistant Mechanical Engineer

Wade is an assistant mechanical engineer with Burns & McDonnell Engineering, Inc. in the OnSite Energy and Power group. He has four years of diversified experience in design and analysis for large campus energy and power projects. He has worked on utility master plans and detailed analysis and design along with construction support.

Utility Production Upgrades | Texas A&M University
College Station, Texas

Assistant mechanical designer for the Utility Production Upgrade projects involving design and construction administration services. These projects included replacement chillers sized at 2,500 tons (3) and 3,350 tons (2), 1000 BHP of new heating hot water boiler capacity, a new 1,250 ton heat pump chiller, a new 2,500 ton chiller, and a new 3.0 million gallon thermal energy storage system. These projects also included upgrades to the cooling towers, pumping, electrical, and building systems.

Utility Master Plan | Texas A&M University
College Station, Texas

Assistant mechanical designer of utility master plan for utility upgrade projects including chilled water, steam, heating hot water, power generation, electrical distribution, and civil utilities. Analysis included near term and long term projections and analysis to develop most economic, reliable, and flexible production and distribution systems for the University. Project recommended thermal energy storage, heat pump chillers, plant optimization, and $170 million in capital projects over 30 years that result in $33 million in life cycle savings.

University of Georgia Science-South CHW Loop Design
Athens, Georgia

Mechanical designer for the design of approximately 2,200 total LF of chilled water distribution piping connecting two existing distribution loops. This new piping allows the University to produce chilled water for the Science Loop centrally using the nearby District Energy Plant 2 (DEP-2) instead of locally in the Science buildings. Modifications to the sequences of operations for the buildings and DEP-2 along with building piping modifications were included to allow for successful integration. Additionally, an approximate 500 LF of deteriorated steam and condensate piping was replaced.

PPA Steam Piping Project | University of Texas - Austin
Austin, Texas

Assistant mechanical designer for steam and condensate piping renovation project which included an initial study phase and design services for the replacement of above and below ground steam and condensate piping. The initial study phase included utilized a pressure loss model to identify bottlenecks in the existing piping systems and served as the basis for the design phase. Both 10" and 6" pre-insulated class-A piping was specified to replace the aged two-pipe conduit system which also traversed Waller Creek within the downtown campus. Close coordination with many underground existing gas and electrical utilities was required to ensure constructability and piping flexibility were maintained.

Utility Master Plan | George Bush Intercontinental Airport (IAH)
Houston, Texas

Assistant mechanical designer on a team responsible for an in-depth study of the heating and chilled water generation and distribution systems at IAH. Tasks included development of a life-cycle cost analysis, evaluation of past electrical billing data for economic research, evaluation of chillers, pumps, cooling towers, and boilers, and a Thermal Energy Storage (TES) feasibility study. The master plan resulted in a strategy through 2018 to increase capacity of the chilled and heating water systems, as well as investigated the possibility of the addition of a new satellite plant.
BRAD SHUFFIELD, PE, LEED AP BD+C
Electrical Engineer

Brad serves as an electrical engineer for Burns & McDonnell’s OnSite Energy & Power Group. He has more than 10 years of experience in project management, electrical engineering design and utility master planning.

Utilities & Energy Master Plan | Texas A&M University
College Station, Texas
Electrical engineer of utility master planning for chilled water, steam, heating hot water, power generation, electrical distribution, and civil utilities. Analysis included near term and long term projections and analysis to develop most economic, reliable, and flexible production and distribution systems for the University. The update recommended thermal energy storage, a heat pump chiller, plant optimization, and $170 million in capital projects over 30 years that result in $33 million in life cycle savings. Many of these projects are currently in design or construction on campus by Burns & McDonnell, and many more are planned as future projects.

Chilling Station #7 | University of Texas at Austin
Austin, Texas
Senior electrical engineer for the new Chilling Station #7 on the campus of the University of Texas at Austin. The project consists of the complete design responsibilities and construction support services (on design-build team) of a new central utility plant to support the new Dell Medical School district as well as other current and future campus loads. The project includes the addition of 15,000 tons of cooling, more than 52,000 ton-hours of Thermal Energy Storage (TES) and 52.2 MMBtu of heating, with accommodations for future expansion.

Utility System Upgrades | Milwaukee Regional Medical Center (MRMC)
Milwaukee, Wisconsin
Senior electrical engineer for comprehensive planning and design services for the Milwaukee Regional Medical Center. The utility system serves chilled water and steam to just under 6 MSF of medical, clinical, and research space in western Milwaukee County. The project goals are to increase reliability, improve efficiency, and reduce the reliance on coal to serve thermal utilities to campus. The project will revolutionize the existing thermal plant, creating a system with geographic and asset diversity and high efficiency. This project includes 7,500 tons of chilled water capacity and 280,000 MBH of heating capacity.

BioMedical District Plant Design | EnwaveUSA
New Orleans, Louisiana
Lead electrical engineer. Design and construction administration services for new 200,000 pph steam generating plant intended to serve the BioMedical District in downtown New Orleans. Project includes an interactive programming/charrette phase that enabled multiple client stakeholders to weigh functional and operational elements of the design prior to the start of schematic design. The plant is hurricane-hardened and features critical support systems and storage capacity to enable the plant to meet critical hospital loads for seven days in an emergency condition.

Central Utility Plant | New Parkland Hospital
Dallas, Texas
Senior electrical engineer for design of a central utility plant providing chilled water, steam, and standby electricity to a 2.5 MSF hospital campus. Central utility plant to consist of 13,750 tons of chilled water production, 200,000 pph of steam production, 17.5MW backup electrical generation capacity with associated ancillary systems. Design also includes utility interconnection of emergency generator plant to allow parallel operation for generator load testing and closed-transition switching.
JOHN BREMER, PE
Structural Engineering

As part of the JQ Infrastructure’s Industrial team, John brings more than 35 years of combined experience in the architectural, power, industrial and petrochemical structural fields. His leadership is integral to the firm’s reputation for extraordinary industrial work and includes infrastructure support for new campuses and central utility plants. John will be responsible for leading the structural engineering design for the entire project duration.

Utility Production Upgrades | Texas A&M University
College Station, Texas

Structural engineer for the Utility Production Upgrade projects involving design and construction administration services. These projects included replacement chillers sized at 2,500 tons (3) and 3,350 tons (2), 1000 BHP of new heating hot water boiler capacity, a new 1,250 ton heat pump chiller, a new 2,500 ton chiller, and a new 3.0 million gallon thermal energy storage system. These projects also included upgrades to the cooling towers, pumping, electrical, and building systems. JQ performed a structural assessment of the concrete cooling tower basins at each plant. JQ also designed equipment foundations, pipe supports, and reinforcing of existing framing for new pipe and equipment loads. John Bremer served as lead structural engineer for the project.

Central Utility Plant | New Parkland Hospital
Dallas, Texas

Structural engineer for design of a central utility plant providing chilled water, steam, and standby electricity to a 2.5 MSF hospital campus. Central utility plant to consist of 13,750 tons of chilled water production, 200,000 pph of steam production, 17.5MW backup electrical generation capacity with associated ancillary systems. Design also includes utility interconnection of emergency generator plant to allow parallel operation for generator load testing and closed-transition switching.

Chilling Station 7 | The University of Texas at Austin
Austin, Texas

Structural engineer for the new Chilling Station #7 on the campus of the University of Texas at Austin. The project consists of the complete design responsibilities and construction support services (on design-build team) of a new central utility plant to support the new Dell Medical School district as well as other current and future campus loads. The project includes the addition of 15,000 tons of cooling, more than 52,000 ton-hours of Thermal Energy Storage (TES) and 52.2 MMBtu of heating, with accommodations for future expansion.
SHARMI VEDANTAM, PE
Geotechnical Engineering

Ms. Vedantam's career extends more than 12 years and covers a wide range of geotechnical engineering experience. She has been involved in projects during various phases, conducted field investigations, lab testing, engineering analyses, and prepared reports. Ms. Vedantam's expertise covers transportation, infrastructure, foundation design projects, and water/wastewater treatment plants.

Texas A&M Institute for Preclinical Studies | Texas A&M University
College Station, Texas

Project Manager for geotechnical engineering services for construction of a 112,000-square foot, three-building facility, located in Texas A&M University's Research Park. The complex consists of a single, three-story building with a total area of 59,000 square feet and two additional two-story buildings with planned areas of 28,000 square feet each and a parking lot.

Marine Engineering Building | Texas A&M University at Galveston
Galveston, Texas

Staff Engineer for a geotechnical study for construction of a marine engineering building. The building was to be a 58,000 square foot, one- and two-story building, with a footprint area of approximately 35,000 square feet, supported on pile foundations. Subsurface conditions were investigated to provide foundation recommendations including auger-cast-piles and driven piles to support the column loads.

Electrical Building | University of Houston
Houston, Texas

Project Manager for geotechnical engineering services for construction of Electrical Building at the University of Houston located at the intersection of Calhoun and Wheeler Streets in Houston, Texas. The proposed building is a single-story building. Performed engineering analysis and provided foundation recommendations for drilled and underreamed footings due to the expansive nature of subsurface soils.

Education
| MS, Geotechnical Engineering, The University of Texas at Arlington
| MS, Water Resources, Jawaharlal Nehru Technological University
| BS, Civi Engineering, Osmania University

Registration
| Professional Engineer (TX)

Location
| Houston, TX

12 Years of Experience

Science Building | Texas A&M University at Galveston
Galveston, Texas

Project Manager for geotechnical engineering services for construction of a 33,000-square foot science building on the east side of the campus. HVJ also provided services to witness the type and accuracy of data being collected and confirm pile capacity at a depth of 60 feet and 80 feet based on the results of the pile load tests.

New Fleming Teaching Laboratory Addition | University of Houston
Houston, Texas

Project Manager for geotechnical engineering services for construction of New Fleming Teaching Laboratory Addition building located at the intersection of Cullen Boulevard and Entrance No. 14 at University of Houston in Houston, Texas. The project involved construction of new four-story building containing approximately 23,000 square feet per floor. The structural system for the building is composite system, with steel beams and concrete over composite metal deck. The project also included construction of a Tunnel on the south side of the building. HVJ performed engineering analysis and provided four different foundation options for the building and provided design and construction recommendations for the tunnel.
Mr. Pretus has more than 15 years of experience providing civil engineering design and construction management with for education, industrial, commercial and municipal clients. His expertise includes water and sanitary sewer utilities, storm drainage systems, streets, railroads, project feasibility studies, and project cost analysis. Mr. Pretus has extensive experience with storm water detention facility design and preparation of Storm Water Pollution Prevention Plans.

Campus Master Plan Update | Texas A&M University
College Station, Texas
Civil engineer for the project consists of a complete overhauling of the existing Campus Master Plan with an emphasis on the future development as Campus expects to expand in the coming years. It also includes changes related to lessons learned by Campus in dealings with different consultants. The final product will be a new physical copy of the Campus Master Plan to replace the old. Mr. Pretus provided guidance in the areas of drainage, low-impact development, and the importance of a global approach to site utilities.

Commons Building Renovation | Texas A&M University
College Station, Texas
Civil engineer for this project consists of a support building for the new West Campus Housing District to serve the residential student needs including resident life support space, academic and student support space, social gathering space and a full service dining facility with seating for 400 students. The facility will be located in the southern quadrant of the 40-acre development designed to serve 2,400 students initially, but will be planned for expansion to serve a future residential population of 4,000. The building will be approximately 37,500 SF contained on one or two levels and will be designed to accommodate future vertical or horizontal expansion. Civil Engineering services included the design of water, sanitary sewer and storm drain services for the proposed building, as well as the site grading and new loading dock for food deliveries.

Education
| BS, Civil Engineering, University of Texas at Austin

Registration
| Professional Engineer (TX)

Location
| Fort Worth, TX

15+ Years of Experience

Engineering Education Complex | Texas A&M University
College Station, Texas
Civil engineer. This project consists of the transformation of the existing Zachry Engineering Center into the Engineering Education Complex (EEC). This includes the demolition, renovation and reconstruction of the 1972 5-story, 350,000 SF building and a 200,000 SF of new space addition. The space will include new classrooms, laboratories for fluid mechanics, transport phenomena, materials, controls, cyber/physical, electrical sciences, measurements, and instrumentation, as well as a unit operations high bay laboratory. The project required major site/Civil reconfiguration of utility systems that serve the building and surround campus building within the Engineering District. Zachry has a history of stormwater flooding issues within the basement and surround area. A major stormwater upgrade design was provided and currently under construction to improve surface drainage collection and underground conveyance from upstream and on-site sources and moved more efficiently to the Polo Field stormwater detention area.
2.2.7 SERVICES PROVIDED

We have reviewed the projects detailed in the RFQ and are prepared to provide the following services:

▸ Geotechnical Services

▸ Survey

▸ Subsurface Investigation

▸ Professional evaluations of design problems and issues related to this project, analysis of the advantages and disadvantages of each, and evaluations and recommended solutions to the design issues during the design process

▸ Establishment of final locations, configurations and layouts for each project, taking into consideration the site conditions and requirements established in this program

▸ All mechanical, civil and structural engineering

▸ Phasing Planning

▸ Traffic Coordination

▸ Bidding and construction phase services including project meetings and reports required to ensure proper installation of the design of this project.

▸ Construction administration including RFI responses, submittal reviews, site reviews, and punchlists

▸ Although we do not anticipate the need, we will provide pipe stress analysis and hydraulic modeling services as required

▸ Compliance with all applicable codes and standards

▸ Design to effectively allow for the competitive sealed proposal delivery method

▸ Commitment of the resources required to complete this project in a timely manner in order to meet the project schedule
2.2.8 REFERENCES

We are proud of our ability to consistently perform at high standards for our clients, delivering their projects on time and within budget. This is reflected by our clients coming to us time and again for their projects – 90% of our work is repeat business. Please see below for a few comments on our work.

Texas A&M University

“I have worked with their team members for many years on multiple projects and will continue to look to them for utilities and energy system design and project management expertise. I highly recommend the Burns & McDonnell team.”

James G. Riley, Director of Utilities | 496 Asbury St., College Station, TX 77843 | P: 979-845-1210 | F: 979-845-0051 / jirniley@tamu.edu

Oklahoma State University

“The Burns and McDonnell team has proven to be an invaluable partner for the OSU Central Plant project. Their technical skill and expertise was critical for the success of replacing the 1948 Power Plant with a new steam and chilled water facility where Burns and McDonnell was responsible for the design of connecting the new plant to existing infrastructure. Burns and McDonnell provided timely communications, sound advice, and rapid response serving the needs of Oklahoma State University’s Energy Services department.”

James Rosner, Former Director - Utilities and Energy Management at OSU | Facilities Services Center, 2400 S. Race St. Denver, CO 80208 | P: 303-871-2717 | james.rosner@du.edu

University of South Alabama

“I would strongly recommend this Firm [Burns & McDonnell] for any Central Plant or Thermal Distribution Project because of their experience and proven track record in planning and design.”

Randy Moon | 307 University Blvd N., Room 1, Mobile, Alabama 36688 | P: 251-460-7127 | rmoon@southalabama.edu

University of Texas at Austin

“We couldn’t have picked a better team than the Flintco/Burns and McDonnell Design/Build team for Chilling Station 7. Their innovative approach and attention to detail will make this one of the most efficient chilling/heating stations in the US. Aligned with the philosophy of UT-Austin staff the BMcD team believes that ALL the details matter, and it shows in their design.”

Mike Manoucheri, PE | PO Box 7459, Austin, Texas 78713-7459 | P: 512-471-8818 | michael.manoucheri@austin.utexas.edu
CREATE AMAZING.
January 4, 2017

Mr. Bob Henry
Technical Services Manager
Texas A&M University UES
496 Asbury St.
College Station, TX 77843

Re:  Campus System Thermal Improvements
     Project Main 17-0008

Dear Mr. Henry:

Burns & McDonnell is pleased to provide this proposal for design and construction administration services for the Campus System Thermal Improvements project. This proposal is based on the requirements outlined in the Request for Qualifications (RFQ) and subsequent discussions along with the Scope of Services below.

Scope of Services

General:
This proposal includes the design, opinion of probable costs, bidding assistance, and construction administration efforts of approximately 15 sub-projects including the addition of new air/dirt separators and expansion tanks at existing utility plants along with the replacement or addition of chilled water (CHW) and heating hot water (HHW) piping around the Main and West Campus in College Station.

Civil, structural, electrical, and mechanical drawings and specifications are included, as required, as part of the basic services. Survey, SUE, and geotechnical investigations are included as reimbursable. The survey work contains the standard topographical work, scanning, and the effort to tie SUE data to the topographical information.

Clarifications:
- Pipe sizing has been determined by TAMU. Flow modeling and sizing of piping is excluded.
- Underground piping to be direct buried HDPE. Connections to existing piping will be direct buried or within existing vaults. No new vaults are included.
- Stress modeling is excluded as it is not expected to be needed.
- Traffic control plans are included for areas where the new thermal piping associated with the scope of the project crosses an existing street.
- It is assumed the scope of work is limited to site distribution piping which will connect 5’ outside of the relevant building, where applicable, and does not include the design of building connections for the vast majority of the projects listed in the RFQ.
Mr. Bob Henry  
Texas A&M University UES  
January 4, 2017  
Page 2

- Site and surface repair design is limited in nature and expected to include only repair and replacement of existing site conditions.
- Re-route/re-design of existing utilities is included within the limits of the scope of the project. Relocation of existing utilities outside of the scope of the project are excluded.
- Preparation of a Storm Water Pollution Prevention Plan (SWPPP) is assumed to be by the Construction Contractor. Contractor assistance will be provided in the form of erosion control plans and details.
- Design of elevated access platforms and monorails (for air/dirt separators) is excluded.
- Number of total potholes limited to 100.
- Permitting is assumed to be by TAMU.
- TAMU Arborist will assume lead role for tree protection for construction within the dripline of existing trees.
- The scope of design effort is limited to the replacement piping identified on Exhibit 1.
- Trips planned are as follows:

<table>
<thead>
<tr>
<th>Phase</th>
<th>Trips</th>
<th>Attendees (up to)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kickoff/Site Investigation</td>
<td>1 trip for 2 days</td>
<td>3 people</td>
</tr>
<tr>
<td>50%, 75% and 100% CD Reviews</td>
<td>Each 1 trip for 1 day</td>
<td>3 people</td>
</tr>
<tr>
<td>Pre-Bid Meeting</td>
<td>1 trip for 1 day</td>
<td>2 people</td>
</tr>
<tr>
<td>Construction Progress</td>
<td>8 trips for 1 day</td>
<td>2 people</td>
</tr>
<tr>
<td>Punch List</td>
<td>1 trip for 1 day</td>
<td>2 people</td>
</tr>
</tbody>
</table>

Schedule:
The anticipated milestones are as follows:
- February 16, 2017 – 50% CDs for Review (Drawings only)
- April 14, 2017 – 75% CDs for Review (Drawings, specifications, and cost estimates)
- June 8, 2017 – 100% CDs for Review (Drawings, specifications, and cost estimates)
- June 22, 2017 – Issue for Construction
- August 31, 2018 – Project Substantial Completion

Fee:
The total compensation for this effort shall not exceed $962,375 (Nine Hundred Sixty Two Thousand Three Hundred Seventy Five Dollars) including expenses. The fee breakdown is shown in the following table. Included in the reimbursables is a 10% markup.

<table>
<thead>
<tr>
<th>Basic Services</th>
<th>Reimbursables</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>$656,500</td>
<td>$305,875</td>
<td>$962,375</td>
</tr>
</tbody>
</table>
Mr. Bob Henry  
Texas A&M University UES  
January 4, 2017  
Page 3

Our total fee plus reimbursable exceeds the HUB goal of 28.12%.

Billing will be broken down by phase as listed in the schedule below:

<table>
<thead>
<tr>
<th>Phase</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schematic Design Phase</td>
<td>15%</td>
</tr>
<tr>
<td>Design Development Phase</td>
<td>20%</td>
</tr>
<tr>
<td>Construction Documents Phase</td>
<td>40%</td>
</tr>
<tr>
<td>Bidding or Negotiation Phase</td>
<td>5%</td>
</tr>
<tr>
<td>Construction Phase</td>
<td>18%</td>
</tr>
<tr>
<td>Record Drawings</td>
<td>2%</td>
</tr>
</tbody>
</table>

We appreciate this opportunity to be of service to Texas A&M University and look forward to working with you to help make this project a success. Our team, including HVJ Associates and JQ, is available to immediately begin working on this project. We would be happy to review this proposal with you and address any questions that you may have.

Sincerely,

Justin Grissom, P.E., CEM  
Section Manager  
OnSite Energy & Power

Jon Schwartz, P.E., CEM  
Principle  
OnSite Energy & Power