CITY OF ANGLETON, TEXAS

ANGLETON BETTER LIVING CORPORATION

Meeting @ 5:30 p.m., Monday, September 26, 2016
Located at 120 S. Chenango in the Council Chambers,
Angleton, Texas 77515

1.) Declaration of Quorum and Call to Order.

2.) Discussion and Possible Action on approving the July 25, 2016 meeting minutes.

3.) Discussion and Possible Action on selecting an engineering firm for the Angleton Recreation Center HVAC replacement.

4.) Adjourn.

In compliance with the Americans with Disabilities Act, the City of Angleton will provide reasonable accommodations for persons attending Angleton Better Living Corporation Meetings. To better serve you, requests should be received 24 hours prior to the meeting. Please contact Shelly Deisher, City Secretary, at 979-849-4364, extension 2115.

CERTIFICATION

I certify that copies of this agenda of items to be considered by the Angleton Better Living Corporation were posted in the following locations:

City Hall Bulletin Board: Date: _____ Time: _____

City of Angleton Website: Date: _____ Time: _____

_____
Alyssa Deaton,
Assistant City Secretary

Angleton Better Living Corporation Meeting

City of Angleton, Texas
Meeting Minutes
Monday, July 25, 2016

MEMBERS & STAFF

Randy Rhyne – Chairman
*George Rau – Board Member
Chris Peltier – Board Member (Absent)
Dr. William Jackson – Board Member
Charlyn Rogers – Board Member (Absent)
Hardwick Bieri – Board Member
Bonnie Church – Board Member

Michael Stoldt – City Manager
Will Blackstock – Parks & Recreation Director
Susie Hernandez – Finance Director
Alyssa Deaton – Assistant City Secretary

AGENDA

1. Declaration of Quorum and Call to Order at **5:30pm**.

2. Discussion and Possible Action on the May 23, 2016 meeting minutes and amending the January 25, 2016 meeting minutes.

   The minutes were amended to reflect Bonnie Church's absence at the January 25, 2016 meeting. Her name was unintentionally left out.

   Motion by Bonnie Church to approve the minutes;
   Second by William Jackson.

   Motion carries 4 for; 0 against; 3 absent (Chris Peltier, Charlyn Rogers, George Rau)

3. Discussion and Possible Action on the 2016-2017 Proposed Budget for the Angleton Better Living Corporation and the Angleton Activity Center.

   *George Rau arrived at 5:33pm

   Michael Stoldt reviewed the preliminary budget with board members.
   Some highlights are as follows:
   - The fund balance is projected to end up at $1,285,686, which is 55% of the adjusted combined operating expenses, where 25% is recommended.

- Sales tax has been growing and is expected to grow more with development.
- ABLC budget includes a $39,416 transfer out of the fund balance to make up $400,000 transfer to the Activity Center to cover the $1,000,000 maintenance project.
- If it weren't for the $1,000,000 maintenance project, ABLC would have a $360,000 surplus
- ABLC's budget is $1,492,270, of which $1,450,000 is sales tax revenue based off of a 6.5% increase next year
- Michael Stoldt recommends ABLC come up with $239,416 out of fund balance which will leave only having to borrow $400,000 for the $1,000,000 maintenance project versus $600,000
- Michael Stoldt proposes that ABLC also help with the new Lakeside Park project. He proposes that ABLC piggy back off of the $5,000,000 street bond next summer with a payback of 9 years.
- If ABLC helps with the Lakeside Park project, their fund balance percentage will be 47.5%, with the recommended being 25%, so they will still be well above the recommended percentage

Recommended changes to the budget are as follows:

- Under revenues, add $500,000 for the 2017 debt issue to help with Lakeside Park
- Under expenses, transfer $600,000 for $1,000,000 maintenance project
- Add $12,322 to overtime line item
- Reduce line item 60-506-714 by $4,455 because the payment is only $20,545

Motion by Bonnie Church to approve the 2016-2017 Fiscal Year Proposed Budget with the recommended changes;
Second by William Jackson.

Motion carries 5 for; 0 against; 2 absent (Chris Peltier, Charlyn Rogers)

4. Adjourned at **6:30pm**.

CERTIFICATION

Randy Rhyne, ABLC Chairman

Alyssa Deaton, Assistant City Secretary

ABLC
AGENDA ITEM
Meeting Date: September 26, 2016

SUBJECT: Discussion and possible action on selecting engineering firm for Angleton Rec Center HVAC Replacement

___ Consent item
_x_ Discussion and possible action
__ Discussion item
___ Public Hearing

REQUESTED BY: Will Blackstock, Parks & Recreation Director

Attachments: Statement of Qualifications for TLC Engineering and CAI Engineers

Executive Summary: Following City of Angleton policies and State Law, we did a formal Request for Qualifications (RFQ) for engineering services for the Angleton Rec Center HVAC replacement. We received two responses to the RFQ from TLC Engineering of Dallas and CAI Engineers of Houston.

The response was reviewed to ensure it met our requirements. Multiple references were contacted for each company. However, only one reference replied for TLC and only 2 for CAI.

Both companies received good references. TLC was said to be good to work with but their proposal came back over budget and they are having to revise it and reduce scope of project to fit budget. CAI was said to provide great design/engineering work. One reference said their communication was lacking, while the other said their communication was excellent.

In accordance with state law, we must officially select a firm before we begin discussion/negotiation of fees.

Recommendation: Staff recommends that CAI engineers be selected for the Angleton Rec Center HVAC replacement project. Both companies scored very well in reviewing their SOQ and speaking with references. The biggest difference is in location, CAI is in Houston and would seem to be more readily available to address on-site issues.

Will Blackstock
Name

September 16, 2016
Date

Evaluation Criteria

The following criteria will be used in evaluating and grading responses:

a) Substantial successful experience in completing similar projects. (20%)

b) Demonstrated knowledge and understanding of the project. (20%)

c) Substantial representations regarding the firm's qualifications, technical capabilities and professional competence of the Engineer and assigned personnel. (20%)

d) Substantial capability to meet schedules and deadlines as well as capability to complete projects without having major cost escalations, change or overruns. (20%)

e) Record of performance based on previous work with the City and/other client references. (20%)

Scoring of Bids – each bid received and opened will be scored 1 – 20 in each of the above categories

	BID #1	BID #2	BID #3	BID #4	BID #5
NAME	TLC Engineering	CAI Engineers			
a)	10 No other rec/pool projects listed	20 Several rec/pool projects listed			
b)	20	20			
c)	20 In business over 60 years	15 In business for 35+ years			
d)	20	20			
e)	15 Only one reference replied; good to work with but project was over budget	15 2 references replied both liked the work; one didn't like communications			
TOTAL:	85	90			

Statement of Qualifications

for

Angleton Recreation Center HVAC Replacement
City of Angleton, Texas

August 31, 2016

Anthony Molinaro, Jr. , PE
Texas Operations Director
4131 N. Central Expressway, Suite 200
Dallas, TX 75204
214-540-5900

ENGINEERING
FOR ARCHITECTURE

August 31, 2016

City of Angleton
Will Blackstock, Director of Parks and Recreation
121 S. Velasco
Angleton, Texas 77515

RE: Statement of Qualifications – Angleton Recreation Center HVAC Replacement

Dear Mr. Blackstock:

TLC Engineering for Architecture, Inc. (TLC) is excited to submit this Statement of Qualifications (SOQ) to the City of Angleton for the replacement of HVAC systems and controls at the Angleton Recreation Center. From meeting with you and visiting the site on August 16, we have acquired a thorough understanding of the project's scope and key goals such as providing easy to maintain, energy-efficient equipment and engineering a robust dehumidification solution for the new rooftop units.

We have the experience and qualifications to exceed your goals. The following highlights our main strengths:

- **Established Firm:** Established in 1955, TLC is a multidisciplinary engineering firm with a diversity of talent, expertise and experience. With 380+ employees, 12 office locations, including Dallas and San Antonio, and an enthusiastic embrace of leading-edge technology, we are among the largest and most respected engineering firms in the Southeast. Being selected by *ENR SE* as the **2016 Design Firm of Year** is a testament to our engineering capabilities.
- **Sustainable / Energy-Efficient Building Design:** TLC provides an array of MEP and energy services focused on the design and operation of sustainable, energy-efficient existing buildings. Firm wide, TLC has delivered 313 LEED-certified projects, as well as projects targeting compliance with Green Globes and the Living Building Challenge. We have a comprehensive understanding of the 2015 International Energy Conservation Code (IECC) that will be effective September 2016 in Texas. In fact, we have been presenting "Even the 3 Little Pigs Didn't Build Their Houses Out of Glass" throughout the state to educate the A/E/C community on the upcoming code changes.
- **Effective Project Approach:** Our approach to the Angleton Recreation Center is to combine our project management skills with our engineering experience to make accurate design decisions and to provide quality recommendations to the City of Angleton. I will serve as Principal-in-Charge, bringing more than 30 years of engineering and management experience to this project. Project Manager Ben Cole, PE, has 21 years of experience managing and designing similar HVAC replacement projects, including East Waco Library Renovation in Waco and 2100 Ross Avenue in Dallas.

Our required information is listed below.

Firm Name:	TLC Engineering for Architecture, Inc.
Type of Organization	Employee-owned corporation classified as a large business
Mailing Address:	4131 N. Central Expressway, Suite 200 Dallas, Texas 75204
Point of Contact:	Tony Molinaro, Jr., PE Ph: 214-540-5901; tony.molinaro@TLC-ENG.com

We look forward to your favorable evaluation of our SOQ and the opportunity to present our team, experience, and approach at the presentation.

Sincerely,
TLC ENGINEERING FOR ARCHITECTURE, INC.

Anthony E. Molinaro, Jr., PE, Principal, Texas Operations Director

1. Team Organization, Expertise & Qualifications of Key Staff

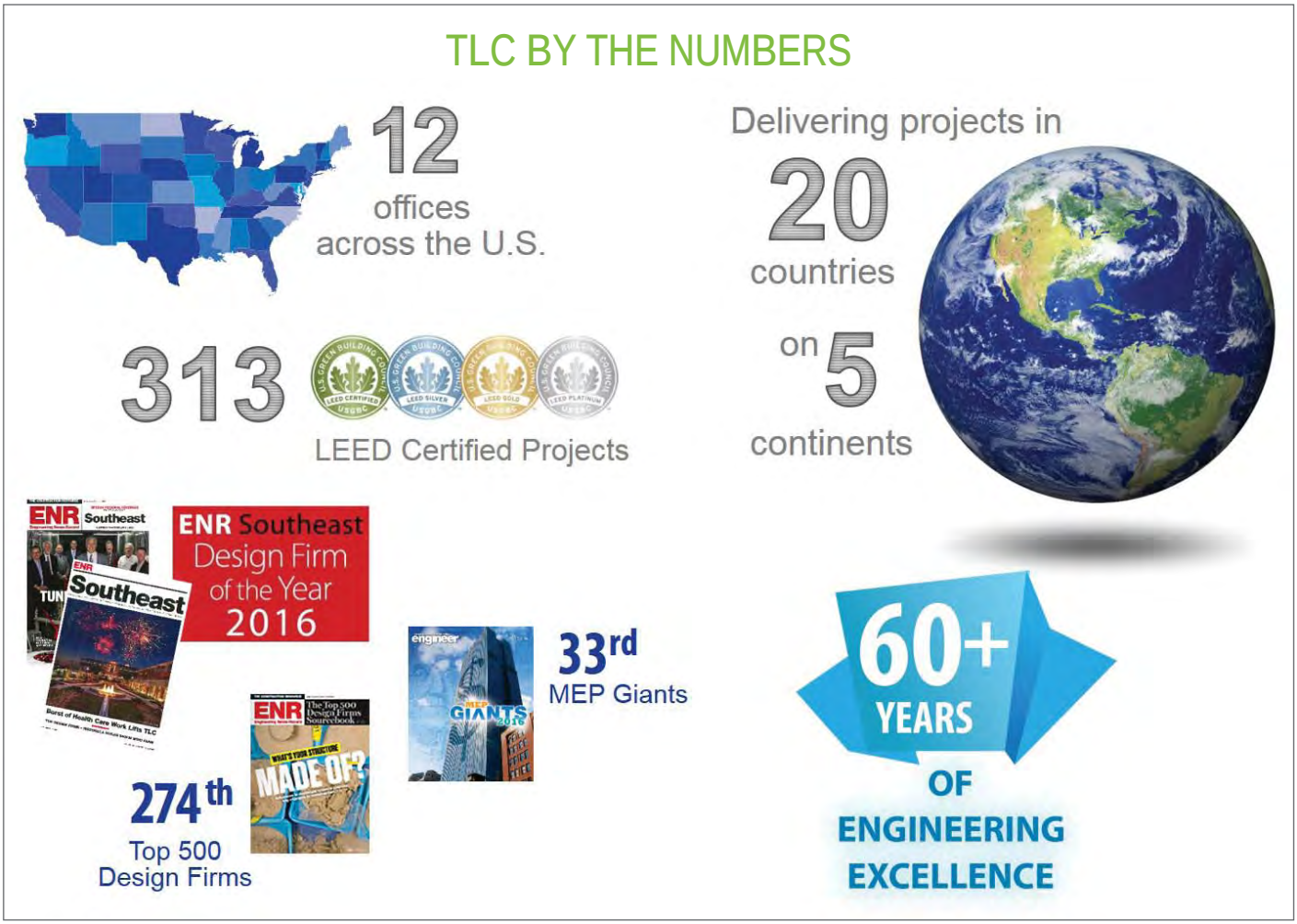
ENGINEERING
FOR ARCHITECTURE

1. TEAM ORGANIZATION AND EXPERTISE AND QUALIFICATIONS OF KEY STAFF

FIRM OVERVIEW

TLC Engineering for Architecture, Inc. provides exceptional high-performance engineering design, engineering consulting, and energy services. Founded in 1955 and consistently ranked among the largest MEP and structural engineering firms in the country, TLC is an industry leader with expertise on a wide array of building types. Among the firm's accolades, TLC has been selected by *ENR SE* as the **2016 Design Firm of Year**. TLC's extensive experience and expertise is applied to engineer high-performance, complex projects, often with challenging schedules.

Headquartered in Orlando, Florida, TLC has offices in Dallas and San Antonio, Texas; across Florida in Jacksonville, Tampa, Miami, Cocoa, Deerfield Beach, Sarasota and Ft. Myers; Nashville, Tennessee; and New Orleans, Louisiana. The team of 380+ professionals includes 80 PEs, 20 EIs, 80 LEED Accredited Professionals and 30 ACG Registered Commissioning Authorities, along with energy management professionals, building energy modeling professionals, health care facility design professionals, and certified specialists in indoor air quality, plumbing design, security, technology and control systems. TLC provides engineering design and energy services for buildings across the United States and around the globe.



TLC, an employee-owned corporation classified as a large business, offers multidisciplinary engineering services, including:

MEP/FP – TLC's MEP/FP design experience and expertise includes central plants, utility distribution, indoor air quality, code compliance review, comprehensive master plans and feasibility studies, along with specialized systems such as pre-conditioned air, thermal energy storage, low temperature air distribution, computer power distribution, heat pipe and desiccant systems for humidity control, chilled beams, variable refrigerant flow and the latest technology in building controls. TLC's licensed fire protection engineering staff provides system design and building code / life safety consulting.

Structural – TLC specializes in structural solutions that are as creative as they are functional, with particular expertise in structural analysis and design, threshold inspections, existing building evaluations and investigations.

Communications & Technology – Using the latest software and tools, TLC's RCDD-credentialed staff produces cutting-edge designs that support unique project requirements. Rapidly evolving technology demands that designs are crafted for flexibility, growth and change. Specialized applications include integrated security, audio/visual presentation, voice/video/data distribution, public address/sound, acoustical analysis, intercom, closed circuit television, broadband distribution and video telepresence.

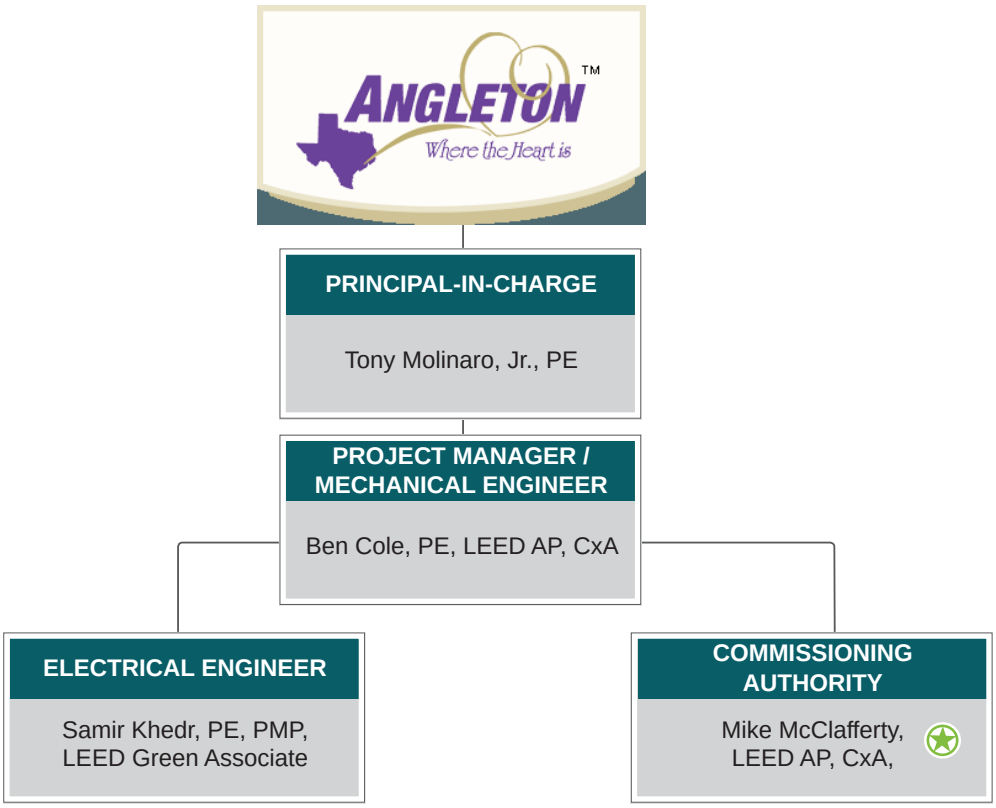
BIM – TLC was an early adopter of Revit, resulting in streamlined designs that are integrated with our architectural partners, support construction activities and achieve clients' goals. TLC design and production tools include Revit MEP, Revit Structural and IES VE Pro for energy modeling and design analysis. TLC has interoperability experience in coordinating models via Navisworks, leveraging third-party software to enhance efficiency and using integrated project delivery to gain constructability and real-time cost data.

Energy – In addition to designing high-performance new and renovated buildings, TLC provides an array of services focused on the design and operation of sustainable, energy-efficient existing buildings, including energy audits, new building commissioning (Cx), existing building commissioning (EbCx), net operating income improvements (NOII), energy modeling and sustainability consulting. TLC's staff of specialty LEED APs, CxAs, EMPs and BEMPs has delivered 313 LEED-certified projects, as well as projects targeting compliance with Green Globes and the Living Building Challenge. TLC was among the first MEP firms to commit to the AIA 2030 Challenge and continues to progress towards the aggressive goals embodied by this commitment.

WELL® – At the leading edge of trends in building design is an emphasis on buildings that support increased employee productivity. Building construction and operational costs are <10% of the value of production of the people occupying those spaces, over a ten year window. Buildings that incorporate features that encourage occupant health, reduce employer health care costs and boost productivity can create a powerful impact on the bottom line. A 1% improvement in productivity typically exceeds a building's annual energy expense. One way to demonstrate the health aspects of a building is through WELL certification, a service provided by TLC.

THE TLC TEAM

Value-Added



Principal-in-Charge Tony Molinaro provides the team with over 30 years of experience in engineering design and management. He is a registered professional engineer in five states, including Texas. As TLC's Director of Texas Operations, Tony is intimately involved in acquiring new projects and clients for TLC and remains active through the design and construction process. Tony will be responsible for managing and coordinating the mechanical design efforts, and he will be available to the City of Angleton to address any questions or concerns.

Ben Cole, a Texas registered professional engineer, will serve as project manager for your Recreation Center project. Upon receipt of the notice to proceed, he will lead the team in a kick-off meeting held with City representatives to set the communication processes, define project goals, issues and priorities and review the schedule and critical milestone dates. During the team orientation meeting, Ben will review the project scope and required services, design standards, project deliverables for the contract, the assignment of documentation responsibilities, and the chain of communication and distribution of information between project team members.

Samir Khedr, who is also a Texas registered professional engineer, will lead our electrical engineering design efforts. He offers 14 years of diverse design experience with a focus on low voltage power distribution, daylight harvesting techniques, LED lighting and photovoltaic systems.

TLC is a strong proponent of commissioning to ensure that systems are operating as intended and that facility staff is ready and trained to operate the building systems before turn-over from the contractor. Because of this, we have added Mike McClafferty, a seasoned commissioning authority with more than 28 years of experience, to our team as a value added service. Mike excels at the most important aspects of the successful commissioning of HVAC systems: testing and troubleshooting system components and verification of DDC / BAS to ensure all control points are operating properly. Mike offers the City an objective, team-based method to provide continuous monitoring and review of the design and construction activity to ensure that the City's design intent and project goals are realized.

ANTHONY E. MOLINARO, JR., PE
Principal-in-Charge

Education
Gannon University
B.S., Mechanical Engineering
1985

Years of Experience
30

Registrations
PE TX # 121495
PE OH # PE60311
PE WV # 015040
PE VA # 37738
PE PA # PE041354E

Experience
Tony joined TLC in 2015, bringing 30 years of experience in solving mechanical engineering challenges, project management and QC of designs with an eye towards constructability and efficiency. While educated as a mechanical engineer, Tony has a broad base of building systems knowledge, which makes his involvement on a project team beneficial in many ways. He has experience on many complex building types, including data centers, educational facilities, transit facilities and corporate headquarters, for both new and renovated buildings. Tony is a strong supporter in the use of technology to efficiently produce designs that support the owner's expectations along with the design team's deliverable schedule. Selected relevant projects include:

Prior Experience

Carnegie Alumni Center, Grove City College, Grove City, Pennsylvania
MEP engineer for the 6,200 sf addition and renovation to the existing 12,600 sf historic building. Addition serves as a main entry point to the facility, meets all accessibility req uirements and provides adequate restroom facilities for staff and event needs. Prepared plumbing calculations and plumbing system design (sanitary, vent, water, gas, internal storm); HVAC calculations; HVAC system design; electrical calculations and service and power distribution design; lighting systems design; site lighting calculations and site lighting design for adjacent parking and walkways; life safety systems design (fire alarm, exit lights, emergency egress lighting); communication raceway systems design (telephone/data conduits); sprinkler service entrance design and performance specification; and energy calculations. $6.7 million / 6,200 sf (new) 12,600 sf (renovation)

Dick's Sporting Goods Headquarters, Corapolis, Pennsylvania
MEP & IT design for a new construction LEED project. Design included detailed energy analysis and tradeoff studies of various types of HVAC equipment and systems to provide the lowest life cycle cost and to meet LEED requirements. Building serves as the international headquarters for Dick's Sporting goods and contains auditoriums, kitchen and cafes, fitness center, complete athletic facility with basketball court and office/break rooms. **Certified LEED for New Construction.** $125 million / 670,000 sf

Google at Bakery Square, Pittsburgh, Pennsylvania
- MEP engineering and BIM services for office space on the sixth and seventh floors. In December 2011, the existing building obtained **LEED Platinum certification**. In 2012 the Google 1.0 space received **LEED Gold certification**. 44,000 sf
- Google expanded their offices in the Bakery Square Building #3 to the fifth floor. The fifth floor space is primarily office, conference room spaces and several micro-kitchens. Received **LEED Gold certification** in 2013. 33,000 sf

Hilton Garden Inn, Bethesda, Maryland
MEP/FP engineering services for a six-story, 155-room hotel with two levels of parking below grade and a restaurant on the upper parking level. Tenant retail, ballroom and hotel amenities such as kitchen, lobby and dining, are on the first floor. Pool and exercise rooms are on the second floor. Guest rooms are on the second through sixth floors. 173,472 sf

BENJAMIN J. COLE, PE, LEED AP, CxA
Project Manager / Mechanical Engineer

Education
University of Central Florida
B.S., Mechanical Engineering
1991

Years of Experience
21

Registrations
PE TX # 109145
PE NM # 20621
PE FL # 59287
PE OK # 25262

Professional Affiliations
USGBC, Member
ASHRAE, Member

Experience
Ben is a senior mechanical engineer with over 21 years of design experience for HVAC systems, including central chilled water plants, central boiler plants, chilled water, recirculating heating water and steam piping systems, air handling unit design and specification, ductwork distribution systems, laboratory exhaust systems, control systems and building automation systems. He has extensive experience in healthcare, military, hospitality, educational and commercial projects. Selected relevant projects include:

East Waco Library Renovation, Waco, Texas
Replacement of HVAC system with new HVAC equipment to serve the renovated space. Existing ductwork was used where possible and reconfigured to work with the new layouts and equipment. Lighting systems were designed to provide an even quality of light over all areas of the circulation areas. 13,400 sf / $1.5 million

2100 Ross Avenue, Dallas, Texas
Replacement of two 1200-ton chillers with two new high efficiency 1200-ton chillers in a series configuration with associated pumps. Upgraded the constant flow system to a variable flow primary flow system. $560,000 / 15,000 sf

College Station Medical Center AHU Replacement, College Station, Texas
Replacement of AHU and addition of a second AHU, due to age of original unit. 12,000 sf

Valley Hospital Obstetrics Wing Renovation, Spokane, Washington
Renovation of existing women's services department including the development of construction documents and construction administration for 10 labor delivery recovery postpartum rooms and adjacent areas. $1,575,000 / 4,500 sf

Lufkin State Supported Living Center HVAC Upgrades, Lufkin, Texas
Replacement of two 20-ton DX HVAC units, associated ductwork and electrical for a living center that houses residents with varying degrees of intellectual disabilities. Designed two new 25-ton AHUs equipped with energy-efficient variable speed drives that maintain flow to areas based upon temperature, humidity and occupancy. $186,000 / 12,540 sf

Frisco Lakes Amenity Center, Frisco, Texas
New 10,000 sf, single-level annex building consisting of meeting rooms, lobby, locker rooms and fitness room. Annex also has an outdoor swimming pool, pickleball courts, bocce courts, horseshoes pits, washer pits and parking facilities. Project included a 5,300 sf expansion of another single-level building to accommodate a ballroom, lobby, restrooms and small food service facility. $1.5 million / 15,300 sf

Carrollton Senior Center Expansion, Carrollton, Texas
One-story expansion of multipurpose areas, repurposing of existing physical fitness room and adding a new fitness area. $1.5 million / 6,000 sf

SAMIR KHEDR, PE, PMP, LEED GREEN ASSOCIATE
Electrical Engineer

Education
Cairo University
B.S., Electrical Engineering
2000

Years of Experience
14

Registrations
PE TX # 119007

Professional Affiliations
U.S. Green Building Council, Member

Experience
Samir has more than 14 years of electrical engineering experience involving the design of low voltage power distribution, exterior and interior lighting, and lightning protection systems. He has been involved in all phases of design from concept development through construction documents, including construction administration. Selected relevant projects include:

Irving Fire Training Facility, Irving, Texas
Phase one includes a 6,000 sf training room and offices, plus four apparatus bays. Site work includes power for training props and fire tire.

Aloft Hotel, El Paso, Texas
Conversion of Historic Bassett Tower to Aloft Hotel. $10 million / 61,410 sf

Marriott Courtyard River Walk, Flower Mound, Texas
New five-story hotel with conference center located at the River Walk of Central Park. $15 million / 93,930 sf

McCall Plaza, Plano, Texas
Review and upgrade existing site electrical service and lighting. $4,500

Harborchase Assisted Living, Plano, Texas
New two-story assisted living and memory care facility with 120 units (50 assisted living and 60 memory care). $12 million / 120,000 sf

Inspired Living Houston ALF, Houston, Texas
Three-story building split into a three-story, 84,414 sf assisted living facility with 92 resident rooms and a single-story, 30,675 sf memory care wing comprised of 43 resident rooms. 115,092 sf

Security Services Federal Credit Union Campus Operations Building, San Antonio, Texas
New campus with multiple buildings, including a central energy plant attached to a parking garage, amenities building, office tower and operations building. $90 million / 378,500 sf

Children's Surgical Valley View Ambulatory Surgery Center (ASC) Renovation, Dallas, Texas
Renovation of ASC. $3.8 million / 11,600 sf

Texas Interventional Ambulatory Surgery Center (ASC) Upgrade, Addison, Texas
Code-compliant upgrades. $450K / 9,600 sf

MICHAEL MCCLAFFERTY, LEED AP, CxA
Commissioning Authority

Education
Cincinnati State and Technical College
A.A., HVAC Design
1980

Years of Experience
28

Professional Affiliations
Society of American Military Engineers

Experience
Mike's experiences in the field and in design combine to make him an exceptional designer, in addition to being a meticulous commissioning authority. His combination of design and commissioning experience puts him at the forefront of solving challenges to get building systems operating as they should. His many years of experience include exceptionally challenging federal projects, including many for the DoD. Mike's experience serving in the military have helped him become a leader, while also appreciating the value of team work and problem solving. Selected relevant projects include:

FIU Recreation Center Expansion, Miami, Florida
New multistory addition to the existing Recreation Center building for the Modesto A. Maidique Campus. The building has two floors of exercise and fitness equipment, a new basketball gymnasium, racquetball courts and restrooms. Pursuing LEED 2009 Silver Certification, involving EAP1 Fundamental Commissioning and EAC3 Enhanced Commissioning. Commissioning scope included HVAC systems (campus supplied chilled water with variable speed pumping, variable and constant speed air handling units with cooling and heating coils, VAV terminals, exhaust fans, BAS system, demand control ventilation with space mounted CO2 sensors), lighting control systems (occupancy sensors, timers, daylighting control) and domestic hot water systems with circulation pumps. 55,000 sf

Prior Experience
AAA Data Center, Costa Mesa, California
Data center upgrades. Commissioning scope included HVAC systems (air cooled chiller, air handling units, VAV terminals, pumps, computer room air handling units, exhaust fans, DDC controls), lighting systems (occupancy sensors, timers), electrical systems (emergency generators, automatic transfer switches, load bank testing, UPS systems), fire alarm and fire sprinkler systems. 10,000 sf

Los Angeles Community College District – Los Angeles City College Student Services Building, California
New gymnasium and student center, fitness rooms, locker rooms, lecture rooms, offices, meeting rooms, health care offices and student services offices. Project is pursuing LEED Silver Certification. Commissioning scope included HVAC systems (VAV chilled water air handling systems with hot water heating, VAV terminals with hot water reheat, chilled water pumping systems, VRF DX split system heat pumps, exhaust systems, BAS system, demand control ventilation with space mounted CO2 sensors, high efficiency heating hot water condensing boilers with heat exchangers and primary/secondary pumping systems for service water heating), lighting control systems (occupancy sensors, timers, daylighting control), high efficiency domestic hot water boilers with primary/ secondary pumping and hot water recirculation pumps and high efficiency plumbing fixtures. 70,000 sf

2. Ability to Work with Area Agencies & Other Public Entities

ENGINEERING
FOR ARCHITECTURE

2. ABILITY TO WORK WITH AREA AGENCIES AND OTHER PUBLIC ENTITIES

TLC is committed to being a team player on all projects that we are involved in and we consider each entity on the project to be teammates as well. Our intent is to be collaborative not combative.

Though we have not previously worked with the City of Angleton, we have worked on more than 300 projects in the state of Texas within the last five years alone, including fire stations, museums and libraries. Our list of Texas-based public clients includes Texas ANG, Irving, Desoto, Frisco, Denton, New Braunsfels, Seguin Library and Witte Museum.

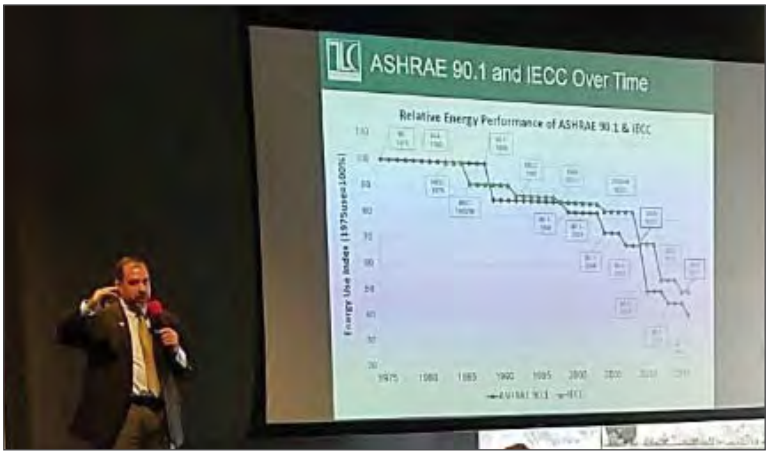
Our Dallas-based team provides depth of local knowledge and enhanced coordination to respond quickly to the needs of the project. Principal-in-Charge Tony Molinaro will provide prompt resolution of any developing issues regarding the performance or responsiveness of our team.

An important quality control objective that we employ to minimize the escalation of issues is a Redicheck-based interdisciplinary coordination process, which overlays and focuses on potential design conflicts through the use of electronic overlays and Building Information Modeling (BIM). This process has been further enhanced by the use of Revit and Navisworks for clash detection and conflict resolution.

We bring an expert understanding of the code requirements for building projects adopted by the City, including:

- 2012 International Energy Code
- 2012 International Fuel Gas Code
- 2012 International Mechanical Code
- 2012 International Plumbing Code
- 2012 International Building Code
- 2012 International Residential Code
- 2014 NFPA 70 National Electric Code
- 2012 International Fire Code
- 2012 Property Maintenance Code
- 2012 Pool and Spa Code

We have taken a proactive approach to educate the A/E/C community on impacts of the 2015 International Energy Conservation Code (IECC) that will be effective September 2016 in Texas. We have been presenting “Even the 3 Little Pigs Didn’t Build Their Houses Out of Glass” throughout the state to educate the community on the upcoming code changes. Offerings of the presentation are provided through local AIA, ASHRAE and SMPS chapters and are also open to interested members of the public.



TLC Director of Energy Services Mark Gelfo, PE, LEED Fellow, CxA, EMP, GGP (left) and Sustainability Consultant Kim Shinn, PE, LEED Fellow, CxA, BEMP (right) presenting in Texas on the 2015 IECC changes.

3. Ability to Provide Extraordinary Service to Your Client

ENGINEERING
FOR ARCHITECTURE

3. ABILITY TO PROVIDE EXTRAORDINARY SERVICE TO YOUR CLIENT

PROJECT UNDERSTANDING

On August 19, 2016, Principal-in-Charge Tony Molinaro visited the site and met with Will Blackstock, Director of Parks and Recreation, to gain insight on the scope and key technical challenges of the recreation center project.

Based on our findings, our goals are to provide easy to maintain equipment that can result in energy savings, while staying within the project budget.

The project scope involves the replacement of seven rooftop units serving various areas of the Recreation Center. These units are the originals to the building and, due to climate conditions and severe weather conditions, are beyond repair and require replacement.

The new units must provide a more robust dehumidification capability for the interior of the building than the existing units were designed to provide. The prevailing wind direction directs the exhaust air from the existing pool towards the majority of the rooftop units, causing the humidity in the building to rise.

Our team will review the new unit selections to determine if we can provide a more positive pressurization of the building to minimize the infiltration of the pool enclosure air into the building. We will also review several options to provide energy savings on the units such as demand controlled ventilation air, heat recovery and various compressor efficiency options. This will be analyzed in context with the established project budget.

The project scope also includes replacement of the existing building control system with a new state-of-the-art Direct Digital Control (DDC) system, which will include internet connection and provide system status report via text and email.

EXISTING CONDITIONS

We understand the intent of the project is to replace units on the existing roof curbs, as a new roof is being put on the building in the near future. We will minimize any roof work required.

STREAMLINED COMMUNICATION

Principal-in-Charge Tony Molinaro serves as our primary point of contact to the City. He will provide oversight of the design team, and Project Manager Ben Cole will be responsible for project coordination, budgeting and scheduling.

Ben will keep the lines of communication open with the team by scheduling weekly coordination meetings, or as necessary, to assure all project requirements are being addressed throughout the design process.

Periodic peer reviews and final document quality checks will be used to review technical design and coordination. Ben will be ultimately responsible for interdisciplinary coordination requirements and operate as a final check for design engineer coordination.

MEETING PROJECT SCHEDULES

Project Manager Ben Cole will be responsible for compliance with performance schedules. Ben will schedule adequate time for in-house review and coordination prior to submittal to the City. A schedule coordination meeting will be held to review the status of the project, any schedule changes and potential conflicts. Early identification of potential problem areas results in a smoother flow of work and adherence to project schedules. Work will be prioritized to avoid delays in meeting the project schedule.

COST CONTROL

TLC's team objective is to complete your recreation center within the established budget and deliver the engineering design on time, while meeting your quality and functional performance standards. We will assist you in evaluating both first and life cycle costs in order to identify the entire cost of systems, balancing economy with long term expenses. Throughout the design process, system components will be measured against budget allocations for HVAC systems. Our team will periodically review construction cost estimates and reconcile this information with the cost plan budgets so the subsequent design decisions can be made with current budget information. We will explore value engineering options early during the design process to allow the City to make informed decisions regarding design options. In addition, we will provide a careful review of contractor submittals during the construction phase to determine if design intent is being met.

QUALITY CONTROL PROCESS

TLC uses a variety of methods or tools within our management / quality control process to ensure conformance with quality standards. Following the established process is mandatory and will be enforced by Principal-in-Charge Tony Molinaro. It is through this stringent enforcement policy that TLC is able to maintain our high quality design practice. Our management / QC process includes: project plan, kick-off meeting, QC checklist at each phase, coordination reviews between disciplines at each phase, independent technical reviews at each phase, team meetings, complete documentation of all QA/QC efforts and Revit model reviews and clash detection utilizing Navisworks.

INSURANCE

TLC maintains an excellent record with our clients and insurance provider. Our certificate of insurance is included in the Appendix section of this SOQ.

FINANCIAL CAPACITY

TLC is a financially strong company that celebrated its sixtieth anniversary in 2015. TLC had revenue exceeding $40,000,000 in 2014 and was profitable in 2009, 2010 and 2011, even in difficult economic conditions.

FLEXIBILITY

TLC's professional staff of 380+ employees, including MEP engineers, structural engineers and energy management professional in 12 offices, provides depth and flexibility to assemble independent design teams to support the team, as needed.

4. References & Examples of Similar Projects Completed Within the Last 5 Years

ENGINEERING
FOR ARCHITECTURE

LUFKIN STATE SUPPORTED LIVING CENTER HVAC UPGRADES
Lufkin, Texas

Established in 1962, the Lufkin State Supported Living Center offers skilled care for approximately 430 residents with varying degrees of mental disabilities.

TLC served as the prime MEP engineer for upgrades to the facility's HVAC system.

After a thorough field verification of existing conditions, TLC determined that two split system DX air handling units (AHUs) were at the end of their useful life and in need of replacement. A coil for one of the AHUs had failed, resulting in it operating on half the coil available. Both AHUs were constant volume units and did not have the controls or capacity to allow energy saving measures to be implemented.

TLC designed two new 25-ton AHUs equipped with energy-efficient variable speed drives that maintain flow to areas based upon temperature, humidity and occupancy. The AHUs have UV lights that improve indoor air quality by reducing bacteria, viruses and mold. TLC also designed associated ductwork connections, condensing units, refrigerant piping, new return ductwork, and new exhaust fans for the areas served by the AHUs.

TLC designed controls for new and existing systems to tie into the existing BAS system. These controls properly maintain low load conditions and control humidity levels within the space.

TLC uncovered code-compliant issues such as not providing adequate air return in the hallway. To correct this issue, the entire hallway wing was converted to 100% exhaust, using existing exhaust ductwork supplemented by new ductwork. TLC designed a new roof mounted fan to remove the additional airflow.

Electrical upgrades involved supplying conduit and wiring to new units, providing a 120/1/60 phase circuit to each new exhaust fan and connecting the variable speed drives to the new AHUs.

Other services provided by TLC included:

- Replacement of boiler piping and associated heating coils
- Calculations for the distribution and balance of air flow into each room
- Temporary cooling for use of the building while under construction
- Replacement of rooftop mounted return ductwork

Reference
Cheryl A. Taylor, AIA, LEED AP BD+C
Architect Project Manager
State of Texas HHSC Maintenance and Construction
909 West 45th Street, Bldg. 633
(Mail Code 2064)
Austin, Texas 78751
Ph: 512-206-5898
Cell: 512-318-8565
cheryl.taylor@hhsc.state.tx.us

Architect
Conduit Architecture and Design LLC
McKinney, Texas

Owner
Texas Department of Aging and Disability Services
Dallas, Texas

Major Components
New Air Handling Units
Ductwork
BAS System Tie In
Temporary Cooling

Project Size
12,540 square feet

Construction Cost
$186,000

Completion Date
2015

TLC Services
Mechanical
Electrical
Plumbing
Fire Protection

2100 ROSS AVENUE
Dallas, Texas

When Cousins Properties bought 2100 Ross Avenue in 2012, the 33-story office tower had declining occupancy and was less than 70 percent leased. To attract new tenants, Cousins invested in significant improvements to the building that included HVAC system upgrades.

TLC supported Cousins in this effort by designing the replacement of chillers, chilled water pumps and condenser water pumps.

The results of TLC's site visit revealed that the existing two 1200-ton chillers were over 30 years old and required extensive maintenance to maintain operational. These chillers were replaced with two new high efficiency 1200-ton chillers with associated pumps in a series configuration. The new chillers optimize the cooling tower capacity by decreasing the condenser water from the current flow of 3600 gpm to 2400 gpm each.

TLC also upgraded the constant flow system to a variable flow primary flow system, which varies water flow throughout the chilled water circuit, increasing the systemwide pump energy that can be saved.

Two new chilled water pumps provide the building with 3,600 gpm of chilled water from a single unit. The chilled water pumps are controlled by variable frequency drives and regulated to a pressure differential in the main risers of the piping in the tower. This matches chilled water flow to the building load, enhancing energy efficiency.

Two new condenser water pumps supply 2,400 gpm of flow to the chillers from the cooling towers and are controlled by a variable speed controller to allow future modifications to flow, which also enhances efficiency of the chiller plant.

TLC designed new sensors for the building automation system and reprogrammed the system to support the new chillers and pumps. Upon the final installation of the condenser water pumps, the system was commissioned by TLC, verifying all processes and control logics were correctly installed and working as intended.

Electrical revisions to the existing systems included an upgrade of the main distribution board serving the chillers and pumps. A new 5,000 amp panel replaced the existing panel. All new conduit and wire were provided and routed from the existing switchgear on the first floor to the new panel on the P4 level within the chiller room. New conduit and wire was provided to serve the new pumps and chillers.

TLC also performed a structural analysis of the existing garage ramps for moving the new chiller components down to the lower level of the garage.

These improvements enhance occupant comfort and reduce operational costs because they are more energy efficient than the previous system.

Reference
Gorge Hammond
2100 Ross Avenue Suite 115
Dallas, Texas 75201
Ph: 214-754-6924
ghammond@2100ross.com

Prime Consultant
TLC Engineering for Architecture, Inc.

Owner
Cousins Properties Incorporated
Dallas, Texas

Major Components
Two 1200-Ton Chillers
Two Chilled Water Pumps
Two Condenser Water Pumps
BAS Enhancements

Project Size
15,000 square feet

Construction Cost
$560,000

Completion Date
2015

TLC Services
Mechanical
Electrical
Plumbing
Fire Protection
Structural

COLLEGE STATION MEDICAL CENTER, HVAC UPGRADES
College Station, Texas

College Station Medical Center is a 167-bed acute care facility that is licensed as a Level II trauma unit. It serves as the official health care provider for Texas A&M Athletics, providing a full array of services from maternal/fetal medicine, cardiac care to cancer care.

TLC conducted an extensive analysis of the hospital's HVAC system and determined that the areas served by air handler unit (AHU) 9 were not meeting temperature requirements. In particular, the obstetrics unit and surgery rooms were experiencing unusually high temperatures.

TLC prepared two options to correct the temperature issue.

Option 1 consisted of replacing the existing AHU with a new unit that provides the required amount of airflow to the spaces. Temporary cooling would be supplied to the space during the replacement.

Option 2 included decreasing the duct velocities by adding a new RTU to serve the 30x14 SA duct that connects to the 30x40 SA riser duct. The new RTU would be a chilled water unit, providing 3,400 CFM total supply with 900 CFM of ventilation air.

The owner decided to proceed with Option 1 because replacing the entire unit would meet the needs of the facility for a longer term than adding the second unit due to the age of the original unit.

The AHU was replaced over a long weekend during the winter, allowing the area to be maintained with small portable units while the work was completed.

The new unit and other major equipment use DDC controls with stand-alone panels for each unit. All new controls are tied into the existing BAS.

The system is operating and the facility is able to maintain temperature, humidity and air change rates required.

Reference
Frank Hartman
Director of Facilities
College Station Medical Center
1604 Rock Prairie Rd
College Station, Texas 77845
Ph: 979-764-5185
Frank.harman@csmedcenter.com

Prime Consultant
TLC Engineering for Architecture, Inc.

Owner
College Station Medical Center
College Station, Texas

Major Components
AHU Replacement
HVAC Alternatives Development

Project Size
12,000 square feet

Completion Date
2015

TLC Services
Mechanical
Electrical

VALLEY HOSPITAL OBSTETRICS WING RENOVATION
Spokane, Washington

With hundreds of practicing medical and health professionals, state-of-the-art medical technology and modern facilities, Valley Hospital provides a wide range of services to meet the community's health care needs, including inpatient, outpatient, diagnostic imaging, medical, surgical and emergency services. The 123-bed facility is an accredited acute care hospital with a Level III trauma center.

To provide even better amenities to patients, Valley Hospital renovated its obstetrics wing involving replacement of all equipment, as well as upgrades to patient rooms. Renovated suites have refrigerators, televisions, free Wi-Fi, tubs and spa like showers to enhance the comfort of patients.

TLC served as the MEP engineer for the renovation of nine labor, delivery, recovery, and post-partum rooms (LDRP), nurse station, C-section room and associated support rooms.

TLC upgraded the existing HVAC system with new controls for the existing terminal units to replace the aging dual duct unit pneumatic controls with new digital controls, providing a higher level of control. Existing valves were replaced with new ones as part of the upgrade.

TLC's additional scope of services included:

- Cleaning existing supply, return and exhaust grilles in each area of the renovation
- Cleaning and verifying fire damper operation
- Designing one new terminal unit matching existing dual deck terminal units to provide 450 cfm of airflow to new room 139. Locating unit in the attic and connecting it into the existing supply ductwork and control system. Providing new wall mounted thermostat for unit.
- Providing low wall returns in new room 139, two in opposite corners
- Calculating alternate price for the installation of a new two-ton split system to serve the obstetrics waiting room
- Renovating lighting and headwalls within the patient rooms, as well as some associated rooms
- Relocating existing LDRP devices to new headwalls

Reference
John Elder
Project/Construction Manager
Deaconess Hospital
Rockwood Health System
801 W. 5th Ave. Suite 325
Spokane, Washington 99204
Ph: 509-473-7593
Cell: 757-771-4595
elderj@empirehealth.org

Architect
Ascension Group Architects
Spokane, Washington

Constructor
Associated Construction Inc.
Spokane, Washington

Owner
Rockwood Health System
Spokane, Washington

Major Components
LDRP Rooms
Nurse Station
C-Section Room

Project Size
4,500 square feet

Construction Cost
$1,575,000

Completion Date
2016

TLC Services
Mechanical
Electrical
Plumbing
Fire Protection

EAST WACO LIBRARY RENOVATION
Waco, Texas

Image Courtesy of RBDR Architects

Renovations to East Waco Library, originally built in 1949, are underway to expand and modernize the facility.

The library had previously shared 5,000 square feet with the Waco Police Department, which is being converted into meeting rooms, study areas and spaces dedicated to children, increasing the library's usable pace by more than 40 percent.

The renovated library also includes a larger entrance and lobby with seating, new computer training space and more comfortable seating throughout the upgraded facility.

After analyzing the library's existing HVAC system, TLC recommended replacing its rooftop units and split DX air handling units due to the age of the equipment and change in occupancy.

TLC designed all new HVAC equipment to serve the renovated space. Existing ductwork was used where possible and reconfigured to work with the new layouts and equipment. The equipment is tied to the City of Waco energy management system, allowing ease of maintenance and monitoring of the systems.

Lighting systems were designed to provide an even quality of light across all circulation areas, taking into consideration the varying heights of the book stacks. In addition, lighting to an existing exterior wall mural was provided to highlight the historic history of the Waco Area.

The electrical service was upgraded from a 400 amp to a 600 amp service. This involved removing the existing 400 amp main disconnect and wireway. Two 200 amp branch panel boards and disconnects were reused and two 200 amp branch panel boards were added.

Reference
David Wright
RBDR (Architect)
Ph: 254-776-8380
dwright@rbdrarchitects.com

Architect
RBDR Architects
Waco, Texas

Constructor
CWA Construction, Inc.
Waco, Texas

Owner
City of Waco

Major Components
Meeting Rooms
Study Areas
Children's Areas
Lobby
Computer Training Space

Project Size
13,400 square feet

Construction Cost
$1,575,000

Completion Date
2016

TLC Services
Mechanical
Electrical
Plumbing
Fire Protection

Appendix

ENGINEERING
FOR ARCHITECTURE

TLCENGI-01 TBENSON

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 3/30/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Ames & Gough
8300 Greensboro Drive
Suite 980
McLean, VA 22102

CONTACT NAME:
PHONE (A/C, No, Ext): (703) 827-2277 FAX (A/C, No): (703) 827-2279
E-MAIL ADDRESS: admin@amesgough.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Valley Forge Insurance Company A(XV)	20508
INSURER B : American Casualty Co of Reading, PA A(XV)	20427
INSURER C : Continental Casualty Company (CNA) A, XV	20443
INSURER D : Lexington Insurance Company A, XV	19437
INSURER E :	
INSURER F :	

INSURED
TLC Engineering for Architecture, Inc.
255 South Orange Ave
Ste 1600
Orlando, FL 32801

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

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

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY			4029282666	03/30/2016	03/30/2017	EACH OCCURRENCE	$ 1,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 1,000,000
							MED EXP (Any one person)	$ 5,000
							PERSONAL & ADV INJURY	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	POLICY X PRO-JECT X LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
	OTHER:							$
B	AUTOMOBILE LIABILITY			4029282778	03/30/2016	03/30/2017	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	ALL OWNED AUTOS / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS / NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
C	X UMBRELLA LIAB X OCCUR			6024385012	03/30/2016	03/30/2017	EACH OCCURRENCE	$ 10,000,000
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$ 10,000,000
	DED X RETENTION $ 10,000							$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N	N / A		4029282814	03/30/2016	03/30/2017	X PER STATUTE OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)						E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
D	Professional Liab.			027015035	03/30/2016	03/30/2017	Per Claim/Aggregate	8,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

EVIDENCE OF COVERAGE

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Mechanical · Electrical · Plumbing · Fire Protection · Structural · Technology · Sustainability · Commissioning · Energy Engineering · tlc-engineers.com

CAI
CONSULTING ENGINEERS
10700 RICHMOND AVE., SUITE 145
HOUSTON, TX 77042
TEL: (713) 785-0334 • FAX: (713) 785-0309

August 24, 2016

Mr. Will Blackstock
Director of Parks and Recreation
City of Angleton
1601 N. Valderas
Angelton, Texas 77515

RE: REQUEST FOR STATEMENT OF QUALIFICATIONS
FOR ANGELTON RECREATION CENTER HVAC REPLACEMENT

Dear Mr. Blackstock:

Chien Associates, Inc., dba CAI Engineers is pleased to submit the Statement of Qualifications (SOQ) in response to the subject RFQ Angleton Recreation Center HVAC Replacement. We have included in this submittal the following documentations:

- Firm Profile
- Relevant Experience in HVAC System Design, installation and controls
- Resumes of Key Team Members
- Professional License for practicing engineering in the State of Texas
- Certificates for HUB, METRO, City of Houston, Port of Houston, and HISD

CAI Engineers has been providing engineering services to private and public entities for more than 35 years. Our office location is 10700 Richmond Ave., Suite 145, in Houston; we have been residing at this location for the last 20 years. We have been noted for responsiveness, thoroughness and professionalism.

We have extensive experience with HVAC system design, installation and controls. Our past experience in the replacement of HVAC systems and controls projects has been for Houston Independent School District (HISD), Lone Star College System (LSCS), and City of Lake Jackson. We carry professional insurance and other business insurance. We have had no claims on our professional insurance due to our diligence in QA/QC and thoroughness in plans, specifications, cost estimates and construction phase services.

Enclosed are (3) hard copies, and (1) electronic copy of our statement of qualifications (SOQ) including additional documents for your review.

I will be the project manager to plan, direct and control the project from field investigation to the completion of construction of the work. We look forward to working with the City of Angleton. Should you need additional information, please don't hesitate to call us at (713) 785-0334.

Very truly yours,

CAI ENGINEERS

Sam Jabori, P.E.
Vice President
Texas ID# F-5348
SJ/jr - Encls

CAI CONSULTING ENGINEERS

REQUEST FOR STATEMENT OF QUALIFICATIONS

FOR

ANGLETON RECREATION CENTER HVAC REPLACEMENT

City of Angleton, Texas
Attn: City Secretary
121 S. Velasco
Angleton, Texas 77515

Submittal Date: August 31, 2016

Submitted by:
CAI Engineers
10700 Richmond Ave., Suite 145
Houston, Texas 77042
Phone: (713) 785-0334
Contact Person: Sam Jabori, P.E.
Email: sam.jabori@caiengineers.com

TABLE OF CONTENTS

END OF TABLE OF CONTENTS

SECTION ONE

Team Organization and Expertise and Qualifications of Key Staff

CAI's Qualifications and Experience

Form Profile

CAI Engineers

Mechanical-Electrical-Plumbing Civil Engineering
10700 Richmond Ave., Suite 145
Houston, Texas 77042

Contact Person: Sam Jabori, P.E., Vice President
Tel: (713) 785-0334
email: sam.jabori@caiengineers.com

Chien Associates, Inc., dba CAI Engineers is an engineering firm providing mechanical, electrical and plumbing consulting design services for the construction industry. CAI Engineers, a Texas certified HUB, has been in business for more than 35 years in the Houston area providing MEP engineering services to school districts and federal, state and local agencies as well as private sectors. In its 35 years of business, CAI has never had any insurance claims in errors or omissions due to its diligence in field investigations, excellent working drawings and specifications and responsiveness to problem-solving during construction.

Our office location is in the Westchase District at 10700 Richmond Ave., Suite 145, Houston, Texas 77042 with easy access to the downtown district.

CAI Engineers is certified as a HUB in the State of Texas, and certified with METRO's Small Business/Disadvantaged Business Enterprise Program. We are also certified with the City of Houston as a Minority Business Enterprise (DBE) and Minority Business Enterprise (MBE), Houston Independent School District (HISD) as a Minority and Women Business Enterprise, and as a Small Business Enterprise with Port of Houston Authority (certificates attached).

We have been in business since 1978, and we feel that we are most capable of providing you with excellent MEP design services relating to the replacement of HVAC systems and controls at the Angleton Recreation Center, City of Angleton.

CAI Engineers has provided engineering services to the following agencies:

- City of Lake Jackson
- Chevron Phillips Chemical Company, Kingwood, Texas
- Lone Star College System (LSCS)
- Houston Independent School District, Houston, Texas (HISD)
- Spring Branch Independent School District (SBISD)
- Goose Creek Consolidated ISD (GCCISD), Texas
- Parks and Recreation Department, City of Houston, Texas
- Metropolitan Transit Authority (METRO), Harris County, Texas

- Utah Transit Authority, Salt Lake City, Utah
- Department of Aviation, City of Houston, Texas
- Ellington Air Force Base, Ellington Field, Houston, Texas
- Capital Projects Department, City of Houston, Texas, Harris County, Barret Station, Texas
- Port of Houston Authority, Houston, Texas
- National Aeronautics and Space Administration, Houston, Texas
- Naval Facilities Engineering Command, Charleston, South Carolina
- U.S. Army Corps of Engineers, Fort Worth, Texas, Planning and Engineering, Fort Hood, Texas
- Kelly Air Force Base and Randolph Air Force Base, San Antonio, Texas
- Veterans Administration Medical Centers in Houston, Texas; Big Spring, Texas; Marlin, Louisiana and Gulfport, Mississippi
- U.S. Post Offices, Houston area

CAI is fully equipped with (6) multiple stations of CAD systems, (AutoCAD 15), word processor (MICROSOFT WORD), and HP laser printers, HP desktop computers and laptops. We are also familiar with REVIT, and proprietary software programs including HVAC System Design and Plumbing Systems Design to assure top quality production of plans and specifications.

Demonstrated Qualifications of Personnel and Team

CAI has had project experience with Lone Star College System (LSCS) which represent CAI's expertise and experience in repair/renovation projects. CITY OF ANGLETON is welcome to contact any of our clients regarding CAI's performance, professionalism, thoroughness, responsiveness, cooperation and coordination. The following key personnel will be working on the CITY OF ANGELTON projects. They all are very well qualified to provided excellent MEP design and will be able to complete each project in a very efficient and timely manner for the CITY OF ANGELTON.

Sam Jabori, P.E. has 30 years of experience in designing, planning, construction inspection and managing MEP projects. He has excellent experience with HVAC systems and controls projects. He possesses B.S. and M.S. in mechanical engineering. He will be the project manager for this project. He is well known for thoroughness and responsiveness to the requests of clients, contractors, team partners and jurisdictional reviewers. His philosophy is "top quality, on schedule and within budget" in delivering professional services. As a corporate officer, he has the authority of marshalling technical, managerial and financial resources in completing the project. Our staff level, efficiency and expertise qualify us for this project.

J. S. Chien, P.E. has 43 years of civil engineering project management experience. He has managed many MEP projects for the past years for the City of Houston, METRO, HISD, federal, state and local agencies as well as private sectors. His has also written many major technical publications in ASCE Hydraulics Journals including "Linearized Subhydrographial Method for Urban Runoff – Determination" and "Synthetic Hyetograph and Rational Method".

Laurence L. Laserna, P.E. is a senior electrical engineer with more than 38 years of electrical/lighting project experience. He has worked on many of our MEP projects for the last 10 years. His expertise is in electrical design services and has designed many electrical/lighting and technology security systems projects for City of Beaumont, City of Houston, METRO, HISD and other private sectors.

Rusli Huandra, P.E, a Texas A&M mechanical engineering graduate with more than 22 years of HVAC and Plumbing design services for the City of Houston, HISD, METRO and Lone Star College System (LSCS). His expertise is HVAC calculations and is familiar with REVIT, and proprietary software programs including HVAC System Design and Plumbing Systems Design.

Janie Ruiz, Administrative/Office Manager has been with our firm for more than 33 years. She is very efficient and very thorough, and has excellent administrative skills. She is responsible in providing all specifications, project coordination (submittals, site visits, field investigation, and final walk-through/punch lists) for all of our MEP projects. She is also a very responsible office manager as well.

J.S. Chien, P.E., President/Sam Jabori, P.E., Vice President

Staff and Disciplines:

Civil/Environmental	1 P.E.		
Mechanical/HVAC/Plumbing	2 P.E.	1 Graduate Engineers	2 Designers
Electrical/Lighting	1 P.E.	1 Graduate Engineers	1 Designers

Brief professional qualifications of lead persons and support staff:

Lead Person	Education	Years of Experience	Lead Role
Sam Jabori, P.E.	B.S. and M.S. Mechanical Engineering	30 years	HVAC Design, Project Management
J. S. Chien, P.E.	B.S. and M.S. Environmental Engineering	43 years	Environmental Design, QA/QC
L. L. Laserna, P.E.	B.S. and M.S. Electrical Engineering	38 years	Electrical/Lighting
Rusli Huandra, P.E.	B.S. and M.S. Mechanical Engineering	22 years	HVAC and Plumbing Design
Barry Foat, Sr. Electrical Designer	Electrical Designing	25 years	Electrical Design
Ric Arcilla, Sr. Mechanical Designer	Bachelor of Science in Mechanical Engineering, National University	25 years	HVAC and Plumbing Engineering Design, REVIT, and concept for various commercial, industrial, governmental and institutional projects
Rafael Velazco, Sr. Electrical Designer	Electrical Designing	35 years	Electrical Design
Janie Ruiz	Administrative/ Office Management	33 years	MEP Specifications, Project Coordination (submittals, site visits, field investigation punch lists, etc.)

RESUME FOR SAM JABORI, P.E.

a. **Name and Title:** Sam Jabori, P.E., Mechanical Engineer, Vice President
b. **Project Assignment:** HVAC, Planning and Design (Project Management)
c. **Name of Firm with which associated:** CAI Engineers
d. **Years experience:** **With This Firm:** 17 **With Other Firms:** 13
e. **Education:** B.S. Mechanical Engineering; M.S. Mechanical Engineering
f. **Active Registration:**
Professional Mechanical Engineering, P.E., State of Texas #89863
Professional Mechanical Engineering, P.E., State of California #31680; Member of ASHRAE

g. **Other experience and qualifications relevant to the proposed project:**
Provided Mechanical, Electrical, and Plumbing (MEP) Design Services for the following projects at City of Lake Jackson, LSCS, HISD and Spring Branch ISD Schools

1) Recreation Center Air-Handling Unit Replacement and Controls Upgrade, Lake Jackson Recreation Center
2) Lake Jackson Recreation Center, AHUs (AHU-1, AHU-4) Replacement
3) Replacement of (9) Air-Handling Units at FTC Building, LSC Kingwood
4) Lone Star College System (LSCS) Chiller Replacement at Greenspoint Campus
5) Lone Star College System (LSCS) Central Plant Renovation – CNC Lab
6) Lone Star College System (LSCS) Police Dispatch Air & Power
7) HISD Sutton Elementary School, Houston, Texas – Completion Date - Design Phase – March 2012, Construction Budget: $4,500,000.
8) HISD Welch Middle School, Houston, Texas – Completion Date - Design Phase: July 2010, Construction Completion Date: August 2011, Construction Budget: $5,000,000
9) HISD's $45 Million HVAC Deferred Repair Bond: Provided HVAC emergency renovation work on 30 schools to replace defunct chiller, leaking and deficient unit ventilator, replace leaking and corroded chilled/hydronic heating piping, upgrade controls to DDC controls, and introduce the proper amounts of outside air for improved indoor air quality.

Anderson Elementary	Herod Elementary	Parker Elementary
Askew Elementary	Isaacs Elementary	Pleasantville Elementary
Berry Elementary	J. Harris Elementary	T.H. Rogers Elementary
Black Elementary	Johnston Middle School	Sam Houston High School
C. Martinez Elementary	Kashmere Gardens Elem.	Shearn Elementary
Cunningham Elementary	Lee High School	Sherman Elementary
Durham Elementary	Long Middle School	Sutton Elementary
Forester Elementary	Lovett Middle School	Valley West Elem.
Fonville Middle School	Lyons Elementary	White Elementary
Franklin Elementary	McNamara Elementary	
Henderson Elementary	Oates Elementary	

Completion Date - Design Phase: September 2008; Construction Completion Date: April 2009; Construction Budget: $11,000,000.

10) HISD Benavidez Elementary School, Houston, Texas – Completion Date - Design Phase: February 2010, Construction Completion Date: December 2010, Construction Budget: $2,500,000
11) SBISD Westchester, Housman, and Guthrie Chiller Replacement, Houston, Texas

RESUME FOR J. S. CHIEN, P.E.

a. **Name and Title:** J. S. Chien, P.E., President, Sr. Civil Engineer
b. **Project Assignment:** Project Engineer/Environmental Design, QA/QC
c. **Name of Firm with which associated:** CAI Engineers
d. **Years experience: With This Firm:** 35 **With Other Firms:** 8
e. **Education:** B.S. Civil Engineering; M.S. Environmental Engineering
University of Cincinnati, Ohio
f. **Active Registration:** Registered Professional Engineer: - Texas # 43935

g. **Other experience and qualifications relevant to the proposed project:**

1) HISD Sutton Elementary School, Houston, Texas – Completion Date - Design Phase – March 2012, Construction Budget: $4,500,000.
2) HISD Grissom Elementary School, Houston, Texas
3) HISD K. Smith Elementary School, Houston, Texas
4) HISD Welch Middle School, Houston, Texas – Completion Date - Design Phase: July 2010, Construction Completion Date: August 2011, Construction Budget: $5,000,000
5) HISD's $45 Million HVAC Deferred Repair Bond: Provided HVAC emergency renovation work on 30 schools to replace defunct chiller, leaking and deficient unit ventilator, replace leaking and corroded chilled/hydronic heating piping, upgrade controls to DDC controls, and introduce the proper amounts of outside air for improved indoor air quality.

Anderson Elementary	Herod Elementary	Parker Elementary
Askew Elementary	Isaacs Elementary	Pleasantville Elementary
Berry Elementary	J. Harris Elementary	T.H. Rogers Elem.
Black Elementary	Johnston Middle School	Sam Houston HS
C. Martinez Elementary	Kashmere Gardens Elementary	Shearn Elementary
Cunningham Elementary	Lee High School	Sherman Elementary
Durham Elementary	Long Middle School	Sutton Elementary
Forester Elementary	Lovett Middle School	Valley West Elem.
Fonville Middle School	Lyons Elementary	White Elementary
Franklin Elementary	McNamara Elementary	
Henderson Elementary	Oates Elementary	

Completion Date-Design Phase: September 2008; Construction Completion Date: April 2009
Construction Budget: $11,000,000.

6) HISD Benavidez Elementary School, Houston, Texas – Completion Date - Design Phase: February 2010, Construction Completion Date: December 2010, Construction Budget: $2,500,000

RESUME FOR LAURENCE L. LASERNA, P.E.

a. **Name and Title:** Laurence L. Laserna, P.E., Senior Electrical Engineer

b. **Project Assignment:** Electrical/Lighting Engineering

c. **Name of Firm with which associated:** CAI Engineers
d. **Years experience:** **With This Firm:** 10 **With Other Firms:** 28
e. **Education:**
B.S. Electrical Engineering
M.S. Electrical Engineering

f. **Active Registration:**
Electrical Engineering, State of Nevada, #17036
Texas Electrical Engineering, #89546

g. **Other experience and qualifications relevant to the proposed project:**
Mr. Laserna recently designed the Mechanical, Electrical, Technology and Security Systems for the following projects:

JX Nippon Chemical Company, Pasadena, Texas
Middle School Gymnasiums (Austin, Marshall, Odom Vicent) of Beaumont ISD, Beaumont, Texas
Exxon Mobil Polyethylene Plant Control Room, Beaumont, Texas
Early Childhood Classroom Addition of Lumberton ISD, Lumberton, Texas
Westbrook, Central, Ozen High School of Beaumont ISD, Beaumont, Texas
Buna Elementary School and High School Multi-Purpose Gymnasium, Buna, Texas
Acute Care Specialty Hospital of Park Place Hospital, Port Arthur, Texas
Multi-Purpose Arena/Exhibit Facility-Southeast Texas Entertainment Complex, Beaumont, Texas
New Administration Building for Script Care, LTD, Beaumont, Texas
Basement/First Floor Renovation for Hibernia Bank, Beaumont, Texas
New High School Campus, Silsbee, Texas
New Conn's Store, Dallas/Fort Worth, Texas
Vital Imaging, Salt Lake, Utah
Dayton Financial Center – First Liberty National Bank, Dayton, Texas
Mid Jefferson Hospital – CT Scan and Outpatient Physical Therapy Suite, Nederland, Texas
Theodore R. Johns Sr. Branch Library, Beaumont, Texas
Comanche Assisted Living Facility, Comanche, Texas
Cowboy Harley-Davidson Dealership, Beaumont, Texas
High School, Middle School & Intermediate School Renovation, Lumberton ISD, Lumberton, Texas
Community Building, City of Beaumont, Texas

RESUME FOR RUSLI HUANDRA, P.E.

a. **Name and Title:** Rusli Huandra, P.E.

b. **Project Assignment:** HVAC and Plumbing Design

c. **Name of Firm with which associated:** CAI Engineers

d. **Years experience:** **With This Firm:** 12 **With Other Firms:** 10

e. **Education:**
B.S. Mechanical Engineering
M.S. Mechanical Engineering – Texas A & M University

f. **Active Registration:**
Professional Mechanical Engineering, P.E.

g. **Other experience and qualifications relevant to the proposed project:**

1) Lake Jackson Recreation Center, AHUs (AHU-1, AHU-4) Replacement
2) Replacement of (9) Air-Handling Units at FTC Building, LSC Kingwood
3) HISD K. Smith Elementary School, Houston, Texas – in permit
4) HISD Welch Middle School, Houston, Texas – Completion Date - Design Phase: July 2010, Construction Completion Date: August 2011, Construction Budget: $5,000,000
5) HISD Sutton Elementary School, Houston, Texas – Completion Date - Design Phase – March 2012, Construction Budget: $4,500,000.
6) HISD Grissom Elementary School, Houston, Texas – in permit
7) HISD's $45 Million HVAC Deferred Repair Bond: Provided HVAC emergency renovation work on 30 schools to replace defunct chiller, leaking and deficient unit ventilator, replace leaking and corroded chilled/hydronic heating piping, upgrade controls to DDC controls, and introduce the proper amounts of outside air for improved indoor air quality.

Anderson Elementary	Herod Elementary	Parker Elementary
Askew Elementary	Isaacs Elementary	Pleasantville Elementary
Berry Elementary	J. Harris Elementary	T. H. Rogers Elem.
Black Elementary	Johnston Middle School	Sam Houston HS
C. Martinez Elementary	Kashmere Gardens Elementary	Shearn Elementary
Cunningham Elementary	Lee High School	Sherman Elementary
Durham Elementary	Long Middle School	Sutton Elementary
Forester Elementary	Lovett Middle School	Valley West Elem.
Fonville Middle School	Lyons Elementary	White Elementary
Franklin Elementary	McNamara Elementary	
Henderson Elementary	Oates	

Completion Date Design Phase: September 2008
Construction Completion Date: April 2009, Construction Budget: $11,000,000.

8) HISD Benavidez Elementary School, Houston, Texas – Completion Date - Design Phase: February 2010, Construction Completion Date: December 2010, Construction Budget: $2,500,000

9) SBISD Westchester, Housman, and Guthrie Chiller Replacement, Houston, Texas

Project Management

Mr. Sam Jabori, P.E. will be the project manager for this project. Mr. Jabori has thirty years of experience in MEP planning, designing, construction inspection and project management. He is a registered professional Engineer in Texas and California. Mr. Jabori has successfully used the following techniques in project management:

- Schedule Control

  At the start of the project, he will set up a CPM delineating the tasks from one stage to the other in chronological sequence to assure the timely completion of each task and the entire project within the schedule.

- Quality Control

  He will hold weekly meetings to review the project elements in reference to project's standards, codes, regulations and specifications to assure top quality and engineering excellence.

- Budget Control

  He will constantly review the construction cost items by detailed quantity measurements and construction unit prices at each stage of the phase.

- Communication

  He will establish the format of communication by documentation. Every meeting made with the District, subcontractors, or other agencies and every telephone conversation will be confirmed in writing. These conference minutes, telephone conversations, letters and memorandums will be sequentially numbered with proper distribution to everyone concerned. He has effectively established such a communication method on other projects.

Quality Control Plan

Mr. Sam Jabori will be the person ultimately responsible to CITY OF ANGELTON for the total quality management (TQM) of the project. This total quality management includes fieldwork phase, report writing phase, plans, specifications, and cost estimate as well as construction phase service. Mr. Sam Jabori will be the person responsible to CITY OF ANGELTON for the proposal phase negotiation.

In order to achieve excellence in the execution of this project, we are proposing five tiers of quality control in the project review hierarch. They are (1) executive level, (2) managerial level, (3) peer level, (4) professional level, and (5) technical level. This quality control plan applies to both the proposal phase and the work phase to assure total quality management.
The standards for each level of product review are briefly listed as follows:

Level of Quality Review		Standards
Executive	1.	Client Satisfaction
	2.	Professional Excellence
Managerial	1.	Professional Standards
	2.	Timeliness
	3.	Completeness
Peer	1.	Professional Standards
	2.	Thoroughness
	3.	Creativity
	4.	Errors and Omissions
Professional	1.	Professional Standards
	2.	Sound Judgment
	3.	Accuracy
Technical	1.	Accuracy
	2.	Consistence
	3.	Clarity
	4.	Completeness
	5.	Timeliness

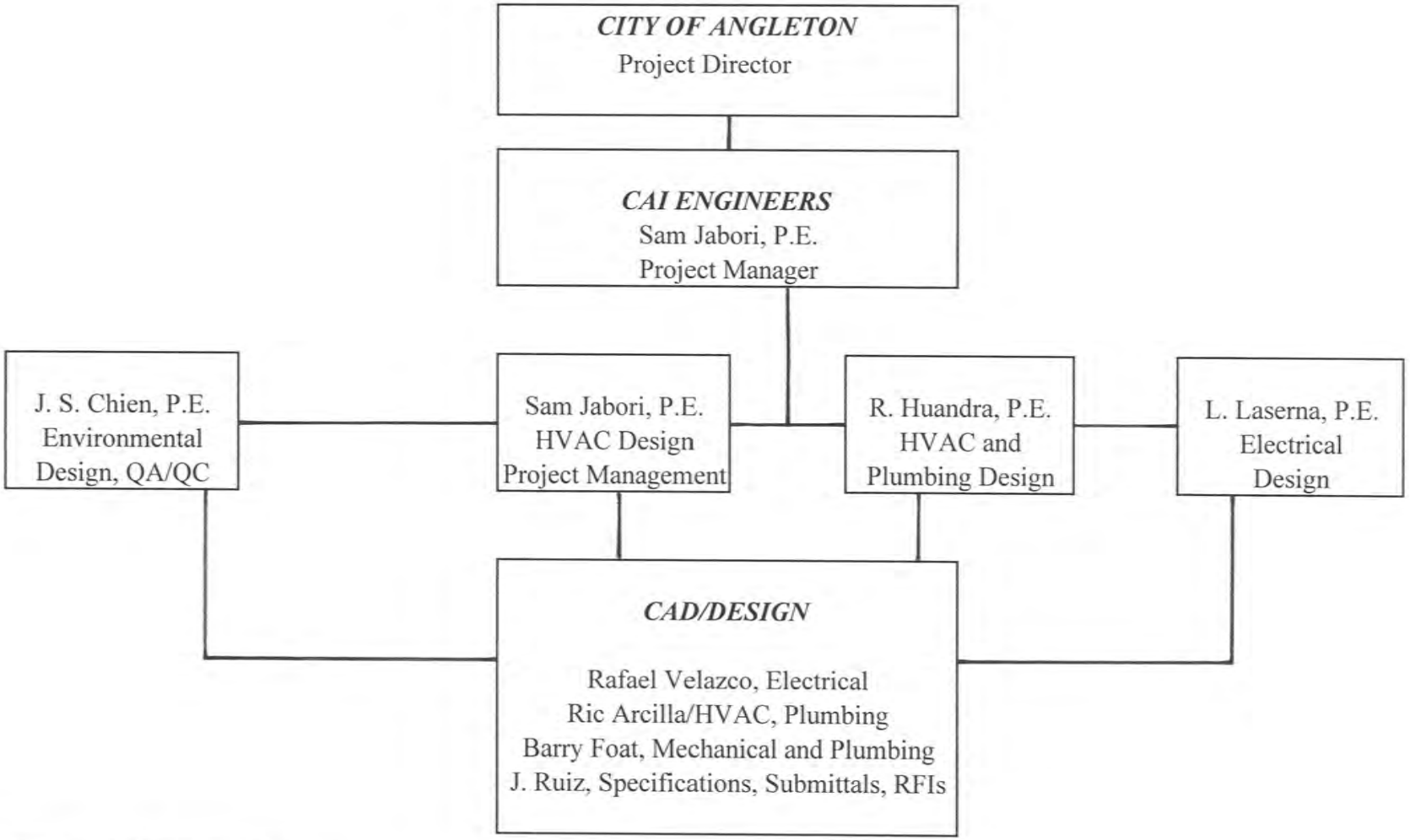
We propose peer reviews at each phase of the project stage; the members in the peer review are those who are not directly involved in the project, thus they will not have the halo effects on the project and they can objectively evaluate the project in a nonbiased attitude and instill the creative ideas in the process or spot the errors or omissions in the product. We have regularly applied peer review process on other projects with successful results.

Milestone Evaluation Technique (MET)

For any project, a schedule chart is prepared to track the progress of the project to assure the schedule is met. CAI uses checklists extensively for level of completion at each review with target level of completion and actual level of completion so as to assure the project is on schedule by adding additional resources if necessary. The following pages include the checklists at the start-up of the project, codes, and regulations, technical review of different equipment and systems as well as start-up and closeout of a project. The objective of this level of effort is to assure end-users get what they pay for the project on time.

SJ/jr

ORGANIZATIONAL CHART



CAI ENGINEERS

SECTION TWO

Ability to Work with Area Agencies and Other Public Entities

Past Performance and Reference

CAI Engineers is an engineering firm providing mechanical, electrical and plumbing (MEP) consulting design services for more than 35 years. CAI has experienced professional engineers with more than 100 years of combined experience.

Mr. J. S. Chien is our President and has more than 40 years of experience in civil, plumbing, environmental/QA/QC engineering design. Mr. Sam Jabori is the Vice President of the company has more than 30 years of experience in HVAC, electrical and plumbing design. Mr. Laurence L. Laserna has more than 30 years of experience in electrical engineering. Mr. Rusli Huandra has more than 20 years of experience in plumbing and HVAC design.

We have provided engineering services for major agencies and institutions, including U.S. Army Corps of Engineers, Kelly Air Force Base, the NAVY, NASA, and VA Administration, U.S. Postal Offices, METRO, Port of Houston Authority (PHA), Houston Airport Systems (HAS), Houston ISD, Spring Branch ISD, City of Lake Jackson, Texas and just recently the Lone Star College System (LSCS).

Previous Firm Experience with Similar Projects

We have successfully completed numerous renovation projects throughout the years. These renovation projects ranged from a 1-½ ton air-conditioning unit addition to a server room at an HISD school to a 4,000-ton chiller plant upgrade at Hobby Airport. In 2007, we were selected along with three other engineering firms to handle a $45 million deferred repair bond for HISD. From the 102 schools, assigned under this Bond, CAI's share was 30 schools. Renovations included chiller replacement, unit ventilator replacements, chilled water piping replacements, cooling tower replacements, air-handling units' replacements, hydronic heating boilers replacements, and controls upgrade to DDC "direct digital controls".

Many of the schools that underwent major renovations received substantial upgrades to both their chiller plants, and their outside air-handling systems. Accordingly, Freon detection and emergency ventilation systems were specified for the chiller plants renovation in compliance with ASHRAE 15 and City of Houston's Code Requirements. Moreover, new 100% dedicated outside air units "DOAUs" would be specified to deliver pre-treated outside air to each classroom, therefore, de-coupling the space load from the outside air load. Depending on the type of renovation project, we have utilized various technologies to achieve maximum energy conservation given the allocated budget for the work. For example, on HISD's Sutton Elementary School Renovation project, a wrap-around heat pipe system was specified that would pre-cool the incoming outside air and at the same time reheat the air back to a neutral discharge state. On another new school that we designed, HISD's K. Smith Elementary School, we provided 100% O.A. units with plate heat exchanger core that exchanges the heat between the return air and outside air intake.

Regardless of the size of a renovation project, whether it is a $10,000 addition of an A/C unit in server room or a $100,000,000 airport/chiller plant upgrade, there is one common thread that all renovation projects share – thorough field verification.

Over and over, we faced situations where the available as-built plans would show something while the actual field conditions reflect something else. This is the reason that much emphasis is provided on site investigation and verification by CAI.

Few projects shall be described briefly to show the firm's expertise in handling various engineering design tasks and challenges:

- As a subcontractor to Walter P. Moore, CAI was involved in the Uptown Houston Streetscape program to improve the existing streetscape on Westheimer, San Felipe, Richmond Avenue, Post Oak Blvd., Alabama and Hidalgo.

- As a subcontractor to Weston Solutions, Inc., CAI was involved in the renovation of the following projects:

    - Border Gates, Rio Grande Valley, Texas - CAI has been working with Weston Solutions for the last 3 years on the Border Barrier Gates at the Rio Grande Valley. These gates allow Americans to tend to their lands that ended up south of the border fence. CAI's task was to provide power to operate the gates along with necessary area and emergency lighting and gate controls. So far, we have completed installation of 42 gates with possible plans to install 38 more for a total of 80 gates.

    - 69th WWTP - CAI was involved in the replacement of (3) air compressors along with their associated filters and oil separators and controls at the 69th Wastewater Treatment Plant.

    - Southfield Solid Waste Transfer Station in Detroit, Michigan - CAI was involved in the renovation work at the Southfield Solid Waste Transfer Station in Detroit, Michigan. Work included replacing the existing trash compactors, hoppers, defunct ventilation system along with cyclone filters.

    - CAI was also involved in the Underground Electrical Power Distribution for the Rocky Creek Park and Yegua Creek RV Parks projects in Lake Somerville, Austin, Texas.

- CAI successfully completed various projects for METRO including construction of Park and Ride Centers, Underground Storage Tanks and Fuel Distribution Systems, 48' Z-Lifts, and the design of the Rail Simulator Room.

- CAI has been working on multiple projects for HISD including K. Smith Elementary School which is a brand new school to replace an existing one. Also, the renovation of Sutton and Grissom Elementary Schools that includes replacing old and defunct chillers, chilled water piping, unit ventilators, air-handling unit, lighting systems, electrical panels and plumbing systems.

Capabilities to Handle Different Project Sizes

CAI has a $150,000 open line of credit with Chase Bank, so if faced with a large project, CAI can immediately provide the necessary resources through this line of credit.

Past Lone Star College System (LSCS) Performance

In the summer of 2009, CAI was awarded a contract for professional services for professional MEP engineering services. As a result of this contract, we have worked with Jodie Ellis of LSCS on the Police Dispatch Office Air Conditioning Renovation project. Moreover, CAI worked on the CNC Lab project through VLK Architects.

CAI has an active contract to perform MEP professional engineering services with Lone Star College System (LSCS). CAI has handled many projects in the last 2 years with Susan Gallup as the project manager. These projects ranged from simple construction services to more involved projects such as chillers replacement, air-handling units replacement, garage lighting replacement, and condenser water to name a few. All projects were constructed and met the project manager's satisfaction.

Business Relationship Strength

The essential to the success of any personal or business relationship is the mutual understanding the duties and responsibilities of parties involved. As a consulting design contractor, CAI fully understands that its duties are not only to produce construction documents for the contractor to follow and build. As the design consultant, CAI's main and utmost duty is to act as an advocate, protector and promoter of its client's (City of Angleton) interests. The bottom line, by acting as an active agent for the Client, CAI would strive to protect its client interests as if it was its own.

We will comply with CITY OF ANGELTON Design and Construction District Project Guidelines as required and as needed on all of projects for the CITY OF ANGLETON. We will subcontract services from "All Texas Permits" to assist us with any building permits that might be required for any of the CITY OF ANGLETON projects.

Our goal is to deliver the best job we can do for our client. We cooperate with all the team members putting our client's interest above all things.

Three Client References

Susan Gallup, Project Manager, Lone Star College System
Facilities Planning & Construction, 20515 SH 249, Mail Code UP1102, Houston, Texas 77070,
Phone No.: (281) 290-2609, Email: www.susan.j.gallup@lonestar.edu

Modesto A. Mundo, Assistant City Manager
City of Lake Jackson, Phone No.: (979) 415-2414, Email: mmundo@lakejacksontx.gov

James D. Rice, LEED AP, CxA, President, Rice & Gardner Consultants, Inc.
6161 Savoy, Suite 1212, Houston, Texas 77036
Phone No.: (713) 482-2300, Fax No.: (713) 482-2314
Email: jim.rice@ricegardner.com

Previous Firm Experience Photos with Similar Projects

Photo 1. Double Leaf Rio Grande Valley Border Gate (Master Side)

Photo 2. Double Leaf Rio Grande Valley Border Gate (Slave Side)

Photo 3. 69th Street Wastewater Treatment Plant – New Air Compressor with Ancillary Equipment

Photo 4. 69th Street Wastewater Treatment Plant – New Air Compressor with Ancillary Equipment

Photo 5. Southfield Waste Transfer Station in Detroit

Photo 6. Sutton Elementary, Existing Chilled Water Piping to be replaced.

Photo 7. Sutton Elementary, Existing Power Service Entrance to be replaced.

Photo 8. Sutton Elementary, Existing Pump to be replaced.

Photo 9. Sutton Elementary, Existing Boiler and Piping to be replaced.

Photo 10. Replacement of 16,000 CFM Rooftop Air Handling Unit, Lake Jackson Recreation Center

Photo 11. Replacement of (3) Cooling Towers, LSC Kingwood.

Photo 12. 100% Outside Air Handling Unit Replacement, Winship Bldg., LSC North Harris

SECTION THREE

Ability to Provide Extraordinary Service to City of Angleton

CAI Engineers is a consulting engineering firm based in Houston since 1978. We have extensive experience in mechanical, HVAC, fire protection, plumbing, electrical, lighting, CCTV, card reader, PLC, piping, valving, pumps, communication and security system upgrading and renovation. Our expertise also includes extensive design experience with HVAC system design, installation and controls. Our professional services relating to the replacement of HVAC systems and controls at the Angleton Recreation Center will include the following:

- Assisting the City with preliminary plans for HVAC equipment replacement
- Providing engineering and construction estimates for project
- Developing bid specifications for HVAC replacement
- Assisting the City in reviewing bids and selection contractor(s) for project and,
- Assisting the City in overseeing project and ensuring work is done to specifications and meeting all applicable City Codes.

In project renovation and upgrading, our team members have the following unique qualifications:

- We are very thorough in as-built verification and confirmation; we believe without an accurate "as-built" plan any renovation effort would be biased.
- Our team members are seasoned professionals each with more than twenty-five years in his respective discipline for renovation projects.
- We use the most updated computer programs for HVAC calculations; fire protection, energy; electrical load analysis and lighting calculation to assure design meet current codes and updated industry standards. Life cycle cost analyses is used for cost-effectiveness analysis and equipment selection.
- We pay special attention to indoor air quality issues, humidity control and energy efficiency.
- We incorporate ADA requirements and life safety provisions in our design.
- We are very much updated on the ODP (Ozone Depletion Potential) and GWP (Global Warming Potential) of refrigerants and halons to be phased out and the acceptable substitutes.
- We apply the most cost effective techniques in sustainable (Go Green) design to save energy and money.
- We are experienced in renovation projects to conform to Energy Policy Act of 2005 and the 2005 International Energy Code.

Specialized Qualifications

We would propose the following steps to accomplish the project goal for the CITY OF ANGLETON.

1. Upon receiving the task order, we would confirm the scope of work by meeting with your project manager, visiting the project site and researching the as-built drawings for site verification of actual conditions.
2. Based on the confirmed scope of work, we would provide a fee proposal including level of efforts for fieldwork, analysis, plans, specifications, cost estimate and deliveries.

3. Upon approval of the fee proposal, we would proceed immediately on the task order in tandem with the schedule as agreed. We would use the bar chart for schedule control on simple tasks and CPM for complex projects.
4. Based on the magnitude of the task order, and the requested interim review i.e., 35%, 65%, 95%, prefinal, and final, we would submit the documents including analysis report, basis of design, calculations, and cost estimate according to the schedule and number of deliveries required. We would evaluate and incorporate your review comments in the next submittal as project progresses.
5. We would assist you in the prebid clarification and verification, bid analysis and award recommendation.
6. We would assist you in the administration of construction, shop drawings, change order request review and pay request.
7. We would assist you in the preoperational check-up and verification of testing and balance of installed system.

The steps thus outlined have worked very well with NASA, Navy, U.S. Army Corps of Engineers and HISD; we believe the approach would be appropriate with CITY OF ANGELTON.

We have technical, managerial, and financial resources to undertake this assignment and follow through the construction and operation of the designed system. We carry business, employment and professional insurance coverage's adequate for doing business with DOD, NASA, U.S. Post Office, METRO and other agencies: General Liability, Worker's Compensation, Professional Liability, Automobile Liability and Excess Liability. (Certificate of Insurance is attached). We also have in-office QA/QC policy and drug-free, non-smoke policy for our personnel.

Quality Control Plan: Mr. Sam Jabori will be the person ultimately responsible to CITY OF ANGELTON for the total quality management (TQM) of the project. This total quality management includes fieldwork phase, report writing phase, plans, specifications, and cost estimate as well as construction phase service. Mr. Sam Jabori will be the person responsible to CITY OF ANGELTON for the proposal phase negotiation.

Milestone Evaluation Technique (MET): For any project, a schedule chart is prepared to track the progress of the project to assure the schedule is met. CAI uses checklists extensively for level of completion at each review with target level of completion and actual level of completion so as to assure the project is on schedule by adding additional resources if necessary. His philosophy is "top quality, on schedule and within budget" in delivering professional services. As a corporate officer, he has the authority of marshalling technical, managerial and financial resources in completing the projects. Our staff level, efficiency and expertise qualify us for this project. **Our goal is to deliver the best job we can do for CITY OF ANGELTON. Our firm's commitment to a mutually successful "relationship" is to cooperate with all of the team members putting HCC's interest above all things. CAI's philosophy is *"top quality, on schedule and within budget"* in delivering professional services.**

SECTION FOUR

References and Examples of Similar Projects Completed within the Last Five Years

References

1. Modesto A. Mundo, Assistant City Manager
   City of Lake Jackson, Texas
   25 Oak Drive, Lake Jackson, Texas 77566
   (979) 415-2414
   Email: mmundo@lakejacksontx.gov

2. Jeremy D. Bubnick, CPRE
   Parks Recreation Director
   City of Lake Jackson
   91 Lake Road
   Lake Jackson, TX 77566
   (979) 285-2084
   jbubnick@lakejacksontx.gov

3. Mike D. Massey
   Chevron Phillips Chemical Co, LP
   Senior Building Engineer
   1862 Kingwood Dr.
   Kingwood, Texas 77339
   281-359-0688
   Email: massemd@cpchem.com

4. Susan Gallup, Project Manager
   Facilities Planning and Construction
   Lone Star College System
   20515 State Highway 249
   Mail Code UP 1102
   Houston, Texas 77070
   Phone No.: (281) 290-2609
   Email: www.susan.j.gallup@lonestar.edu

5. Mark Volpendesta, AIA
   Windle + Volpe Architects
   163 Warrenton Dr.
   Houston, Texas 77024
   (713) 255-1390
   Email: MarkV@WV-Architects.com

6. Ralph Windle, NCARB
Windle + Volpe Architects
163 Warrenton Dr.
Houston, Texas 77024
(713) 255-1390
Email: RalphW@WV-Architects.com

7. James D. Rice, LEED AP, CxA, President
Rice & Gardner Consultants, Inc.
6161 Savoy, Suite 1212
Houston, Texas 77036
(713) 482-2300
Email: jim.rice@ricegardner.com

Examples of Similar Project Completed within the Last Five Years

City of Lake Jackson

1) Project Name	**Recreation Center Air-Handling Unit Replacement and Controls Upgrade, Lake Jackson Recreation Center**
Project Location	Lake Jackson Recreation Center, 91 Lake Road, Lake Jackson, TX 77566
Client	City of Lake Jackson Recreation Center
Reference	Jennifer Jones, Parks & Recreation Director Lake Jackson Recreation Center City of Lake Jackson, Texas 77566 (979) 415-2400
Principal-In-Charge	Sam Jabori, P.E.
Completion Date Design	October 2014
Project Description	Replaced (1) existing 15-HP rooftop VAV AHU along with associated chilled/hydronic heating piping run-outs. Refurbished the 15 VAV Boxes associated with the replacement of the air-handling unit. Provided new BACNET DDC System for the replaced equipment, the existing chiller and boiler plants.
2) Project Name	**Lake Jackson Recreation Center, AHUs (AHU-1, AHU-4) Replacement,**
Project Location	Lake Jackson Recreation Center, 91 Lake Road, Lake Jackson, TX 77566
Client	City of Lake Jackson Recreation Center
Reference	Jeremy D. Bubnick, CPRE Parks Recreation Director City of Lake Jackson 91 Lake Road Lake Jackson, TX 77566 (979) 297-4533
Principal-In-Charge	Sam Jabori, P.E.
Completion Date Design	Under Construction

Project Description	Provided mechanical construction drawings to replace the existing roof-mounted 10,000 CFM AHU-1 and AHU-4 with new air-handling units of same capacity. The AHUs' roof curb connections were specified to resist 120-MPH, 3-second gust wind. Replaced the existing damaged chilled water and hydronic heating piping run-out insulation with new foam glass type insulation complete with metal jacketing at the unit's entrance. Provided new BACNET compliant DDC controllers for the new AHU-1 and AHU-4. Provided tie-in to the recently installed BACNET front end DDC System. Provided new BACNET compliant DDC controllers for the existing (5) VAV boxes and tie-in to the recently installed BACNET front end DDC System. Provided specifications for cleaning the ductwork associated with AHU-1 and AHU-4. Replaced the existing and deteriorated roof-mounted chilled water and hydronic heating piping insulation with new foam glass type piping insulation. A site visit was included to investigate and to field verify the existing A/C system equipment. We also provided mechanical and electrical specifications pertaining to the work involved and provided electrical modifications, if necessary, for the replacement AHU-1 and AHU-4. Construction Administration (CA) Services including submittals review and final punch list was also included in this scope of work.
3) Project Name	**Lake Jackson Recreation Center, Chiller Replacement**
Project Location	Lake Jackson Recreation Center, 91 Lake Road, Lake Jackson, TX 77566
Client	City of Lake Jackson Recreation Center
Reference	Jennifer Jones Park & Recreation Director, Lake Jackson Recreation Center 91 Lake Road, Lake Jackson, Texas 77566 - (979) 415-2400
Principal-In-Charge	Sam Jabori, P.E.
Completion Date Design	November 4, 2013
Project Description	Provided mechanical construction drawings to replace the existing 210-tons, air-cooled chiller with a new 210-ton air-cooled chiller. Replaced the existing damaged chilled water piping insulation with new Foam Glass type insulation complete with metal jacketing. A site visit was included to investigate the adequacy of electrical equipment and to field verify the existing A/C system equipment. Work included mechanical and electrical specifications pertaining to the work involved. Provided electrical modifications necessary for the new chiller. Construction Administration (CA) Services including submittals review and final punch list were also provided.

Cushman & Wakefield of Texas, Inc.
Chevron Phillips Kingwood

4) Project Name	**Two Air-Handling (AHU-5 and AHU-8) Replacement at Building 1, Kingwood, Texas**
Project Location	Chevron Phillips Kingwood, 1862 Kingwood Dr. Kingwood, Texas 77339
Client	Cushman & Wakefield of Texas, Inc. Chevron Phillips Kingwood
Reference	Mr. Mike Massey, SMA Senior Building Engineer (281) 359-0688
Principal-In-Charge	Sam Jabori, P.E.
Completion Date Design	Construction Documents completed. Project in bidding phase.
Project Description	All air-handling units were provided with new DDC controls as well as new automatic temperature and flow valves flow controls valves by Belimo. The renovation and design work included the following: 1) Preparation of CAD backgrounds and document of the existing conditions in the Mechanical Room and on roof. Provided Demolition drawings for the existing air-handling units. Ductwork and chilled/hydronic heating piping (whenever required) were removed to facilitate the installation of the new air-handling units. 2) Provided construction drawings to show the installation of the new air-handling units. This included revision to supply and air ductwork to match new unit's discharge and intake opening configurations. Also, revision to the chilled water hydronic heating piping run-outs to match the new AHU's cooling coil connections were shown along with new piping to new roof-mounted AHUs. 3) Provided electrical construction drawings to show the new rooftop unit. 4) Work also involved site visits to investigate and to field verify the existing piping, and electrical panels.

Lone Star College System (LSCS)

5) Project Name	**FTC Building at LSC Kingwood**
Project Location	Kingwood Campus
Client	Lone Star College System (LSCS) 20515 State Highway 249 Mail Code UP 1102 Houston, Texas 77070
Reference	Susan Gallup, Project Manager Facilities Planning and Construction LSCS (281) 290-2609
Principal-In-Charge	Sam Jabori, P.E.
Completion Date Design	October 2013
Construction Start Date and Finish	January – March 2014
Project Description	The existing (9) AHUs serving the FTC building were old and in poor working conditions. These air-handling units were original equipment and range in capacity from 1,500 CFM to 10,500 CFM. Hence, the renovation work included replacing the (9) AHUs serving the building's various areas with new modular type, double wall constructed units. A dual-path air-handling system approach was utilized such that the outside air requirements were treated separately from the return air path. Accordingly, (2) 100% dedicated outside air units were specified to handle the outside air requirements and delivering it treated to the individual AHUs in the mechanical room. All AHUs were specified with DDC controls that would tie-in to the existing campus-wide control system. Work also included replacement of the chilled water and hydronic heating piping.

SJ/jr

SECTION FIVE

CERTIFICATES

- Texas Board of Professional Engineers Certificate of Registration
- Hub for the State of Texas
- City of Houston Minority Business Enterprise (MBE) and Disadvantaged Business Enterprise (DBE)
- Houston Independent School District (HISD) Minority and Women Business Enterprise
- METRO Small Business/Disadvantaged Business Enterprise Program
- Port of Houston Small Business Enterprise
- Certificate of Liability Insurance

Texas Board of Professional Engineers
CERTIFICATE OF REGISTRATION

This acknowledges that

CHIEN ASSOCIATES, INC.
DBA: CAI ENGINEERS

has fulfilled the requirements of the Texas Board of Professional Engineers to offer and perform engineering services in the state of Texas.

Registration Number	Expiration Date
F-5348	10/31/2016

SUSAN COMBS

TEXAS COMPTROLLER of PUBLIC ACCOUNTS

P.O. Box 13186 • Austin, TX 78711-3186

The Texas Comptroller of Public Accounts (CPA) administers the Statewide Historically Underutilized Business (HUB) Program for the State of Texas, which includes certifying minority and woman-owned businesses as HUBs and is designed to facilitate the participation of minority and woman-owned businesses in state agency procurement opportunities.

We are pleased to inform you that your application for certification/re-certification as a HUB has been approved. Your company's profile is listed in the State of Texas HUB Directory and may be viewed online at http://www.window.state.tx.us/procurement//cmbl/hubonly.html. Provided that your company continues to meet HUB eligibility requirements, the enclosed HUB certificate is valid for four years.

You must notify the HUB Program in writing of any changes affecting your company's compliance with the HUB eligibility requirements, including changes in ownership, day-to-day management, control and/or principal place of business. *Note: Any changes made to your company's information may require the HUB Program to re-evaluate your company's eligibility.*

Please reference the enclosed pamphlet for additional resources, such as the state's Centralized Master Bidders List (CMBL), that can increase your chance of doing business with the state.

Thank you for your participation in the HUB Program! If you have any questions, you may contact a HUB Program representative at 512-463-5872 or toll-free in Texas at 1-888-863-5881.

Texas Historically Underutilized Business (HUB) Certificate

HUB
Statewide Historically Underutilized Business Program

Certificate/VID Number:	1741972945800
File/Vendor Number:	02412
Approval Date:	25-OCT-2013
Scheduled Expiration Date:	25-OCT-2017

The Texas Comptroller of Public Accounts (CPA), hereby certifies that

CHIEN ASSOCIATES, INC.

has successfully met the established requirements of the State of Texas Historically Underutilized Business (HUB) Program to be recognized as a HUB. This certificate printed 30-JAN-2014, supersedes any registration and certificate previously issued by the HUB Program. If there are any changes regarding the information (i.e., business structure, ownership, day-to-day management, operational control, business location) provided in the submission of the business' application for registration/certification as a HUB, you must immediately (within 30 days of such changes) notify the HUB Program in writing. The CPA reserves the right to conduct a compliance review at any time to confirm HUB eligibility. HUB certification may be suspended or revoked upon findings of ineligibility.

Paul A. Gibson

Paul Gibson, Statewide HUB Program Manager
Texas Procurement and Support Services

Note: In order for State agencies and institutions of higher education (universities) to be credited for utilizing this business as a HUB, they must award payment under the Certificate/VID Number identified above. Agencies and universities are encouraged to validate HUB certification prior to issuing a notice of award by accessing the Internet (**http://www.window.state.tx.us/procurement/cmbl/cmblhub.html**) or by contacting the HUB Program at **1-888-863-5881** or **512-463-5872**.

Rev. 09/12

Metropolitan Transit Authority of Harris County, Texas

Office of Small Business hereby duly affirms that:

Chien Associates, Inc. DBA CAI Consulting Engineers

has successfully met the established requirements of METRO's
Small Business Enterprise Program to be certified as a

Small Business Enterprise (SBE)

Certified NAICS Codes:

NAICS-541330: ENGINEERING SERVICES

Certification Number: 71129709
Effective Date: January 30, 2015
Expiration Date: January 30, 2018

Thomas C. Lambert
President & Chief Executive Officer

Kimberly J. Williams, J.D.
Deputy Chief Procurement Officer
Office of Procurement

Note: This certificate is the property of the Metropolitan Transit Authority of Harris County's Office of Small Business and may be revoked should the above named firm graduate from or fails to comply with METRO's Small Business Enterprise Program. Recertification is required every three years.

Port of Houston Authority
111 East Loop North
Houston, Texas 77029-1362
Office: 713.670.2400
portofhouston.com

SAM JABORI
CHIEN ASSOCIATES, INC.
CAI CONSULTING ENGINEERS
10700 RICHMOND AVENUE - SUITE 145
HOUSTON, TX 77042

JULY 21, 2015

Re: Small Business Development Program Registration Renewal

Dear Sam Jabori:

CONGRATULATIONS! Your application for an approved Port of Houston Authority Small Business Enterprise (SBE) has been accepted. Your firm will be included in our Small Business Development Program Directory and designated as an approved Small Business Vendor in our VIS system. The registration is valid as long as your certificate is valid with the **METRO** expiring **1/31/2018** in the category of:

PROFESSIONAL SERVICES
ENGINEERING SERVICES

This registration covers only the company that is listed in this letter and on the attached certificate it does not cover any other company with which you may be associated.

The expiration date which appears on this registration letter and attached certificate will be superseded by your Small Business "graduation" date.

If there are any changes regarding the information provided in the submission of the application to register for the Small Business Development Program, you must immediately (within 30 days of such changes) notify the Small Business Development Department in writing. The Port of Houston Authority reserves the right to conduct a compliance review at any time to confirm eligibility. Small Business Development participation may be suspended upon findings of ineligibility.

The Small Business Development Program's office is located at the Executive Office of the Port of Houston Authority at 111 East Loop North, Houston, Texas 77029. If you have any questions or concerns in regards to your certification, please contact our **Certification Specialist, Priscilla Burroughs at 713-670-2418.** To inquire about upcoming business opportunities, projects, pre-bid meetings and/or bid deadlines, please visit our web-site at **www.portofhouston.com**. Should you have any questions concerning the Small Business Development Program Policy and Procedures, a hard copy can be downloaded from our web-site.

Sincerely,

Gilda Ramirez
Managing Director

Enclosure

Chien Associates, Inc.

is duly registered as a

Small Business Enterprise

Effective Date: **7/21/2015**
Expiration Date: **1/31/2018**

PORT OF HOUSTON AUTHORITY
PHA
HOUSTON, TEXAS

Managing Director
Small Business & Maritime Education

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
7/26/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Higginbotham Insurance Agency, Inc. 11700 Katy Freeway Suite 1100 Houston TX 77079	CONTACT NAME: Leticia Gallegos PHONE (A/C, No, Ext): 713-952-9990 FAX (A/C, No): 713-952-9939 E-MAIL ADDRESS: lgallegos@higginbotham.net
	INSURER(S) AFFORDING COVERAGE — NAIC #
INSURED CHIEN1 Chien Associates, Inc.; CAI Consulting Engineers 10700 Richmond Avenue Suite 145 Houston TX 77042-4905	INSURER A : Sentinel Insurance Company, LTD — 11000 INSURER B : Trumbull Insurance Compamy — 27120 INSURER C : Wesco Insurance Company c/o — 25011 INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** 1202807039 **REVISION NUMBER:**

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

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY PRO-JECT X LOC OTHER:			46SBABL6926	11/1/2015	11/1/2016	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$1,000,000 $1,000,000 $10,000 $1,000,000 $2,000,000 $2,000,000
A	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS			46SBABL6926	11/1/2015	11/1/2016	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$1,000,000
A	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 10,000			46SBABL6926	11/1/2015	11/1/2016	EACH OCCURRENCE AGGREGATE	$1,000,000 $1,000,000
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N N/A (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below			46WBCAC9279	11/1/2015	11/1/2016	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$1,000,000 $1,000,000 $1,000,000
C	Professional Liability			ARA1255666-00	11/1/2015	11/1/2016	Each Claim Aggregate	$1,000,000 $2,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

The General Liability policy includes a blanket automatic additional insured endorsement that provides additional insured status to the certificate holder only when there is a written insured contract between the insured and certificate holder that requires such status.

The General Liability policy includes a blanket automatic waiver of subrogation endorsement that provides this feature only when there is a written contract between the insured and certificate holder that requires it.

See Attached...

CERTIFICATE HOLDER

City of Angleton, Texas
Attn: City Secretary
121 S. Velasco
Angleton TX 77515

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

AGENCY CUSTOMER ID: CHIEN1

LOC #:

ACORD

ADDITIONAL REMARKS SCHEDULE

AGENCY		NAMED INSURED
Higginbotham Insurance Agency, Inc.		Chien Associates, Inc.; CAI Consulting Engineers 10700 Richmond Avenue Suite 145 Houston TX 77042-4905
POLICY NUMBER		
CARRIER	NAIC CODE	EFFECTIVE DATE:

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: 25 FORM TITLE: CERTIFICATE OF LIABILITY INSURANCE

The General Liability policy includes a primary & non-contributory provision only when there is a written contract between the insured and certificate holder that requires such provision.

The Workers Compensation policy includes a blanket automatic waiver of subrogation endorsement that provides this feature only when there is a written contract between the insured and certificate holder that requires it.

The Professional Liability policy includes a blanket automatic waiver of subrogation endorsement that provides this feature only when there is a written contract between the insured and certificate holder that requires it.

Umbrella policy is follow form over the General Liability, Auto Liability, and the Workers Compensation policies.

30 days notice of cancellation will be furnished to the certificate holder when required by written contract.

PLANS
OF
SIMILAR PROJECT FOR THIS SOQ

CITY OF LAKE JACKSON

PARKS AND RECREATION CENTER

LAKE JACKSON RECREATION CENTER CHILLER REPLACEMENT

91 LAKE ROAD
LAKE JACKSON, TEXAS 77566

DATE: 03-08-2013

DEPARTMENT DIRECTORS

WILLLIAM P. YENNE, CITY MANAGER
MODESTO MUNDO, ASSISTANT CITY MANAGER
ALICE RODGERS, CITY SECRETARY
SHERRI RUSSELL, CITY ATTORNEY
PAUL HROMADKA, POLICE CHIEF
SAL AGUIRRE, CITY ENGINEER
CRAIG NISBETT, PUBLIC WORKS DIRECTOR
PAM EAVES, FINANCE DIRECTOR
CARMEN WILLIAMS, PERSONNEL DIRECTOR
JENNIFER JONES, PARKS & RECREATION DIRECTOR
RANDY CRIM, FIRE MARSHALL

CITY ENGINEER

SAL AGUIRRE

PROJECT MANAGER

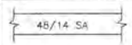
JENNIFER JONES

MEP ENGINEER

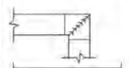
CAI ENGINEERS
10700 RICHMOND AVE.
HOUSTON, TEXAS 77042
V. 713 785 0334
F. 713 785 0309

MECHANICAL SYMBOLS AND LEGEND
(NOTE: ALL SYMBOLS SHOWN ARE NOT NECESSARY USED IN DRAWINGS)

DUCTWORK SYMBOLS

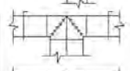


DUCT SIZE , 1ST. NO. VISIBLE DIMENSION

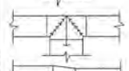


DUCTWORK TURNING VANES.

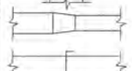
BRANCH DUCT TAKEOFF



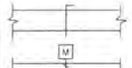
DUCT TEE WITH VOLUME DAMPER



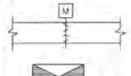
DUCT TEE WITH SPLITTER DAMPER



TRANSITION (RECTANGULAR)



VOLUME DAMPER



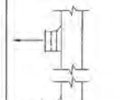
MOTORIZED VOLUME DAMPER

SUPPLY AIR DUCT SECTION.

RETURN/EXHAUST AIR DUCT SECTION

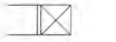
CEILING DIFFUSER (SUPPLY)

CEILING DIFFUSER OR REGISTER (EXHAUST OR RETURN)



SIDEWALL SUPPLY AIR DEVICE

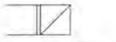
SIDEWALL RETURN AIR DEVICE



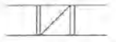
SUPPLY OR OUTSIDE AIR DUCT UP

SUPPLY OR OUTSIDE AIR DUCT DOWN

RETURN OR RELIEF AIR DUCT UP

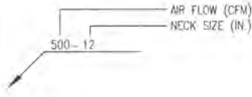


RETURN OR RELIEF AIR DUCT DOWN

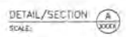


IN-LINE 90° RISE (DROP) IN DUCT

AIR DISTRIBUTION DEVICE DESIGNATION



MISCELLANEOUS



DETAIL

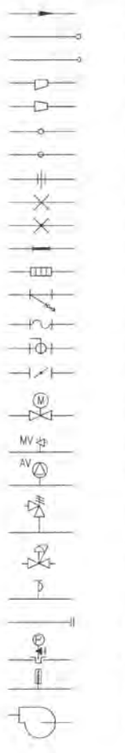
SECTION

KEYED NOTES

CFM — CUBIC FEET PER MIN
S.A. — SUPPLY AIR
R.A. — RETURN AIR
O.A. — OUTSIDE AIR
E.A. — EXHAUST AIR
EXIST. — EXISTING
AFF. — ABOVE FINISHED FLOOR

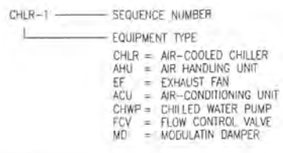
LIMIT OF WORK

PIPING SYMBOLS

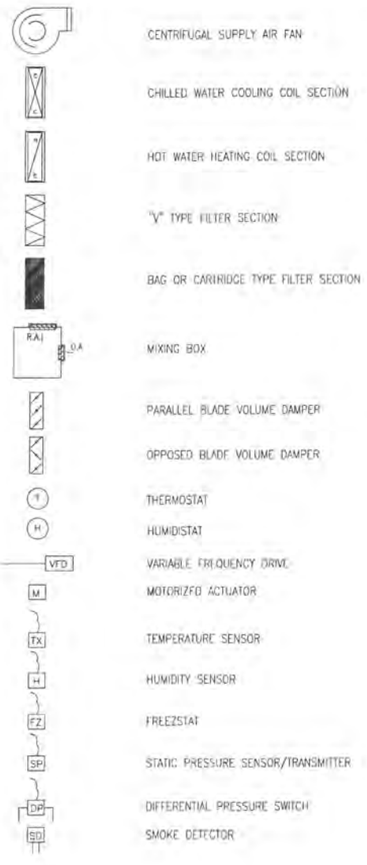


FLOW DIRECTION
FLOW UP
FLOW DOWN
ECCENTRIC REDUCER
CONCENTRIC REDUCER
TEE OUTLET UP
TEE OUTLET DOWN
UNION
PIPE SUPPORT
PIPE SPRING HANGER
PIPE GUIDE
EXPANSION JOINT
"Y"- TYPE STRAINER
FLEXIBLE CONNECTION
BALL VALVE
BUTTERFLY VALVE
2-WAY PRESSURE INDEPENDENT FLOW/TEMPERATURE CONTROL VALVE
MANUAL AIR VENT
AUTOMATIC AIR VENT
PRESSURE REFLIEF VALVE
PRESSURE REDUCING VALVE
PETE'S PLUG
BLIND FLANGE
PRESSURE GAUGE W/COCK
THERMOMETER
CENTRIFUGAL PUMP

MECHANICAL EQUIPMENT DESIGNATION



AIR CONDITIONING SYMBOLS



CENTRIFUGAL SUPPLY AIR FAN
CHILLED WATER COOLING COIL SECTION
HOT WATER HEATING COIL SECTION
"V" TYPE FILTER SECTION
BAG OR CARRIDGE TYPE FILTER SECTION
R.A.
O.A.
MIXING BOX
PARALLEL BLADE VOLUME DAMPER
OPPOSED BLADE VOLUME DAMPER
T
THERMOSTAT
H
HUMIDISTAT
VFD
VARIABLE FREQUENCY DRIVE
M
MOTORIZED ACTUATOR
TX
TEMPERATURE SENSOR
H
HUMIDITY SENSOR
FZ
FREEZSTAT
SP
STATIC PRESSURE SENSOR/TRANSMITTER
DP
DIFFERENTIAL PRESSURE SWITCH
SD
SMOKE DETECTOR

GENERAL NOTES

1. THESE GENERAL NOTES APPLY TO ALL SHEETS.
2. IN ANY CASE WHERE A PIPE OR DUCT SIZE SHOWN ON A PLAN SHEET DIFFERS FROM THAT SHOWN IN A SCHEMATIC OR DETAIL, USE THE LARGER OF THE TWO SIZES SHOWN.
3. PIPING SHOWN ON EACH PLAN IS RUN ABOVE THE CEILING ON THE FLOOR WHERE IT IS SHOWN UNLESS OTHERWISE NOTED.
4. MOUNT THERMOSTATS 48" ABOVE FINISHED FLOOR AND 8" TO ONE SIDE OF THE LIGHT SWITCHES WHERE BOTH OCCUR IN THE SAME LOCATION, UNLESS OTHERWISE NOTED. T-STAT SHALL NOT BE MOUNTED ON STRIKE SIDE OF DOOR. ALL THERMOSTATS SHALL BE PROVIDED WITH TAMPER PROOF LOCKING COVERS.
5. DESIGN CONDITIONS:

	OUTSIDE	INDOORS
SUMMER	97°F DB, 77°F WB	81°F DB, 60% RH
WINTER	28°F DB,	81°F DB

6. ALL DUCT DIMENSIONS SHOWN ARE CLEAR AIRSTREAM SHEETMETAL DIMENSIONS.
7. DO NOT RUN PACKAGED UNIT UNTIL ALL INTERIOR CLEANING AND PAINTING IS COMPLETE. THE CLEANING OF FOULED COILS OR FAN ASSEMBLIES DUE TO PAINT OR CONSTRUCTION DEBRIS IS TO BE THE RESPONSIBILITY OF THE HVAC CONTRACTOR.
8. THE DRAWINGS ARE DIAGRAMMATIC ONLY AND SHALL NOT BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH OTHER TRADES AND WITH EXISTING CONDITIONS. CONTRACTOR SHALL NOT INSTALL OR FABRICATE ANY WORK SHOWN UNTIL ALL SUCH WORK IS FULLY COORDINATED. NOT ALL OFFSETS, AND FITTINGS ARE SHOWN. PROVIDE OFFSETS AND FITTINGS AS REQUIRED BY FIELD CONDITIONS AS PART OF THE WORK.
9. ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH IBC, UMC, UPC, NFC, IEC, AND NFPA. MOREOVER, CONTRACTOR SHALL INSTALL ALL EQUIPMENT, DUCTWORK, AND INSULATION IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDED INSTALLATION GUIDELINES.
10. CONTRACTOR SHALL COORDINATE HIS WORK WITH THE ARCHITECTURAL REFLECTED CEILING PLAN FOR LOCATION OF AIR DISTRIBUTION DEVICES. AIR DISTRIBUTION DEVICES SHALL MATCH CEILING GRID DIMENSIONS.
11. PROVIDE ESCUTCHEON PLATES FOR EXPOSED PIPING PENETRATIONS AND SHEET METAL FLASHING FOR EXPOSED DUCTWORK PENETRATIONS.
12. CONTRACTOR SHALL CHECK AND SATISFY HIMSELF AS TO THE LOCATION OF THE EQUIPMENT, DUCTWORK AND PIPE ROUTING AND SHALL ENSURE THAT NO CONFLICTS EXIST BETWEEN ANY OF THE SERVICES PRIOR TO INSTALLATION. IN CASE OF CONFLICTS, DISCREPANCIES, ERRORS, OMISSIONS, OR INCOSISTENCIES, CONTRACTOR SHALL PROMPTLY NOTIFY ENGINEER AND/OR ARCHITECT IN WRITING OF THE SAME. ENGINEER AND/OR ARCHITECT WILL ISSUE WRITTEN INSTRUCTIONS TO BE FOLLOWED. IF CONTRACTOR PROCEEDS WITH ANY OF THE WORK IN QUESTION PRIOR TO RECEIVING SUCH INSTRUCTIONS, THEN REQUIRED CORRECTIONS SHALL BE AT CONTRACTOR'S EXPENSE.
13. ALL DUCTWORK PENETRATIONS THRU WALLS AND ROOF SHALL BE SEALED PER THE LOCAL ENERGY CODE REQUIREMENTS.
14. ALL DUCTWORK SHALL BE GALVANIZED STEEL FABRICATED PER THE LATEST SMACNA STANDARDS.
15. ALL S.A. AND R.A. DUCTS SHALL BE EXTERNALLY INSULATED WITH R-8 FIBER GLASS DUCT INSULATION.
16. ALL SUPPLY AND RETURN AIR CEILING DEVICES SHALL BE INSULATED ON TOP OF DEVICES TO PREVENT CONDENSATION. INSULATE DEVICES WITH 3/4" SELF-ADHESIVE TYPE ELASTOMERIC INSULATION. APPLY INSULATION PRIOR TO MOUNTING AIR DEVICES.
17. PROVIDE ACCESS DOORS AND PANELS FOR HVAC ITEMS/COMPONENTS THAT REQUIRE SERVICE AND/OR ARE LOCATED ABOVE NON-ACCESSIBLE CEILINGS. COORDINATE ALL PANEL LOCATIONS WITH THE ARCHITECTURAL RCP.
18. CONTRACTOR SHALL NOT DEVIATE FROM THE DRAWINGS OR INSTRUCTIONS CONTAINED THEREIN IN THESE CONSTRUCTION DOCUMENTS WITHOUT PRIOR WRITTEN APPROVAL. MATERIALS SHALL NOT BE SUBSTITUTED FOR THOSE SPECIFIED, NOR SHALL "OR EQUAL" ITEMS BE FURNISHED WITHOUT THE ENGINEER AND/OR ARCHITECT'S PRIOR WRITTEN APPROVAL.
19. PROVIDE VOLUME CONTROL DAMPERS ON ALL BRANCH DUCTS.
20. FIRE AND FIRE SMOKE DAMPERS SHALL MEET THE REQUIREMENTS OF UL 555 AND UL 555S RESPECTIVELY. LOCATE AND INSTALL DAMPERS IF REQUIRED, AS INDICATED ON THE DRAWINGS AND IN ACCORDANCE WITH REQUIREMENTS CONTAINED IN IBC AND NFPA 101. ACCESS AND IDENTIFICATION FOR SMOKE DAMPERS SHALL BE PROVIDED ACCORDINGLY.

THE CITY OF LAKE JACKSON

LAKE JACKSON
RECREATION CENTER
BRAZORIA COUNTY, TEXAS

STATE OF TEXAS
BASSAM G. JABORI
89863
LICENSED PROFESSIONAL ENGINEER
3/11/2013

CAL ENGINEERING EXPRESS
TEXAS ID # F-8348

CHILLER
REPLACEMENT

LAKE JACKSON
RECREATION CENTER
91 LAKE ROAD
Lake Jackson, TX 77566

Drawing Date: 03-06-2013
Drawn: AAR
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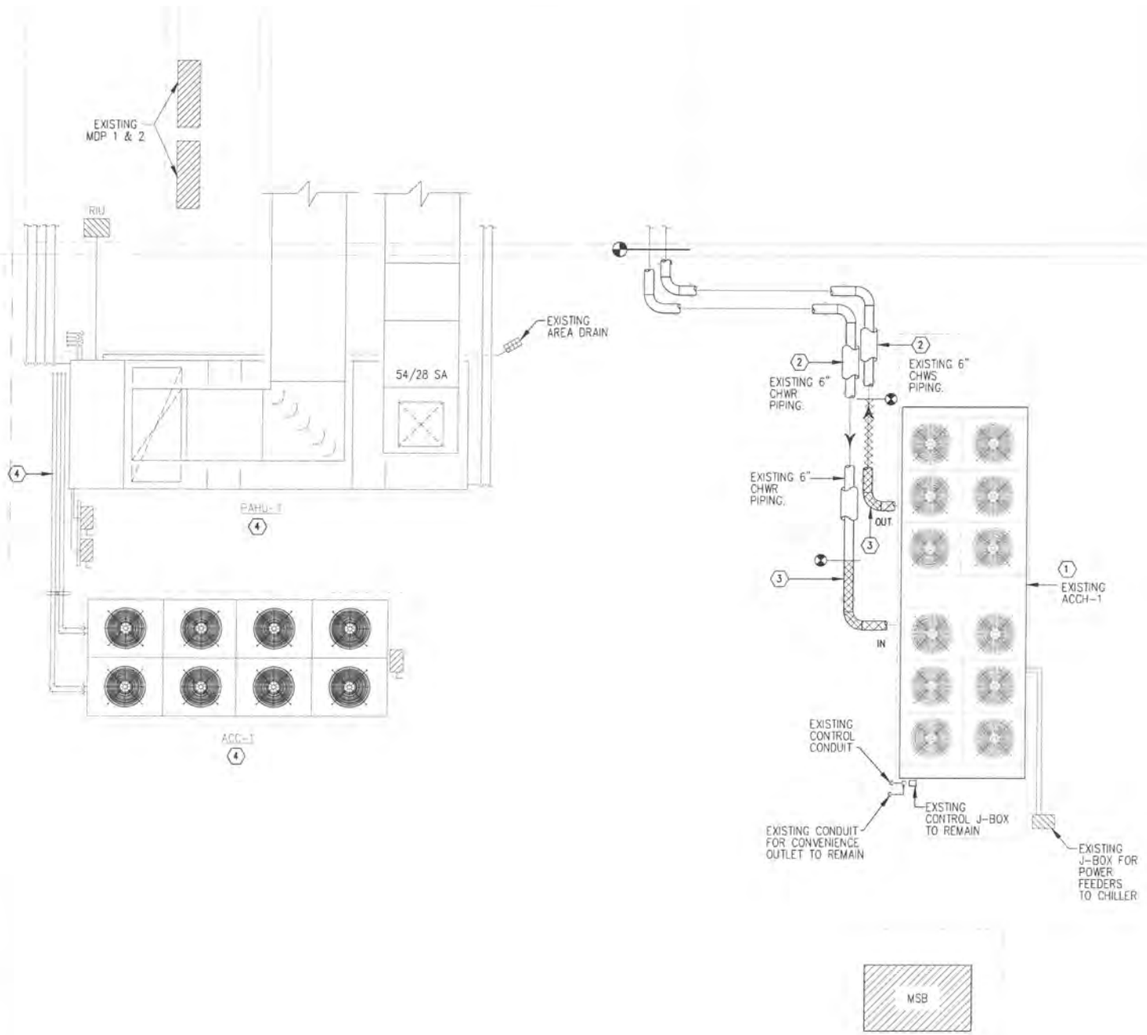
Revisions	Description

MECHANICAL SYMBOLS AND LEGEND

M0-0

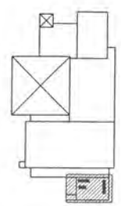


1 MECHANICAL DEMOLITION FLOOR PLAN

SCALE: 1/4" = 1'

KEYED NOTES:

1. REMOVE AND DISPOSE OF THE EXISTING 210-COOLED CHILLER AND RECOVER THE CHILLER FREON CHANGE IN ACCORDANCE WITH APPLICABLE CODES AND REGULATIONS.
2. REMOVE THE EXISTING CHILLED WATER PIPING INSULATION AS INDICATED. RETAIN CHILLED WATER PIPING "AS IS". RETAIN EXISTING HEAT-TRACING FEEDER FOR USE WITH NEW INSULATION.
3. REMOVE THE EXISTING CHILLED WATER PIPING INCLUDING ITS ASSOCIATED INSULATION AS INDICATED. RETAIN EXISTING HEAT-TRACING FEEDER FOR USE WITH NEW INSULATION.
4. EXISTING EQUIPMENT AND PIPING TO REMAIN "AS IS".



KEY MAP

THE CITY OF LAKE JACKSON

LAKE JACKSON
RECREATION CENTER
BRAZORIA COUNTY, TEXAS

CAL ENGINEERING
TEXAS ID # F-5348

CHILLER
REPLACEMENT

LAKE JACKSON
RECREATION CENTER

91 LAKE ROAD
Lake Jackson, TX 77566

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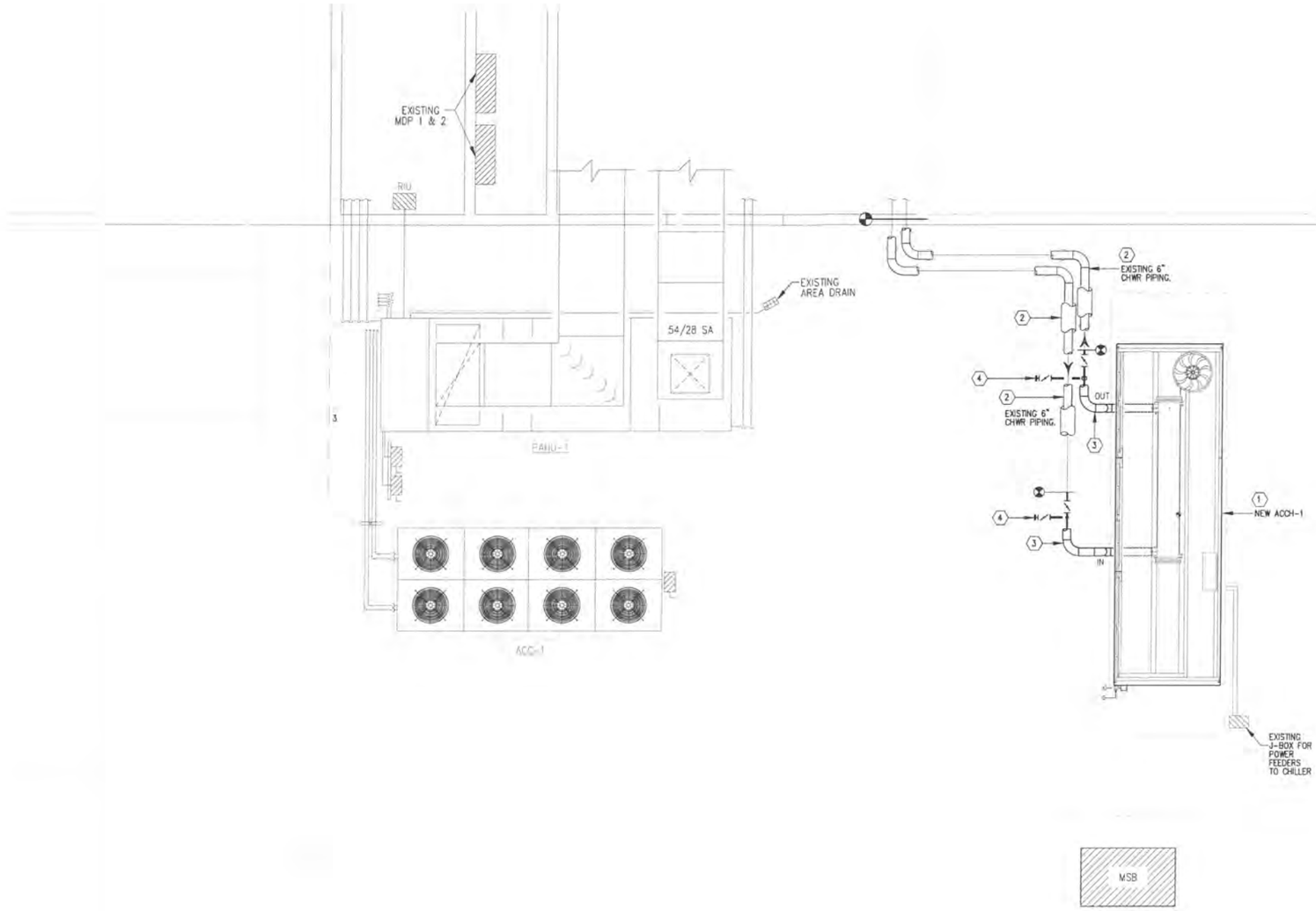
MECHANICAL DEMOLITION FLOOR PLAN

M1-0

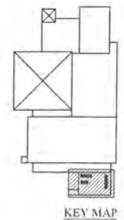


1 MECHANICAL RENOVATION FLOOR PLAN

SCALE: 1/4" = 1'

KEYED NOTES:

1. PROVIDE A NEW 225-TON AIR-COOLED SCROLL CHILLER AS INDICATED AND IN ACCORDANCE WITH THE EQUIPMENT SCHEDULE. CHILLER SHALL BE CARRIER MODEL 30RB225 OR EQUAL. THE CHILLER SHALL BE FIXED TO THE EXISTING SUPPORT STRUCTURE AND SHALL BE SET ON NEW NEOPRENE ISOLATION SUPPORT PADS AND AS RECOMMENDED BY THE MANUFACTURER. NEW CHILLER SHALL BE COMPLETE WITH A MANUFACTURER FURNISHED NON-FUSED SAFETY DISCONNECT. PROVIDE POWER TO CHILLER FROM EXISTING MAIN SWITCH BOARD "MSB". (SEE DWG. E2-0).
2. PROVIDE NEW 6" FOAMGLASS CHILLED WATER PIPE INSULATION AS INDICATED. INSULATION SHALL BE 2" THICK. APPLY PITSEAL INSTALLATIONS 727 OR AN EQUAL MANUFACTURER APPROVED SEALANT AT JOINTS, LAPS AND AROUND PROTRUSIONS. CONTRACTOR SHALL ADHERE TO THE MANUFACTURER RECOMMENDED INSTALLATIONS GUIDELINES AND SPECIFICATIONS. CONTRACTOR SHALL ADHERE TO THE RECOMMENDED GUIDELINES FOR INSTALLING PIPE INSULATION OVER THE EXISTING HEAT TRACE-CABLING. PIPING SHALL BE SUPPORTED USING SUPPORT STRUCTURE.
3. PROVIDE NEW CHILLED WATER SUPPLY AND RETURN SCH. 40 BLACK STEEL PIPING WITH ALL NECESSARY FITTINGS AND SUPPORTS. PIPING SHALL BE COMPLETE WITH FOAMGLASS INSULATION AS INDICATED. INSULATION SHALL BE 2" THICK. APPLY PITTSEAL 727 OR AN EQUAL MANUFACTURER APPROVED SEALANT AT JOINTS, LAPS AND AROUND PROTRUSIONS. CONTRACTOR SHALL ADHERE TO THE MANUFACTURER RECOMMENDED INSTALLATIONS GUIDELINES AND SPECIFICATIONS. PIPING SHALL BE SUPPORTED USING SUPPORT STRUCTURE. PROVIDE NEW MANUAL AIR VENTS AT PIPING HIGH POINTS. EXTEND EXISTING HEAT TRACING FEEDER BACK TO NEW PIPING.
4. PROVIDE 6" VALVED AND CAPPED TEMPORARY CHILLED WATER CONNECTION.



KEY MAP

THE CITY OF LAKE JACKSON

LAKE JACKSON
RECREATION CENTER
BRAZORIA COUNTY, TEXAS

BASSAM G. JABORI
89863
3/11/2013

CAL ENGINEERING
TEXAS ID # E-5345

CHILLER
REPLACEMENT

LAKE JACKSON
RECREATION CENTER
91 LAKE ROAD
Lake Jackson, TX.77566

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MECHANICAL RENOVATION FLOOR PLAN

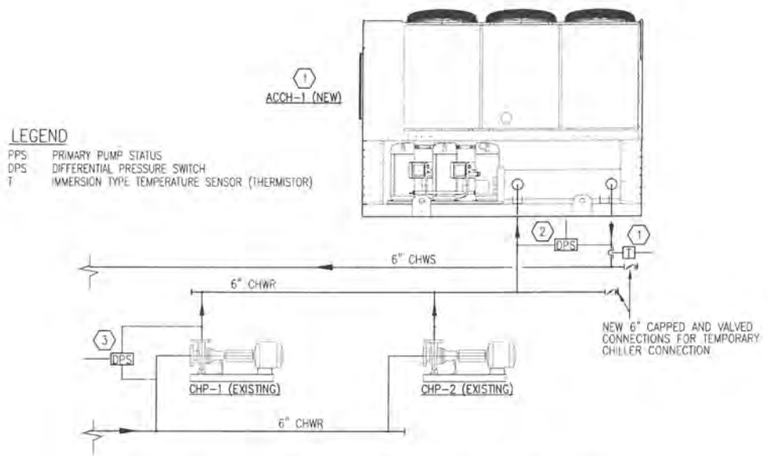
M2-0

PACKAGED AIR-COOLED CHILLERS SCHEDULE

EQ. NO.	CAPACITY				CHILLER DATA				ELECTRICAL					UNIT			ACCESSORIES	MANUFACTURER & MODEL OR EQUAL
	NOM. TONS	RATED, TONS	EER	STD. IPLV	EWT, DEG. F.	LWT, DEG. F.	FLOW, GPM	(MAX.) WPD, FT	V/ø/Hz	MCA		MOCP		AMBIENT TEMP. DEG. F.	KW	REF.		
										CIR."A"	CIR."B"	CIR."A"	CIR."B"					
CH-1	225	199.4	8.17	13.83	54	42	456	10	460/3/60	449.6	–	450	–	105	293	134A	(1) THRU (11)	CARRIER MODEL 30RB225

PROVIDE THE FOLLOWING:

(1) COPPER COIL/ALUMINUM FIN CONDENSER WITH E-COAT.
(2) LOW AMBIENT TEMPERATURE HEAD PRESSURE CONTROL.
(3) SUCTION LINE INSULATION.
(4) FACTORY-MOUNTED AND WIRED CONTROL TRANSFORMER.
(5) SUCTION AND DISCHARGE VALVE FOR EACH REF. CIRCUIT.
(6) PROVIDE POWERED GFCI OUTLET
(7) MANUFACTURER FURNISHED ELASTOMERIC VIBRATION ISOLATORS.
(8) HIGH SCCR WITH UNIT MOUNTED NON-FUSED DISCONNECT.
(9) FULL HAIL GUARD.
(10) BACNET INTERFACE CARD.



CHILLER PLANT CONTROL SCHEMATIC

SYSTEM DESCRIPTION:

CONTRACTOR SHALL FURNISH AND INSTALL NEW DDC SYSETM COMPONENTS INCLUDING, SENSORS, SWITCHES, CONTROLLERS, CONDUITS, POWER SUPPLY, WIRING AND ACCESSORIES AS REQUIRED THAT SHALL INTERFACE WITH THE EXISTING ALERTON "NON-BACNET" DDC SYSTEM FOR A FULLY FUNCTIONAL CHILLER PLANT CONTROL SYSTEM. THE NEW CHILLER PLANT SHALL ALSO HAVE THE CAPABILITY OF OPERATING IN A STAND-ALONE MODE IN THE EVENT THE BUILDING'S MAIN DDC SYSTEM IS NOT OPERATIONAL.

GENERAL NOTES:

1. IF REQUIRED, DDC CONTRACTOR SHALL COORDINATE HIS WORK WITH THE ELECTRICAL CONTRACTOR TO PROVIDE THE REQUIRED DEDICATED POWER CIRCUITS FROM THE AVAILABLE ELECTRICAL PANELS.

CHILLED WATER SYSTEM DESCRIPTION:

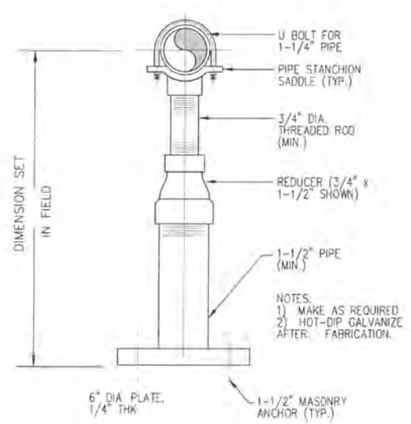
THE CHILLED WATER SYSTEM IS COMPOSED OF (1) CHILLER "ACCH-1", PROVIDING 100% OF THE COOLING LOAD. PUMPING IS ACCOMPLISHED THROUGH THE EXISTING CONSTANT SPEED PRIMARY PUMPING SYSTEM WITH PUMPS CHWP-1 AND CHWP-2 SERVING THE CHILLER THRU A COMMON HEADER. THE CHILLER AND PUMPS START/STOP, SEQUENCING, OPERATION, AND ALARM REPORTING SHOULD ALREADY BE CONTROLLED AND COORDINATED THROUGH THE BUILDING'S EXISTING DDC NETWORK.

KEYED NOTES:

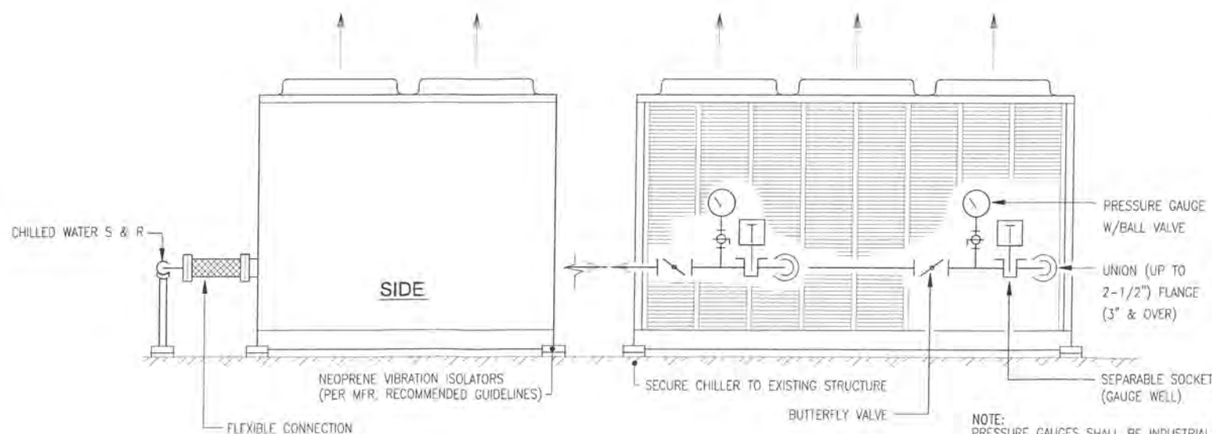
(1) THE CHILLER SHALL BE PROVIDED WITH A MANUFACTURER SUPPLIED BACNET DIRECT DIGITAL CONTROL (DDC) PANEL. THIS PANEL SHALL BE UNIT MOUNTED AND CAPABLE OF CONTROLLING ALL THE CHILLER'S START-UP AND OPERATION. THE DDC PANEL SHALL ALSO BE CAPABLE OF COMMUNICATING WITH THE EXISTING BUILDING DDC SYSTEM TO DELIVER OPTIMUM OPERATION, ENERGY SAVINGS, AND ALARM STATUS REPORTING.

NEW CHILLER SHALL ALSO BE PROVIDED WITH A MANUFACTURER-SUPPLIED STARTER PANEL. STARTERS SHALL ALSO BE FURNISHED WITH PHASE AND GROUND FAULT PROTECTION SYSTEM. CHILLER SHALL NOT START UNLESS CHILLED WATER PUMPS ARE RUNNING. THE NEW CHILLER SHALL BE SUPPLIED WITH ITS OWN NEW SUPPLY WATER TEMPERATURE SENSOR "T" THAT SHALL REGULATE THE CHILLER OPERATION TO MAINTAIN A SETPOINT TEMPERATURE OF 44°F (ADJ.). IF AVAILABLE, CHILLED WATER TEMPERATURE SHALL BE RESET UPWARD WHENEVER CHILLED WATER TEMPERATURE DIFFERENCE FALLS BELOW 8°F. MAXIMUM CHILLED WATER TEMPERATURE SHALL NOT EXCEED 48°F.

(2) A NEW DIFFERENTIAL PRESSURE SWITCH "DPS" AT THE CHILLER SHALL HALT THE CHILLER OPERATION AND SHALL TRIGGER AN ALARM SIGNAL IN CASE A NO FLOW CONDITION IS DETECTED



1 PIPE SUPPORT DETAIL
SCALE: NTS



NOTE:
PRESSURE GAUGES SHALL BE INDUSTRIAL GRADE 4 1/2" STAINLESS STEEL LIQUID FILLED TYPE 1009 BY ASHCROFT OR EQUAL. THERMOMETERS SHALL BE ADJUSTABLE 5" DIAL SERIES EL BY ASHCROFT OR EQUAL

2 AIR-COOLED CHILLER PIPING DETAIL
SCALE: NTS

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CAI
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CHILLER
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MECHANICAL SCHEDULES, CONTROL RISER AND DETAILS

M3-0

SYMBOLS LIST

NOTE: NOT ALL SYMBOLS INDICATED MAY APPEAR ON THESE DRAWINGS.

- JUNCTION BOX
- NON-FUSED SAFETY DISCONNECT, SIZE INDICATED ON DRAWINGS.
- FUSED SAFETY DISCONNECT, SIZE INDICATED ON DRAWINGS.
- MOTOR AS INDICATED ON DRAWING. ALL NECESSARY DISCONNECT SWITCHES SHALL BE INCLUDED AS NEEDED.
- MOTOR RATING AS INDICATED ON DRAWING. ALL NECESSARY DISCONNECT SWITCHES SHALL BE INCLUDED AS NEEDED.
- +42" INDICATES MOUNTING HEIGHT OF ADJACENT DEVICE ABOVE FINISHED FLOOR.
- L=1,3 HOME RUN TO PANEL "L". ARROWS AND NUMBERS INDICATE CIRCUITS
- CONDUIT RUN EXPOSED
- CONDUIT CONCEALED BY FINISH
- UNDERGROUND CONDUIT
- "PL" NEW 120/240V, 1ø, 3W, DISTRIBUTION PANEL "PL" : ALL 120/240V, 1Phase, 3W PANELS FOR BRANCH POWER DISTRIBUTION TO GATE MOTOR AND OTHER DEVICES, PANEL SHALL BE PROVIDED WITH A 200A MCB AND FULL SIZE NEUTRAL
- NEW METERING FOR INDICATED AREA OR BUILDING
- OVER HEAD (O.H.) POWER POLE

ELECTRICAL ABBREVIATIONS

NOTE: NOT ALL ABBREVIATIONS INDICATED MAY APPEAR ON THESE DRAWINGS

ABOVE FINISHED FLOOR	AFF
ABOVE FINISHED GRADE	AFG
ACCENT	ACC
ADJUSTABLE	ADJ
ALTERNATING CURRENT	AC
ALUMINUM	AL
AMERICAN WIRE GAUGE	AWG
AMMETER	AM
AMPERE	A/AMP
APPROXIMATE(LY)	APPROX
ASYMMETRIC	ASY
AUTOMATIC TRANSFER SWITCH	ATS
BATTERY	BATT
BLACK	BLK
BRACKET	BRKT
BREAKER	BKR
CABINET	CAB
CABLE TELEVISION	CATV
CEILING	CLG
CIRCUIT	CKT
CIRCUIT BREAKER	CKT BKR
CLEAR	CLR
CLOSED CIRCUIT TELEVISION	CCTV
COLUMN	COL
COMMUNICATION	COMM
CONDUIT	C
COOL WHITE	CW
COPPER	CU
CURRENT LIMITING FUSE	C.L.F
CURRENT TRANSFORMER	CT
DECIBEL	DB
DEDICATED	DED
DIAMETER	DIA
DIRECT CURRENT	DC
DISCONNECT	DISC
DISTRIBUTION PANEL	DP
DOUBLE POLE DOUBLE-THROW	DPDT
DOWNLIGHT	DNLT
DRAWING	DWG
DUAL ELEMENT	DE
EACH	EA
ELECTRIC WATER COOLER	EWC
ELECTRICAL	ELEC
ELECTRICAL CONTRACTOR	EC
ELECTRICALLY OPERATED	EO
ELEVATION	EL
ELEVATOR	ELEV
EMERGENCY	E/EMERG
ENERGY SAVING BALLAST	ESB
EQUIPMENT	EQUIP
EXHAUST FAN	EF
EXPLOSION PROOF	XP
FIRE ALARM	FA
FIRE ALARM ANNUNCIATOR PANEL	FAAP
FIRE ALARM CONTROL PANEL	FACP
FIRE ALARM GRAPHIC PANEL	FAGP
FIRE ANNUNCIATOR PANEL	ANNUN
FIXTURE	FIXT
FLOOR	FL
FLUORESCENT	FLUOR
FOOTCANDLES	FC
FULL LOAD AMPERES	FLA
FULL VOLTAGE NON-REVERSING	FVNR
GENERAL CONTRACTOR	GC
GENERATOR	GEN
GROUND	GND/G
GROUND FAULT CIRCUIT INTERRUPTER	GFCI
HAND DRYER	HD
HAND HOLE	HH
HEATING VENTILATING AND AIR CONDITIONING	HVAC
HERTZ	HZ
HIGH INTENSITY DISCHARGE	HID
HIGH POWER FACTOR	HPF
HIGH VOLTAGE	HV
HORSEPOWER	HP
INCANDESCENT	INCAN
ISOLATED GROUND	IG
JUNCTION BOX	JB or JCT BOX
KILOVAR (REACTANCE)	KVAR
KILOVOLT AMPERE	KVA
KILOWATT	KW
KILOWATT HOUR METER	KWH
LIGHT	LT
LIGHTING	LTG
LIGHTNING ARRESTOR	LA
LOW VOLTAGE	LV
MAIN CIRCUIT BREAKER	MCB
MAIN DISTRIBUTION PANEL	MDP
MAIN LUGS ONLY	MLO
MANHOLE	MH
MANUAL TRANSFER SWITCH	MTS
MANUFACTURER	MFR
MASTER ANTENNA TELEVISION	MATV
MECHANICAL CONTRACTOR	MC
MEDIUM VOLTAGE	MV
METAL HALIDE	MH
METAL-CLAD CABLE	MC
MISCELLANEOUS	MISC
MOTOR CIRCUIT PROTECTOR	MCP
MOTOR CONTROL CENTER	MCC
MOTOR OPERATED DAMPER	MOD
MOUNTED	MTD
MOUNTING HEIGHT	MTG HT
MANUFACTURERS ASSOCIATION	NEMA
NATIONAL ELECTRICAL CODE	NEC
NIGHT LIGHT	NL
NORMALLY CLOSED	NC
NORMALLY OPEN	NO
NOT AVAILABLE/NOT APPLICABLE	N/A
NOT FUSED	NF
NOT IN CONTRACT	NIC
NOT TO SCALE	NTS
ON CENTER	OC
OVERHEAD	OH
OVERLOAD HEATER ELEMENT	OL
PANEL	PNL
PEWTER	PEW
PLYWOOD	PLY
POLE	P
POLYVINYL CHLORIDE	PVC
POTENTIAL TRANSFORMER	PT
POWER PANEL	PP
PULL BOX	PB
RAPID START	RS
RECEPTACLE	REC/RECPT
REFLECTOR	REFL
REQUIRED	REQ'D
RIGID GALVANIZED STEEL CONDUIT	RGS
ROOM	RM
SCHEDULE	SCHED
SINGLE POLE DOUBLE THROW	SPDT
SINGLE POLE SINGLE THROW	SPST
SOLID STATE BALLAST	SSB
SURGE PROTECTION DEVICE	SPD
SWITCH	SW
SWITCHBOARD	SWBD
SWITCHGEAR	SWGR
TELEPHONE	TEL
TRANSFORMER	XFMR
TRANSIENT VOLTAGE SURGE SUPPRESSOR	TVSS
TWIN TUBE	TT
TYPICAL	TYP
UNDERGROUND	UG
UNDERWRITERS' LABORATORIES	UL
UNINTERRUPTIBLE POWER SUPPLY	UPS
UNLESS OTHERWISE NOTED	UON
VAPOR PROOF	VP
VOLT	V
VOLTMETER	VM
WARM WHITE	WW
WATT	W
WEATHERPROOF	WP
WITH	W/
WITHIN	W/I
WITHOUT	W/O

GENERAL ELECTRICAL NOTES:

1. ALL ELECTRICAL WORK PERFORMED SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC), CITY, COUNTY, AND LOCAL CODES AND ORDINANCES.
2. ALL WIRING, UNLESS NOTED OTHERWISE (U.O.N.) ON DRAWINGS, SHALL BE TYPE "THWN," MINIMUM #12 AWG FOR POWER WIRING AND #14 FOR CONTROLS. ALL WIRING SHALL BE COPPER CONDUCTORS; ALUMINUM AND ALUMINUM ALLOY CONDUCTORS WILL NOT BE ACCEPTED. ALL UNDERGROUND DISTRIBUTION WIRING SHALL BE IN RIGID GALVANIZED STEEL CONDUIT (RGS) UNLESS STATED OTHERWISE.
3. CONTRACTOR SHALL PROVIDE A NEW TYPEWRITTEN DIRECTORY FOR NEW PANELBOARD.
4. ALL THE CIRCUITING SHOWN IS DIAGRAMMATICAL. CONTRACTOR SHALL PROVIDE JUNCTION AND PULL BOXES AS REQUIRED BY THE NEC.
5. ALL CONDUITS SHALL BE SIZED IN ACCORDANCE WITH THE NEC UNLESS SHOWN LARGER ON DRAWINGS; HOWEVER, NO UNDERGROUND CONDUIT SHALL BE LESS THAN 1" U.O.N.
6. ALL FEEDER CONDUIT RUNS TO PANELS ARE SHOWN ON DRAWINGS INDICATING CONDUIT AND WIRING TYPES AND SIZES. ALL CONDUIT EXPOSED TO THE WEATHER SHALL BE STANDARD WALL RIGID GALVANIZED STEEL CONDUIT.
7. ELECTRICAL DRAWINGS ARE DIAGRAMMATICAL ONLY. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF DEVICES.
8. IT WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROVIDE FOR THE TEMPORARY POWER AND LIGHTING REQUIREMENTS.
9. A GROUNDING CONDUCTOR MUST BE PROVIDED IN EACH CONDUIT WHETHER OR NOT THE GROUNDING CONDUCTOR IS SHOWN ON THE DRAWINGS.
10. CONTRACTOR SHALL REPAIR OR REPLACE ALL ITEMS DAMAGED DURING THE CONSTRUCTION OF HIS WORK.
11. IT IS THE INTENT OF THE ELECTRICAL DRAWINGS TO PROVIDE THE CONTRACTOR WITH SUFFICIENT INFORMATION IN ORDER TO PROVIDE AN INSTALLATION COMPLETE IN EVERY RESPECT. THE DRAWINGS ARE DIAGRAMMATIC IN CHARACTER AND DO NOT SHOW EVERY CONNECTION OR INSTALLATION IN DETAIL OR ITS EXACT LOCATION. CONTRACTOR SHALL CAREFULLY INVESTIGATE, COORDINATE WITH OTHER TRADES, AND VERIFY ALL FIELD CONDITIONS AND ACTUAL LOCATIONS OF ALL ITEMS SHOWN ON DRAWINGS PRIOR TO COMMENCING ANY WORK. SHOULD THE DRAWINGS DISAGREE WITH ACTUAL CONDITIONS THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.
12. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETE SYSTEM SHALL BE FULLY OPERATIVE AND ACCEPTED BY THE ENGINEER/ARCHITECT PRIOR TO FINAL PAYMENT.
13. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.
14. ALL EXTERIOR BUILDING EQUIPMENT TO BE WEATHERPROOF NEMA 3R OR NEMA 4 MINIMUM UNLESS OTHERWISE NOTED.
15. WHERE CONTRACTOR COMBINES MULTIPLE CIRCUITS IN ONE CONDUIT, HE SHALL INSTALL ALL HOMERUN, BRANCH AND FEEDER WIRING IN ACCORDANCE WITH NEC 310 AND NEC CHAPTER 9, REGARDING DERATING OF CONDUCTOR AMPACITIES AND ALLOWABLE CONDUIT FILL.
16. RECEPTACLES SHALL BE MOUNTED VERTICALLY UNLESS OTHERWISE INDICATED. MOUNTING HEIGHT FOR RECEPTACLES SHALL BE AS INDICATED ON DRAWING.
17. DO NOT SCALE THE ELECTRICAL DRAWING; REFER TO ARCHITECTURAL PLANS AND ELEVATIONS. FOR EXACT LOCATION OF EQUIPMENT CONFIRM WITH OWNER'S REPRESENTATIVE.
18. DISCONNECT SWITCHES SHALL BE H.P. RATED, HEAVY DUTY, QUICK-MAKE, QUICK-BREAK ENCLOSURES AS REQUIRED BY EXPOSURE.
19. ALL MATERIALS SHALL BE NEW AND BEAR UNDERWRITERS' LABORATORY (UL) LABELS WHERE APPLICABLE.
20. ALL BREAKERS SHALL BE NEW; PROVIDE FULL SIZE BREAKERS. HALF SIZE BREAKERS ARE NOT ACCEPTABLE.
21. ALL TWO OR THREE POLE CIRCUIT BREAKERS SHALL BE COMMON TRIP. TIE HANDLES OR TANDEMS WILL NOT BE ACCEPTED.
22. ALL FUSES, UNLESS NOTED ON DRAWING, SHALL BE CURRENT LIMITING FUSES (C.L.) RATED FOR 200,000 A.I.C.
23. CONNECTION TO MOTOR TERMINAL BOXES AND ANY OTHER DEVICES HAVING ADJUSTABLE MOUNTING FACILITIES OR WHICH ARE SUBJECT TO VIBRATION SHALL BE MADE IN LIQUID TIGHT METALLIC WHENEVER A FLEXIBLE CONDUIT IS EMPLOYED.
24. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL THE FOLLOWING: ALL JUNCTION, METAL OR NON-METALLIC CONDUIT, WIRING AS REQUIRED; OUTLETS WITH COVERS, SWITCHES, CONNECTORS, CONTROLS AND OTHER ACCESSORIES AS REQUIRED TO MAKE FINAL CONNECTIONS TO ALL ELECTRICAL EQUIPMENT SHOWN FOR A COMPLETE AND FUNCTIONAL OPERATION MEETING ALL APPLICABLE CODES AND ORDINANCES. HANDY BOXES ARE NOT ACCEPTABLE.
25. ALL REQUIRED INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY OR PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
26. CONTRACTOR SHALL PAY FOR ALL PERMITS, FEES, INSPECTIONS, AND TESTING.
27. ALL NEW ELECTRICAL PANELS SHALL BE PROVIDED WITH COPPER BUS AND GROUND BARS.
28. FURNISH AND INSTALL DISCONNECT SWITCHES WHERE INDICATED ON DRAWINGS PER MANUFACTURERS' RECOMMENDATIONS. CONTROLS ARE TO BE SUPPLIED BY GATE CONTRACTOR AND CONNECTED BY ELECTRICAL CONTRACTOR.
29. THE CONTRACTOR SHALL CLEAN UP THE CONSTRUCTION SITE AT THE END OF EACH WORKING DAY AND REMOVE ALL TRASH AND DEBRIS CREATED BY HIS TRADE FROM THE PREMISES. THE CONTRACTOR SHALL NOT ALLOW ADJACENT AREAS TO BECOME DUSTY, DIRTY, OR CLUTTERED AS A RESULT OF THE CONSTRUCTION OPERATION.

THE CITY OF LAKE JACKSON

LAKE JACKSON
RECREATION CENTER
BRAZORIA COUNTY, TEXAS

STATE OF TEXAS
BASSAM G. JABORI
89863
PROFESSIONAL ENGINEER
3/11/2013

CAL
CONSULTING ENGINEERS
TEXAS ID # F-5348

CHILLER
REPLACEMENT

LAKE JACKSON
RECREATION CENTER
91 LAKE ROAD
Lake Jackson, TX 77566

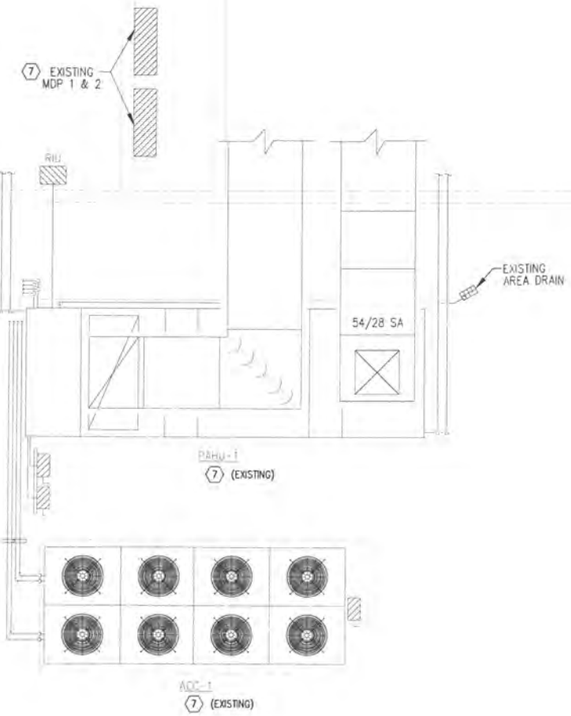
Drawing Date: 03-08-2013
Drawn: AAR
Checked: SJ
Scale: AS INDICATED
ACAD File:
Project No.:

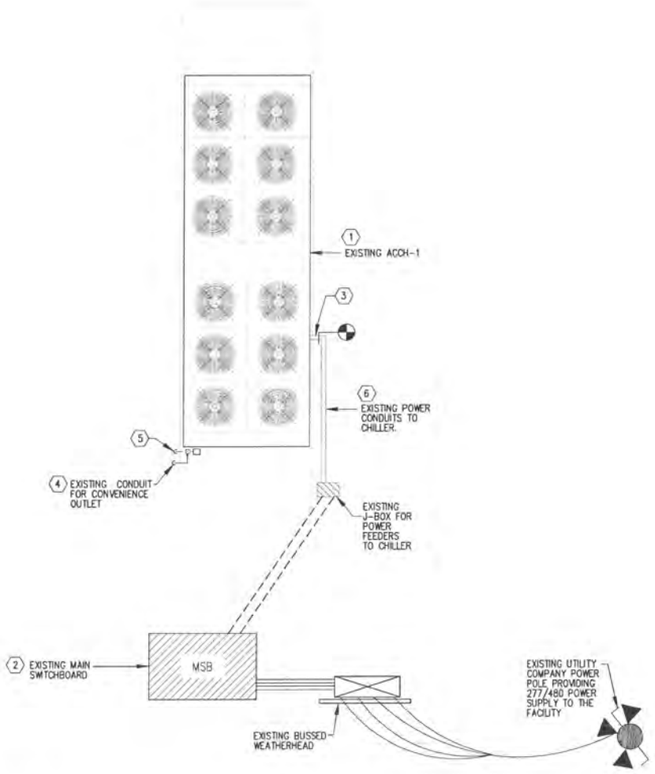
Date Issued	Description

Revisions	Description

ELETRICAL SYMBOLS AND LEGEND

E0-0



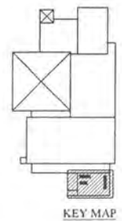


1 ELECTRICAL DEMOLITION FLOOR PLAN

SCALE: 1/4" = 1'

KEYED NOTES:

1. EXISTING 210-TON CHWR TO BE REMOVED.
2. EXISTING MAIN SWITHBOARD TO REMAIN "AS IS"
3. DISCONNECT POWER FROM EXISTING 210-TON CHILLER. RETAIN POWER CONDUITS AND REMOVE EXISTING FEEDERS BACK TO SOURCE.
4. RETAIN EXISTING GFCI POWER CONVENIENCE OUTLET "AS IS".
5. RETAIN CONTROL CONDUIT AND STUB-UP FOR USE WITH NEW CHILLER.
6. RETAIN EXISTING POWER CONDUITS "AS IS" FOR USE WITH NEW CHILLER
7. RETAIN EXISTING EQUIPMENT "AS IS"



KEY MAP

THE CITY OF LAKE JACKSON

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BRAZORIA COUNTY, TEXAS

STATE OF TEXAS
BASSAM G. JABORI
89863
REGISTERED PROFESSIONAL ENGINEER
3/11/2013

CAI ENGINEERS
10370 RICHMOND AVE., SUITE 345
HOUSTON, TX. 77042
TEL. (713) 785-1030 • FAX. (713) 785-1089
TEXAS ID # F-5348

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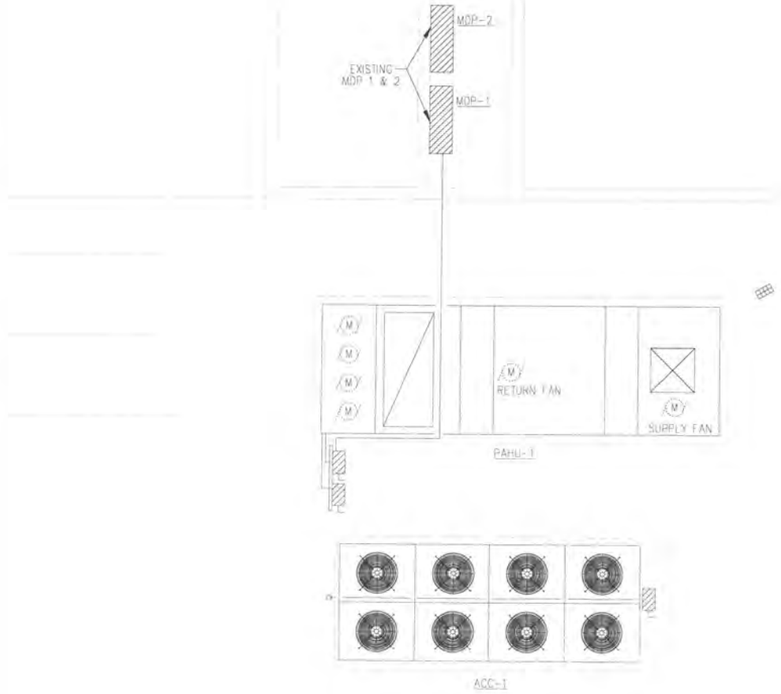
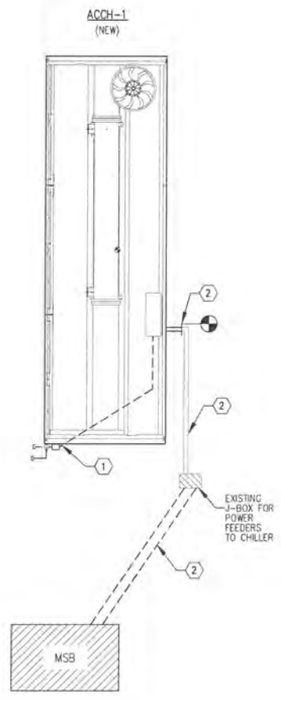
ELECTRICAL DEMOLITION FLOOR PLAN

E1-0



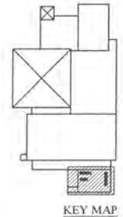


1 ELECTRICAL RENOVATION FLOOR PLAN

SCALE: 1/4" = 1'

KEYED NOTES:

1. EXTEND CONTROL CONDUIT TO CHILLER CONTROL PANEL AS INDICATED.
2. PROVIDE (2) SETS OF NEW (3) 4/0 AWG, (1)-4AWG EGC THRU THE EXISTING 2" CONDUITS. EXTEND POWER FEEDERS FROM THE EXISTING MAIN SWITCHBOARD "MSB" TO THE NEW CHILLER POWER PANEL. PROVIDE ADDITIONAL CONDUITS RUNS AS REQUIRED.



KEY MAP

THE CITY OF LAKE JACKSON

LAKE JACKSON
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BRAZORIA COUNTY, TEXAS

BASSAM G. JABORI
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3/11/2013

CAI
ENGINEERS
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CHILLER
REPLACEMENT

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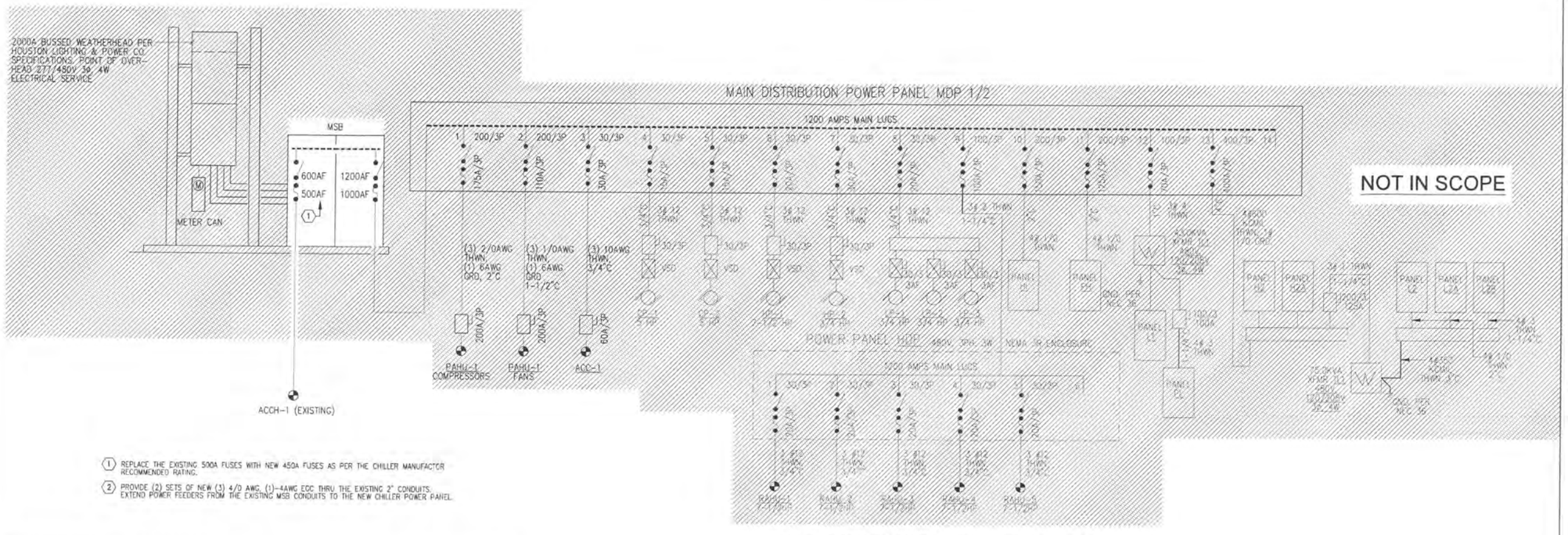
ELECTRAL RENOVATION FLOOR PLAN

E2-0

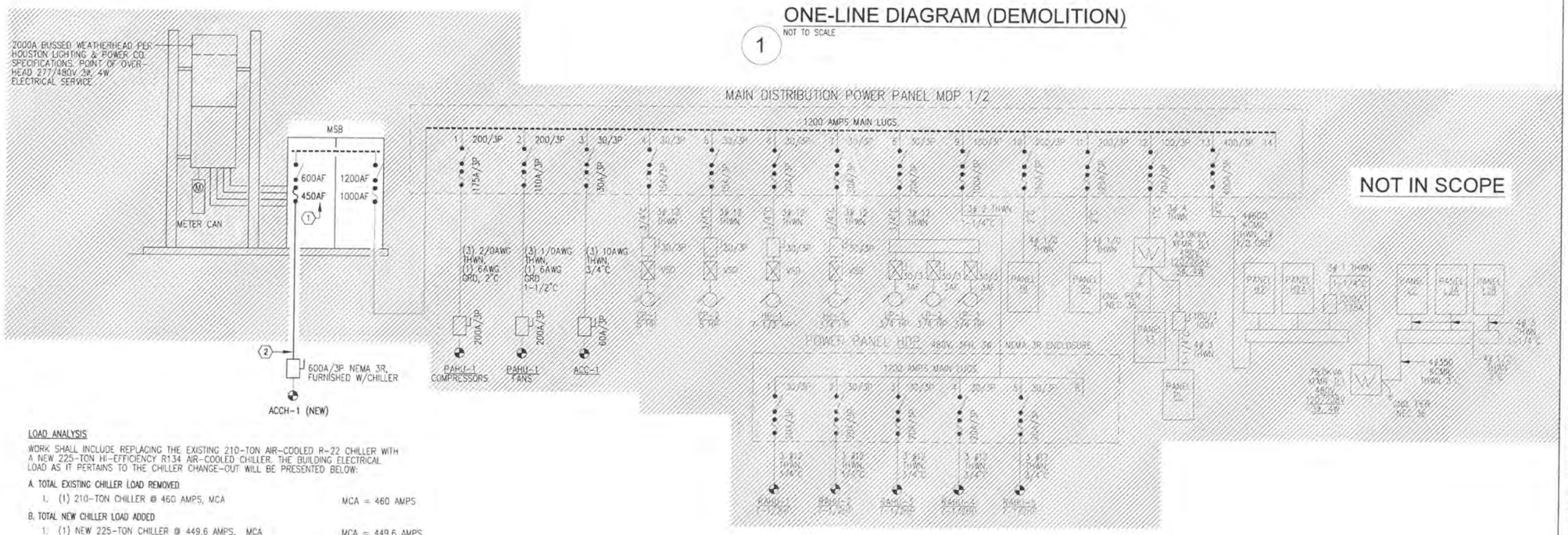


1 REPLACE THE EXISTING 500A FUSES WITH NEW 450A FUSES AS PER THE CHILLER MANUFACTOR RECOMMENDED RATING.

2 PROVIDE (2) SETS OF NEW (3) 4/0 AWG, (1)-4AWG EGC THRU THE EXISTING 2" CONDUITS. EXTEND POWER FEEDERS FROM THE EXISTING MSB CONDUITS TO THE NEW CHILLER POWER PANEL.

1 ONE-LINE DIAGRAM (DEMOLITION)

NOT TO SCALE



2 ONE-LINE DIAGRAM (CONSTRUCTION)

NOT TO SCALE

LOAD ANALYSIS

WORK SHALL INCLUDE REPLACING THE EXISTING 210-TON AIR-COOLED R-22 CHILLER WITH A NEW 225-TON HI-EFFICIENCY R134 AIR-COOLED CHILLER. THE BUILDING ELECTRICAL LOAD AS IT PERTAINS TO THE CHILLER CHANGE-OUT WILL BE PRESENTED BELOW:

A. TOTAL EXISTING CHILLER LOAD REMOVED

1. (1) 210-TON CHILLER @ 460 AMPS, MCA — MCA = 460 AMPS

B. TOTAL NEW CHILLER LOAD ADDED

1. (1) NEW 225-TON CHILLER @ 449.6 AMPS, MCA — MCA = 449.6 AMPS

SPARE CAPACITY AVAILABLE AT MAIN ENTRANCE PANEL

SPARE CAPACITY AT MAIN DISTRIBUTION SWITCHBOARD "MSB" IS (A-B) = +10.4 AMPS

THEREFORE, THE ELECTRICAL LOAD FOR THE NEW AIR-COOLED CHILLER IS LESS THAN THAT FOR THE REMOVED CHILLER BY 10.4 AMPS OR (460 AMPS – 449.6 AMPS)

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ELECTRICAL ONE-LINE DIAGRAM

E3-0