

AECO selects Rockfon to help create a solid foundation for learning



Stephen F. Austin High School (HISD) Houston, TX

Built in 1936, Stephen F. Austin High School is one of the first educational facilities in the Houston Independent School District (HISD). After more than 80 years of service, HISD and the East End community embarked on a multi-phased project to preserve the school's original historic façade and to create a new, expanded environment for learning in the 21st century. Rockfon's acoustic ceiling systems were selected for the school's renovation and were installed by AECO.

Products in use

- Rockfon Artic®
- Rockfon® Hygienic Plus™
- Rockfon Sonar®
- Rockfon® Intaline™ V-Base
- Chicago Metallic® 1200

In April 2021, the revitalized building earned LEED® Silver certification from the U.S. Green Building Council. Along with restoring the architecturally significant brick and stone façade, the school's interior features a modern appearance constructed with integrated technology and energy-efficient, sustainable, long-lasting products.

Supporting the school's improved performance, sustainability and aesthetic, AECO Interior Contractors installed more than 250,000 square feet of Rockfon's ceiling systems throughout Stephen F. Austin High School.

Rockfon's acoustical stone wool ceiling panels and metal suspension systems were approved as the basis of design for the project. Referencing HISD Design Guidelines and following Texas Educational Agency rules, Eco Architects selected and specified Rockfon Artic® ceiling panels, Rockfon® Intaline™ V-Base metal ceiling baffles and Chicago Metallic® 1200 Series 15/16-inch ceiling suspension systems.

HISD is the largest school district in Texas and the seventh largest in the U.S. The 333-square-mile district has 280 schools and more than 209,772 students. Home of the Mustangs, Stephen F. Austin High School serves nearly 1,700 students in grades 9-12. Its campus also offers a magnet school program for qualified candidates interested in maritime studies and teaching professions.

In its Design Guidelines, HISD notes it "is committed to building schools that provide a solid foundation for modern learning. The goal of the program is to ensure we are designing facilities that reflect the importance of collaboration, creativity, critical thinking and problem-solving."

Key Components of HISD Design Guidelines' for creating exemplary 21st century learning environments include:

- **Flexible spaces:** Education must evolve beyond a traditional classroom configuration.
- **Differentiated learning:** Students have individual learning styles, and a "one-size-fits-all" approach does not engender success.
- **Project-based learning:** When a project has real-world application, student engagement increases.
- **Blended learning:** A way to combine instructor-led classroom learning with mobile and online education using such tools as TV, cell phones, tablets and videoconferencing.
- **Commons:** A place considered the physical "heart" of the school that offers a comfortable place to gather, problem-solve and collaborate.



HISD gathered input from parents, students, teachers, staff, alumni and community members throughout the project's inclusive development and design process. To prepare for the major renovation and expansion of Stephen F. Austin High School, an assessment was conducted to examine and evaluate current conditions of the high school.

The Facility Condition Assessment reported that several additions and renovations had been made to the original, three-story Main Building, but the ceilings in this historic structure had remained untouched. Estimating a service life of 20 years per HISD Design Guidelines, the ceiling would have been ready for renewal in 1956.

Existing ceilings in other areas of Stephen F. Austin High School had been updated in 1975 and 1990, with their service life expiring in 1995 and 2010, respectively. The most recent ceiling replacements had been made in 2004 with replacement anticipated in 2024.

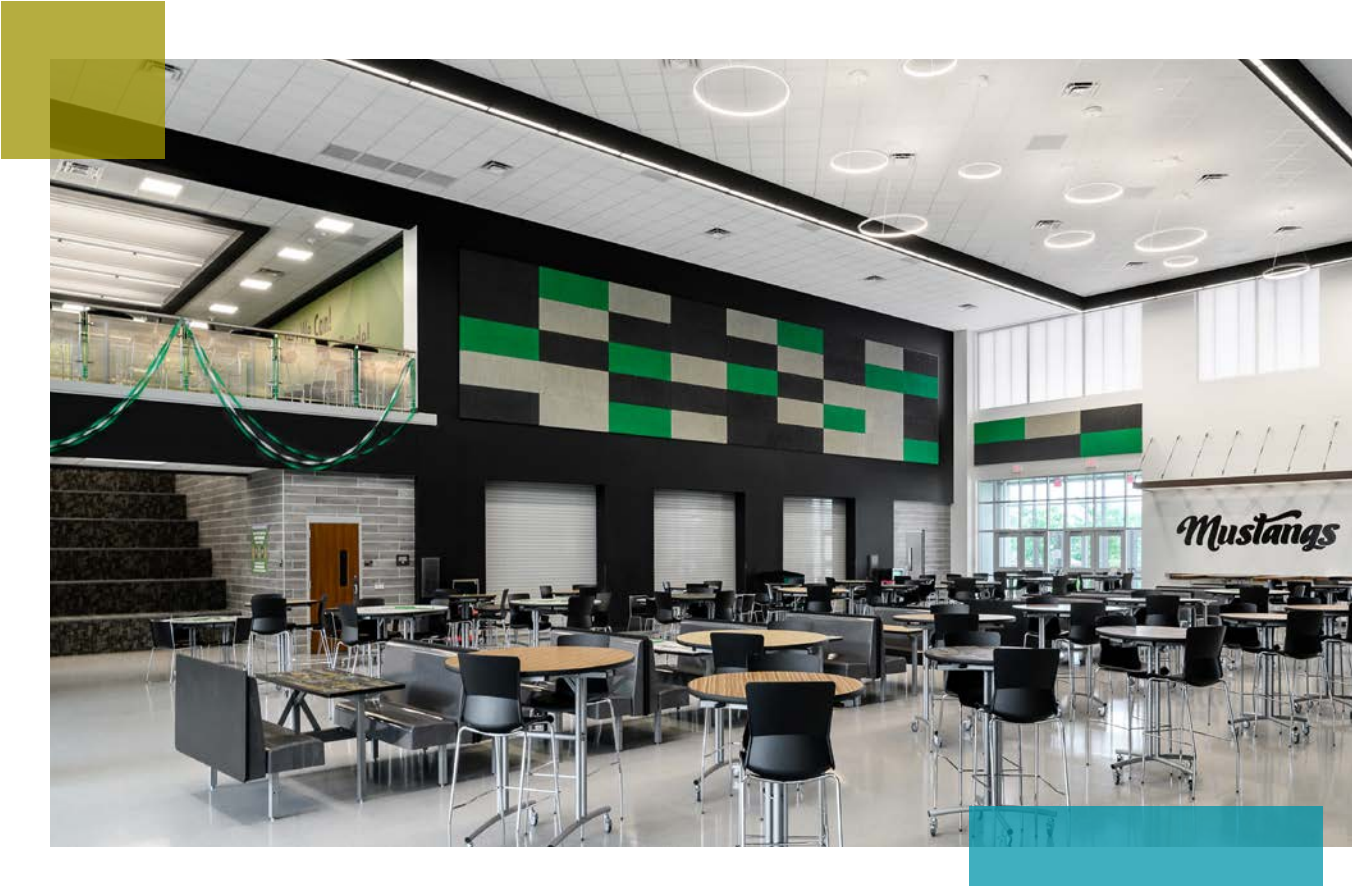
Backed by a 30-year standard warranty, Rockfon Artic acoustic stone wool 2-by-2-foot ceiling panels feature a square lay-in edge design. Rockfon Intaline metal baffles provide vertical elements that purposefully contrast with the stone wool panels' smooth, monolithic appearance. The mixture of materials and visual cues helps orient the students within the school's interior floorplan and distinguish spaces' academic function.

AECO installed Rockfon's ceiling systems in the school's renovated Art Deco auditorium as well as in its newly constructed classrooms, music rooms, science laboratories, library, gymnasiums, dining hall, collaboration and socialization areas, and corridors.

"The modern interior delivers an engaging, educational facility that meets HISD's current and future needs, while respecting the school's architectural heritage, the environment and the community," said Rebecca Silva, Rockfon's District Sales Manager serving Houston. "We're proud that Rockfon's ceiling systems contribute to a more beautiful and effective learning space where students can thrive."

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The new 288,628-square-foot, U-shaped building surrounds a courtyard landscaped for outdoor learning and positioned to maximize window views. Lots of daylight, open spaces and better traffic flow were priorities for modernizing Stephen F. Austin High School's campus.



Effective use of natural light also makes more efficient use of electric lighting and cooling. The smooth, white surface of Rockfon Artic reflects up to 85 percent of light helping to save energy. Utilities are HISD's second-largest expense after salaries and benefits for its 27,000 employees.

Some schools also conserve energy and resources by turning off their HVAC systems when classes are not in session. In Texas, this not only increases the indoor temperature, but can raise the humidity. Rockfon's stone wool and metal ceiling systems maintain their rigidity and resist sagging, even in 100 percent relative humidity. In fact, Rockfon's ceiling panels are hydrophobic, meaning they do not absorb moisture.

Beyond their humidity and moisture resistance, Rockfon's ceiling systems do not support the growth of mold, mildew or other potentially harmful microorganisms. No added antimicrobials are used to provide this level of performance.

Rockfon stone wool ceiling panels also have earned UL® Environment GREENGUARD® Gold Certification for low chemical emissions in schools. This certification process takes into consideration safety factors that may impact those with vulnerable immune systems, including children.

The stringent UL GREENGUARD Gold certification is recognized by numerous green building and wellness programs including the Collaborative for High Performance Schools (CHPS), the WELL® Building Standard and LEED.

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HISD already has the second-largest number of LEED-registered schools across the nation, according to the Texas Gulf Coast Chapter of the U.S. Green Building Council. Building schools to high environmental standards not only saves the district money with reduced-energy usage, but the buildings and various environmentally sound designs are being incorporated into students' education.



Mold prevention, lighting control, thermal comfort and low-emitting materials are some of the LEED credits awarded to the school in the indoor environmental quality category (IEQ). The LEED IEQ category also requires projects to meet a minimal level of acoustic performance.

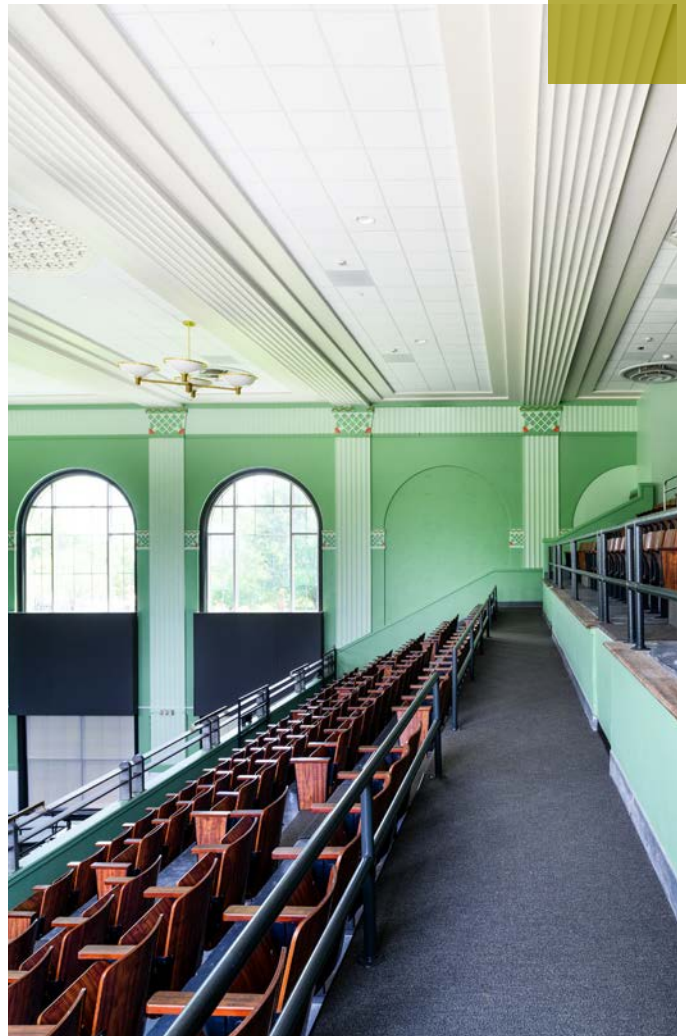
HISD Design Guidelines v3.0 specify that ceiling panels should have a minimal Noise Reduction Coefficient (NRC) of 0.70 for projects seeking LEED certification. The district's guidelines also require compliance with ANSI Standard 12.60 for Classroom Acoustics "to address issues of reverberation time and background noise and their effect on speech intelligibility in the classroom."

Up to one of every four words cannot be understood by students in many classrooms, according to a study by the Acoustical Society of America. When students cannot hear their teachers, they struggle to stay focused, to understand lessons, and to perform well on tests. For students with hearing impairments, learning disabilities, or who speak English as a second language, hearing clearly is a critical part of their success and an essential consideration in creating an inclusive learning environment.

Rockfon Artic stone wool ceiling panels have an NRC of 0.75, providing better-than-specified acoustic performance. Sound-absorbing ceiling systems, sound-insulating full-height walls and appropriate background noise levels work together to produce an optimal acoustic experience for students, teachers and staff.

According to HISD, "Research shows that new school buildings have a positive impact on academic achievement. Daylighting, improved ventilation and air quality, and larger classrooms with better acoustics all play a role in learning outcomes. Students and staff will benefit from a modern, safe and healthy learning environment."

The EPA reported that up to half of the nation's schools have problems linked to poor indoor air quality, increasing children's risk of chronic allergies and asthma. Asthma alone is the leading cause of children's absenteeism with approximately 14.7 million school days missed each year.

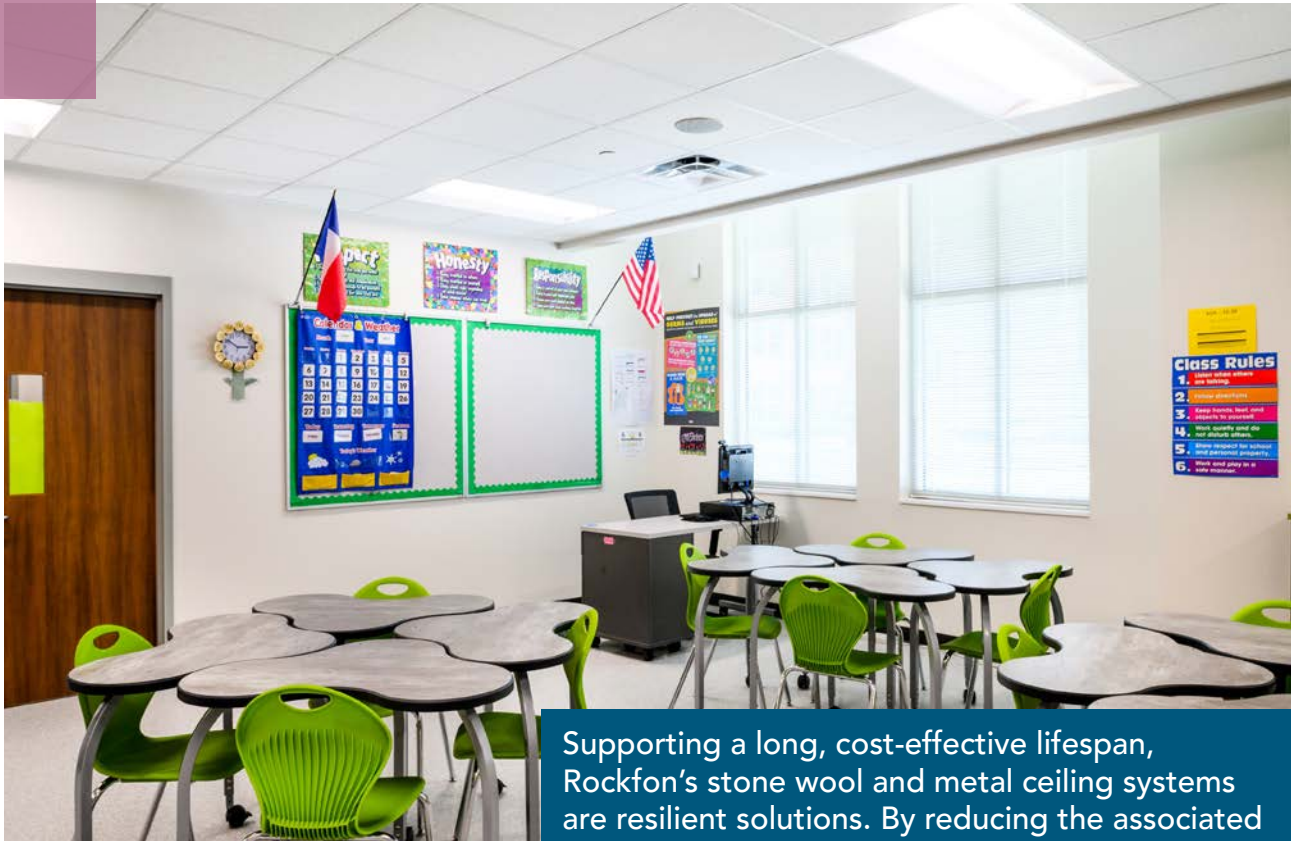


Along with meeting criteria for good indoor air and environmental quality, Stephen F. Austin High School also earned LEED credits for thoughtful choices in material and resources, including products with recycled content. Demonstrating its transparency and sustainability, Rockfon offers health product declarations (HPDs) and UL-verified environmental product declarations (EPDs) to help architects, building owners and tenants make informed decisions about their material ingredients.

Rockfon Artic stone wool ceiling panels include recycled content with the majority of its ingredients sourced from naturally abundant basalt rock. Rockfon Intaline metal baffles are manufactured with up to 85 percent recycled content and are 100 percent recyclable at the end of their useful life on the school.

During its many years of service, Rockfon's 15/16-inch standard suspension system allows facilities staff to remove a single ceiling panel or baffle, or several, for easy random access to the plenum. This simple, modular system accommodates the school's future upgrades to lighting, HVAC, audio-visual, IT and other services and equipment concealed by the ceiling system.

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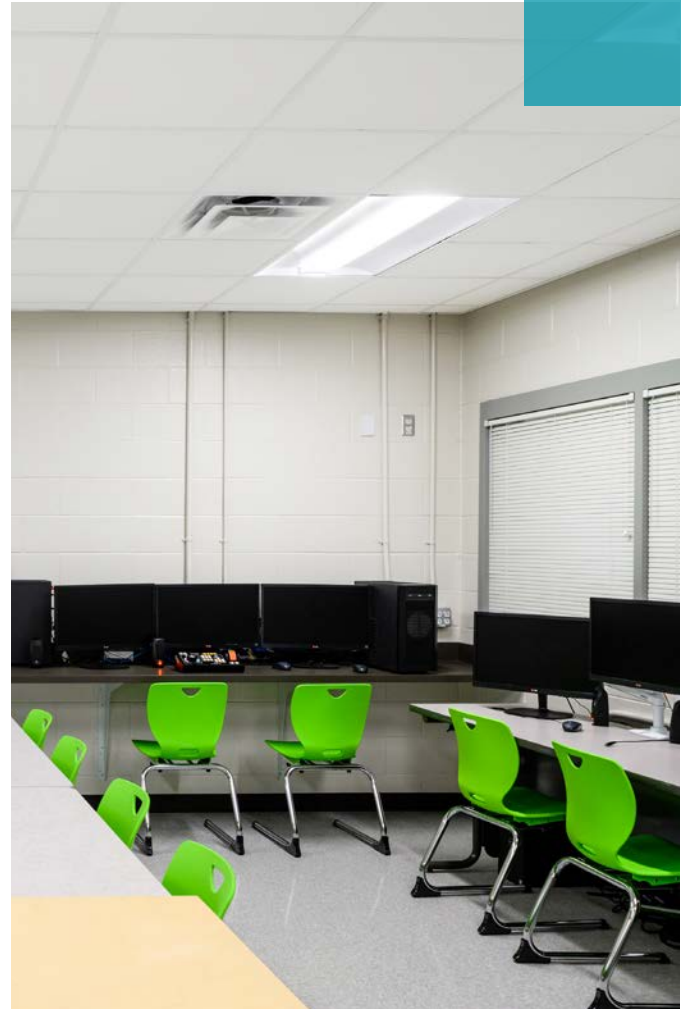
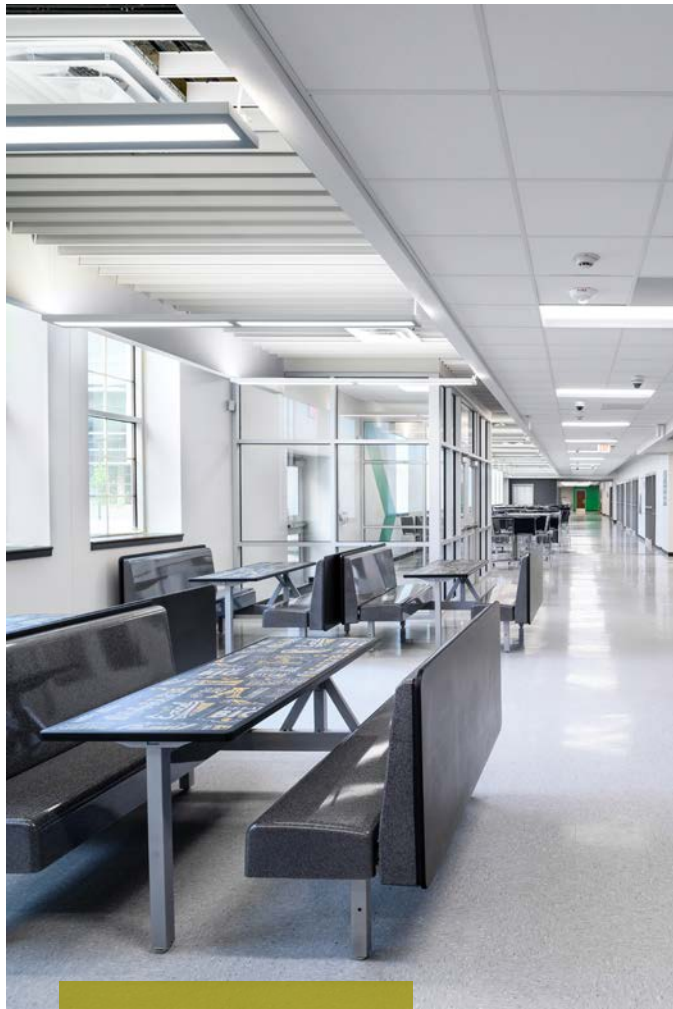
The renovation and expansion of Stephen F. Austin High School cost a total of \$80.9 million. This was funded in part by a \$1.89 billion school bond project passed in 2012 to replace and repair 40 schools across the district, including 29 high schools. New high school projected costs were calculated using a formula that allocates 140 square feet per student at a cost of \$160 per square foot. Renovation costs are projected using a \$100 per square foot formula.

Energy-efficient and environmentally responsible facilities also result in lower operating costs for the district. "We're focused on it because it is the right thing to do," said Bankhead. "HISD is one of the largest property managers in the city and it's a rare opportunity that a district has the chance to rebuild 20 high schools and make major renovations to so many of their facilities. We have a really important responsibility to make good use of our resources – not just financial resources – but conserving our natural resources as well."

HISD Senior Project Manager Meredith Smith, added, "HISD has been building and designing schools that are both great places for students to be learning, but also great buildings that are favorable to the environment and long-term building sustainability."

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In addition to earning LEED Silver certification, Stephen F. Austin High School participates in the National Wildlife Federation's Eco-Schools USA, a holistic program that strives to make environmental awareness and action an intrinsic part of the culture of a school.



Planning on Stephen F. Austin High School began in 2014 with design by Eco Architecture continuing through 2016. Webber began site preparations in late 2016 and the official groundbreaking for the new expansion was held in Dec. 2018. Construction was completed as scheduled in Aug. 2020, but the grand opening was delayed due to pandemic precautions.

In April 2021, a virtual event safely celebrated the accomplishment of all involved. Judith Cruz, HISD Board of Education Trustee, said, "This school is a beautiful blend of old and new honoring its rich history, while looking forward with innovative design and all the modern resources our kids need to achieve their dreams. It's an inspiring symbol of renewal for the East End, a sign of confidence in all that we have to offer in our ability to build a better future of our families, and it shows HISD's commitment to providing this community with what its residents need and want for generations of children to come."



Fulfilling its commitment to the community, Stephen F. Austin High School's revitalization project enlarged classrooms, science laboratories, gymnasiums, Career and Technical Education spaces, and enhanced areas for the school's maritime careers program, fine arts, Junior Reserve Officers' Training Corps and more.

The Class of 2021 was the first to graduate from the updated Stephen F. Austin High School. Designed and constructed to serve enrollment forecasts for the next decade, the expanded campus will support up to 2,000 students.



The vision of Stephen F. Austin High School is to develop socially responsible and productive lifelong learners who will positively contribute to the East End community and society.

Disclaimer: The information contained here is based on factual, publicly available information and does not constitute endorsement or recommendation by Houston Independent School District, Stephen F. Austin High School, their employees or their associates.

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