



# The Building of America

## Pedernales Fire Department Station No. 1 - Briarcliff, TX

### FACTS & FIGURES

- Owner: Travis County, Texas Emergency Services District No. 8
- Type of Project: A new fire station
- Size: 9,650 square feet
- Cost: \$1,963,356 (construction costs); \$2 million (total, including furniture, equipment, communication systems and program system)
- Construction Time: August 2008 - August 2009
- The Need: A new state-of-the-art fire station to replace an aging facility
- The Challenge: Building on the steeply sloping site, and dealing with related issues such as site drainage

### The Building of America Network Team Members

- **KA Hickman Architects and Interior Designers**  
Architect
- **Braun & Butler Construction**  
Construction Manager at Risk
- **Baker-Aicklen and Associates, Inc.**  
Civil Engineers
- **CECO Building Systems**



The original Pedernales Fire Department Station, built in 1972, was recently replaced with a brand-new station in order to aptly serve the community. "The new facility provides a modern fire/emergency facility that is the center of the 24-7 mission of fire prevention, fire fighting, rescue and recovery, and response to other community medical needs," said HC Lott Jr., PE, commissioner/project manager for the Texas Emergency Services District No. 8.

One of the most unique elements of the new station is its two-story design, stemming from the site's sloping topography. "Due to the narrow width of the site and a grade change of 14 feet along the east side of the site, adequate space was not available for a one-level, on-grade structure, [which is] preferred for fire stations, therefore it was necessary to design a two-level facility," said Lott.

The station includes four fire apparatus bays on the first, on-grade level, along with fire personnel living quarters and fitness and utility rooms. The fire department's administrative offices, a training room with a large kitchen, restrooms, and a large mezzanine storage and utility area are located on the second level, which is also at grade level 14 feet above the lower level because of the site's slope. The station's modern, well-equipped training room is used not only for in-house training, but also accommodates training for fire/rescue personnel from around the county. Additionally, the station includes a second kitchen to accommodate community events and fundraisers.



The apparatus bay section of the building is a preengineered steel frame structure with metal panel siding and a standing seam metal roof. The living quarters and administrative areas are housed in a two-level metal/wood framing/exterior insulation finish system (EIFS)/masonry structure. The two sections are joined by a reinforced concrete masonry unit (CMU) parapet wall 42 feet high and 51 feet long. Furthermore, the building backs up against a 14-foot-tall natural rock wall that runs the entire length of the building, according to Braun & Butler Construction, the project's construction manager at risk. The second floor of the administration area extends over the wall and is built on the upper elevation of the site.

Another unique feature of the project, according to Lott, is the landscaping, which is 100 percent Xeriscaping. This eliminates the need for an irrigation system, which would have been very expensive to install because of the site's topography and its location from an existing water main. Furthermore, there are no ongoing maintenance costs since there are no plants or grass. "The landscape is not only compatible with the existing environment, it also enhances the beautiful Texas hill country around it," said Lott.



The site's steep slope dictated some unique design solutions for the new station, according to Keith A. Hickman, principal for KAHickman Architects and Interior Designers, the project's architect, but it also presented some challenges, particularly with site drainage. Ultimately, the drainage was redirected around the building.



Another challenge involved the natural rock wall that runs along the back of the building. Dampproofing the concrete wall that was poured against the natural rock wall was necessary to keep ground water from entering the building. "Sheet dampproofing was installed and covered with a water draining protection system, which drained into a piped drain system," said Mac Ellis of Braun & Butler. French drains were also installed.

According to Lott, the project's financing also posed obstacles. Since the county doesn't provide funds for the construction of new district emergency services facilities, funds had to be obtained from another source. "We were able to obtain the approval of the people in the community to levy a 0.75 percent sales tax on sales within our district," said Lott, adding that the construction-manager-at-risk, guaranteed-maximum-price (GMP) delivery system was extremely advantageous in obtaining a high-quality project within the owner's budget.

Braun & Butler was involved during the design phase establishing budgets so that as the design developed the budget would be maintained, which saved time and money. "During this time, value engineering from potential subcontractors was used extensively to ensure the owner was getting the most value for their money," said Ellis.

"The strengths and experience of the project team was the key to a very successful project," said Lott. Indeed, the project team overcame the challenges to complete the new fire station in August 2009, providing the community with a state-of-the-art facility to serve its needs.

— Jamie Rawcliffe