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Engineering Firm of the Estes, McClure & Associates

- ▼ Codes & Standards
- ▼ Equipment Overview: Shut-off valves
- ▼ Fire Protection Q&A

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Estes, McClure & Associates Named *PME*'s Engineering Firm of the Year

by John Koski

P*M Engineer* has named Estes, McClure & Associates, Inc., as its Engineering Firm of the Year. Based in Tyler, Texas, the 25-year-old company specializes in providing engineering and technology services to schools, colleges and universities and has worked with approximately half of all Texas public school districts

Although a number of highly qualified entries were received, our panel of three judges unanimously chose Estes, McClure & Associates as the firm that best epitomized the six criteria established for the award: innovation in design, ability to meet schedules, completeness and thoroughness, industry involvement, community involvement, and customer satisfaction. See the sidebar accompanying this article for some of the judges' comments about the winning entry.

Although Estes, McClure & Associates has only 34 employees—small by comparison to some of the larger firms that submitted entries—during the past five years it has provided engineering and technology services for educational facilities with construction costs totaling more than \$1.5 billion. The firm is headed by principals Jim Estes, P.E.; James McClure, P.E.; Susan Schreppler, P.E.; and Robert “Ed” Cliver, P.E.

“Estes, McClure & Associates chose to specialize in working with schools for several reasons,” founder Jim Estes says. “First, we wanted to do one thing with excellence. We also wanted to work where our teams and personnel would have the opportunity to have a major beneficial impact. In addition, we wanted to work in an area that provided opportunities for energy effi-



Staff members of Estes, McClure & Associates gathered for a group photo after learning that the firm had been named *PM Engineer's Engineering Firm of the Year*. Photo by Jim Batten

ciency improvements and innovative design to provide the best school for the least total cost (both first cost and operating cost). So far, we have worked with 536 independent school districts in Texas and 43 colleges and technical institutes.”

“We are proud of the work we do here at Estes, McClure & Associates,” James McClure says. “We have been blessed by the opportunities given to us during the past 25 years. Through our work we have given something back to the communities in which we all live. We sincerely believe that we can improve the quality of education in this country by providing an optimum learning environment for tomorrow’s generation.”

A Teacher as a Staff Member

The firm’s innovations and involvement can be seen not only in the schools they design, but on a daily basis in the classrooms of those schools. For instance, how many engineering firms do you know of



Designed by Estes, McClure & Associates, the central thermal storage plant for the Plano school complex works at night to create ice which is stored in the tanks at left. During the day, the ice is melted to provide chilled water for cooling the complexes three campuses.

who have a former public school teacher on their staff to assist clients in planning, selection and use of technology in the classroom?

“The former public school teacher we hired recently is used in the initial master planning of technology for schools and colleges, training, and in the design development phase,” McClure notes. “We believe that for schools to obtain the maximum benefit from technology it must be deeply rooted in the activities and purposes of the classroom. It must be curriculum based, not just a subject. Master planning of technology, to be successful, must be a team effort with the client. Curriculum, resource allocation, technology, technology infrastructure, building infrastructure, and flexibility/capacity for the future are all critical for cost-effective and successful use of technology dollars.

“For example,” McClure continues, “we designed the ‘Eco-Education’ demonstration models for the McKinney Sustainable Elementary School. Some of the models incorporated into our design include a hot water solar energy system, a collection system to collect rainwater for use in the school, and an energy management control system with a demonstration console that will allow students and teachers to interactively learn about how the solar energy and air-conditioning systems work. The teachers will have the opportunity to use the building and the demonstration models to teach about the environment.”

Innovation in Design

In supporting the firm's dedication to innovative design, the Estes, McClure & Associates' entry noted the following projects, among many others:

McKinney Elementary School. This project was recently named by the American Institute of Architects to the Earth Day Top 10 List for Environmentally Responsible Design Projects in the nation. One of the school's unique features is a rainwater harvesting system designed by Estes, McClure &

Associates. By collecting rainwater from the roof of the building and channeling it to one of six on-campus storage tanks, enough water can be collected in one year to flush the school's toilets and water the grounds for about six years.

Plano School Complex. A need for more classrooms, increasing costs of construction and high electrical demand costs led engineers at Estes, McClure & Associates to formulate and design an innovative central thermal storage plant to produce air conditioning for three campuses in the school district. At the heart of the design is a central thermal storage plant working at night, when electric rates are lower, to provide cooling during the day. Two Trane screw chillers make ice at night that is stored in tanks (photo at left). During the day, the chillers rest while the ice is melted to provide chilled water for cooling the three campuses. Other innovative features of the system include variable-speed pumping of chilled water, automatic direct digital controls for temperature controls, central plant operations and facility management, screw chillers, glycol-water heat exchanger, and high efficiency small boilers located at each school.

Marshall School District. Located in east Texas, this small district believes in putting its tax dollars into the classroom rather than the pockets of utility companies. Working through Estes, McClure & Associates the district has documented more than \$2.8 million in electrical and natural gas costs savings while increasing the district's building area. In 1984, natural gas alone cost the district more than \$260,000 a year. Now, the cost for natural gas is less than \$40,000 a year. Boiler replacements were done at the district's schools using high-efficiency Lochinvar Power-Fin natural gas boilers, controlled in stages, based on actual need, with automatic direct digital controls.

Oñate High School. Located in Las Cruces, New Mexico, the 272,000-square-foot Oñate High School incorporates individual Trane heat pumps for each classroom, controlled by a direct digital control system. A key feature is the flexibility to operate the equipment only in occupied areas. This is especially beneficial for high schools where there are many after-hours activities of partial occupancy.

Ability to Meet Schedules

According to their entry, Estes, McClure & Associates uses the following methods, among others, to achieve consistent meeting of schedules:

- Experienced school engineers specializing in educational facilities
- Investment in technology to produce specifications, drawings and reports (e.g., high-speed printers for drawings)
- Investment in technology for gathering field data for renovation projects (e.g., digital cameras, instrumentation, etc.)
- Team organization and coordination of projects during all design phases and construction
- Team attitude when problems are encountered
- Long-term customer, vendor and manufacturer relationships

ENGINEERING FIRM OF THE YEAR

Completeness and Thoroughness

Somewhat unusual for a consulting engineering firm, Estes, McClure & Associates has established a quality control department separate from the design/engineering department. Quality control personnel check drawings before they are released and again just after release for any last-minute changes or designs.

In addition, the firm also conducts regular training sessions for all employees. Typical in-house training includes, but is not limited to plumbing design, air conditioning design, technology design, energy analysis, project coordination, and quality control. The firm also solicits feedback from field personnel and holds frequent design/specifying coordination meetings with the owner, architect and equipment suppliers.

Industry Involvement

Among other organizations, Estes, McClure & Associates is involved in the American Society of Mechanical Engineers (ASME), American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), American Society of Plumbing Engineers (ASPE), Association for Supervision and Curriculum Development, Energy Engineers Association, National Fire Protection Association (NFPA), National Society of Professional Engineers, and the Texas Society of Professional Engineers.

James McClure has been a member for 17 years of Texas A&M University's Advisory/Planning Committee for the Symposium on Improving Building Systems. In addition,

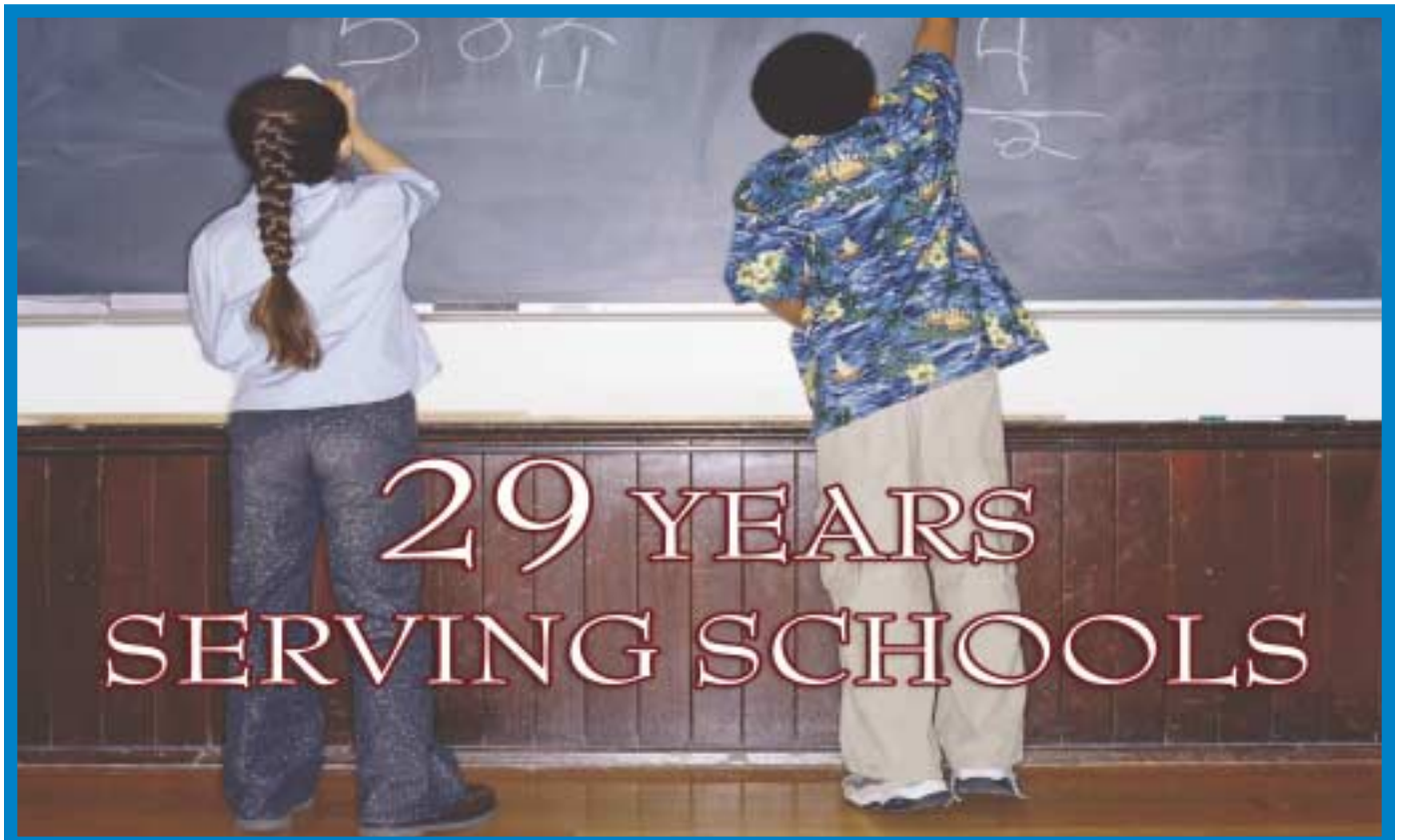


Oñate High School in Las Cruces, New Mexico, incorporates individual heat pumps for each classroom.

employees of the firm have served as board members and president of local chapters including ASHRAE and ASME.

Community Involvement

Several Estes, McClure & Associates' employees serve as mentors for high school students interested in engineering, and also visit high schools and colleges on career days. The firm also supports school district fund-raising activities, sponsors student publications, is a sponsor and teacher for Junior Achievement, and supports fund-raising activities for the blood bank and crisis center. Other employee activities include being a scoutmaster for the Boy Scouts, coach for youth soccer and other sports, and serving as Sunday school teachers.



PME's Engineering Firm of the Year: Comments from the Judges

Marty McIntyre

"Estes, McClure & Associates' entry not only showed the firm's commitment to innovation, but also provided solid examples of how the firm's clients have benefitted. Estes, McClure & Associates demonstrated a high degree of customer satisfaction by maintaining ongoing relationships with several school districts. I especially liked the firm's dedication to educating both its staff and clients through workshops and seminars."

Marty McIntyre is a past president of the Construction Writers Association and winner of the CWA's 1999 Silver Hat Award for lifetime service to the construction industry. She has spent her career writing about and promoting design, construction and real estate. She has served as editor of several construction publications and currently is Director of Marketing and Public Relations for The Counselors of Real Estate, the commercial consulting affiliate of the National Association of Realtors.

Shelley J. Hartnett

"I selected Estes, McClure & Associates as my top choice for the Engineering Firm of the Year Award for several reasons. First, their entry was easy to read and understand, especially the technical information relating to innovation of design. I am sure this emphasis on clear communication is something their clients also appreciate. Second, I liked their emphasis on employee training. Third, the firm's community involvement included explanations of what Estes, McClure & Associates has done for various community groups."

Shelley J. Hartnett is Manager of Corporate Marketing for FMI, a management consulting firm specializing in the A/E/C industry. She has put together hundreds of entries for awards such as this and understands the thought and work required. She has worked as a marketing director for architects, engineers, landscape architects, planners, environmental engineers and general contractors.

David J. Wood

"Though the smallest and youngest of the competing firms, Estes, McClure & Associates' entry best addressed the award's criteria. The firm has chosen to focus on doing one thing—providing engineering services to schools, colleges and universities in Texas—and to do that one thing better than anyone else. Their demonstrated innovation, supported by several letters from clients and associates recommending them for the award, made them a winner in my eyes."

David W. Wood is a Weare, New Hampshire-based copywriter, publicist and newsletter publisher specializing in the construction industry. He is a past president of the Construction Writers Association and his newsletter, Words from Woody, is a three-time winner of the CWA's T. Randolph Russell Award, signifying it as the industry's best newsletter.

Customer Satisfaction

Several letters of recommendation accompanied the entry of Estes, McClure & Associates. Excerpts from those letters attest to the firm's high degree of customer satisfaction.

"The satisfaction of the district, in combination with the projects being under budget, the innovative design of the systems and meeting new code requirements are some of the reasons that I contend choosing Estes, McClure & Associates to do our project was a great choice." Don Hillis, Superintendent of Wharton Independent School District.

"Estes, McClure & Associates have provided excellent engineering services for me on more than 15 school projects valued at more than \$100 million in two school districts. They provide superb services on projects of a few thousand dollars as well as large projects of over \$30 million. They have assisted both districts in unique and innovative design to compete and receive several hundred thousand dollars of federal and state energy grant funds. The company is strong in scheduling work for contractors and following up to ensure a complete and high quality product. I can recommend them without reservation." Superintendent Jack Cockrill.

"We are an HVAC contractor doing work throughout the state of Texas. I can truthfully say it has been a pleasure working with Estes, McClure & Associates. Their personnel are professional in character and work. They are the type of people that will help instead of complicating the problem. Their designs for projects, such as schools and other buildings, are far superior to other firms with which we have worked. Their plans are well thought-out prior to print. They plan so that scheduling and completing the job on time are a major priority. Customer complaints are few and are always taken care of to the customer's satisfaction." Johnnie Cook, President of John Cook & Associates, Balch Springs, Texas.

"I have worked with Estes, McClure & Associates on numerous projects dating back to 1987. They are one of the most professional firms I know. They treat their clients, suppliers and contractors fairly. When an issue arises, they research the issue, hold meetings if necessary, and communicate to all parties a recommended solution. Unlike some professional engineering firms, Estes, McClure & Associates does not routinely dictate a requirement and threaten suppliers and contractors to act. They treat everyone involved with respect and fairness. In addition, they provide clear and concise specifications, hold informative pre-bid meetings and ensure that their clients receive good value." Chris Hill, Director of the Global Business Division of CSI Control Systems International.

"I have worked with the staff of Estes, McClure & Associates for many years and I know of no other engineering firm that has had the positive effect on the schools in this state that they have had." Phil Rutledge, President of RSI Rooftop Systems, Inc.

PM Engineer extends its congratulations to Estes McClure & Associates as its 1999 Engineering Firm of the Year. They are a firm worthy of this honor and are an asset to the industries and communities they serve and live in. **PME**

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