



**WEST BRAZOS
JUNIOR HIGH SCHOOL
BRAZORIA, TEXAS**

4, 5, and 7%

point increase on mathematics, reading, and social studies tests, respectively

Built for **18%** less than the average junior high school

55% locally manufactured materials

LEED® Facts

West Brazos Junior High School
Brazoria, Texas

LEED for New Construction
Certification awarded July 30, 2007

Certified 27*

Sustainable Sites 7/14

Water Efficiency 4/5

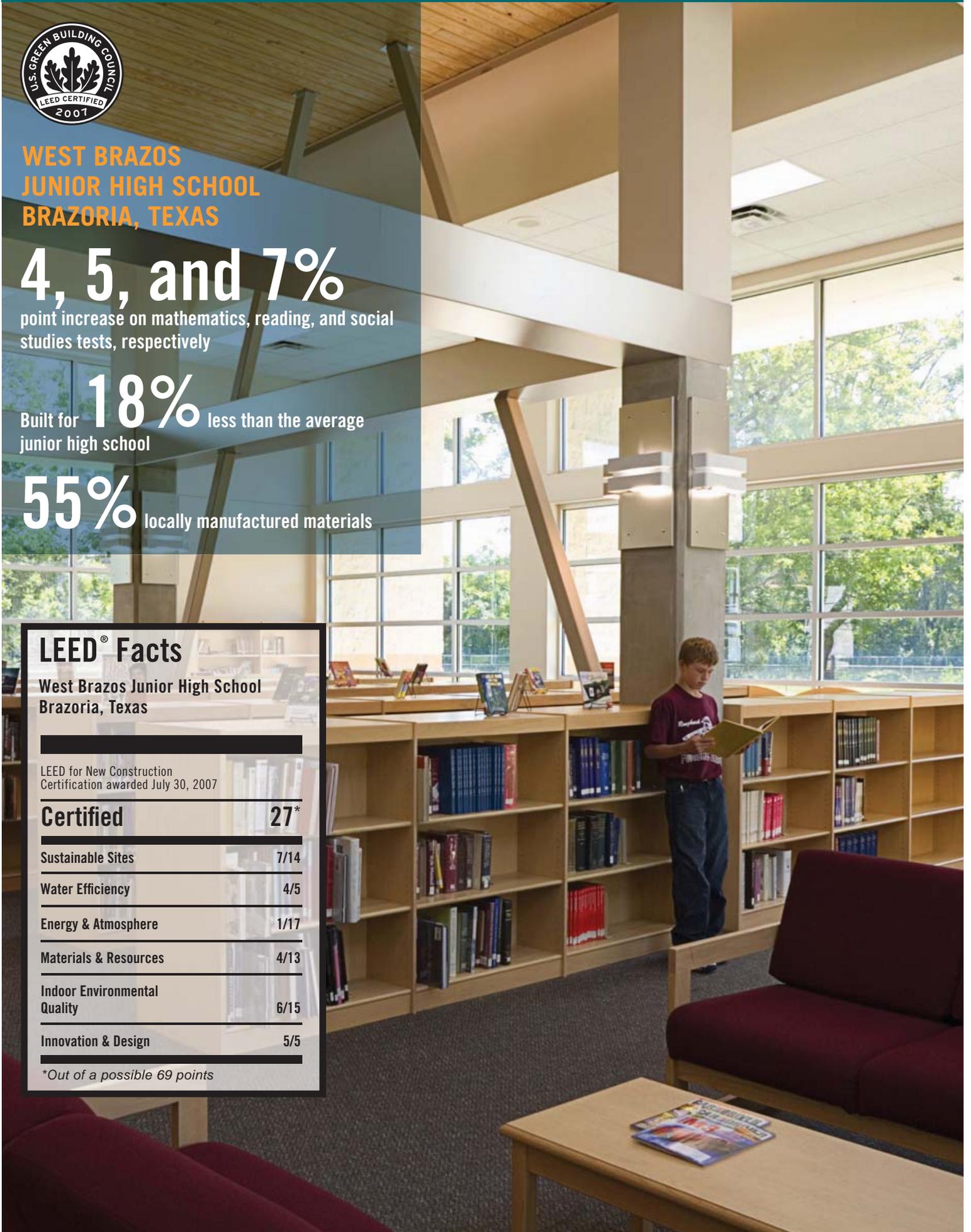
Energy & Atmosphere 1/17

Materials & Resources 4/13

Indoor Environmental Quality 6/15

Innovation & Design 5/5

*Out of a possible 69 points



WEST BRAZOS JUNIOR HIGH SCHOOL

A Better Learning Environment

School on the Texas Gulf Coast Shows a Cost-Effective Approach to Green

PROJECT BACKGROUND

West Brazos Junior High School, located in Brazoria, Texas, serves 600 students in grades seven and eight. The first public junior high school in Texas to earn LEED certification, West Brazos opened in time for classes in fall 2006. Built for \$109 per square foot, the school was built for 18% less than the average junior high school in the region (2006 Construction Report. School Planning & Management).

DESIGNED FOR LEARNING

Encouraged by the links between the indoor environment and student performance, the project team focused on strategies that would enhance daylighting and indoor air quality. Following the move to the new school, student standardized test scores improved by four, five, and seven percentage points for mathematics, reading, and social studies, respectively.

While privacy and security concerns convinced the project team to leave certain spaces—including the computer labs, fitness center, and teachers' lounge—without direct outdoor views, windows and clerestories bring daylight into other areas. More than 90% of these remaining areas, including classrooms, have views to the outdoors.

The project team selected adhesives, sealants, paints, and carpeting for their low chemical emissions. Entry grates collect dirt and other pollutants before occupants track them into the building. All custodial rooms, science labs and copy areas feature dedicated ventilation, and all drains from custodial rooms and science areas are separately plumbed. The school has committed to preserving indoor environmental quality by using only green cleaning products.

STRATEGIES AND RESULTS

To encourage alternative transportation, the school provides bike racks and showers, preferred parking spaces for carpool vehicles and a carpool incentive program. All roofing materials and site paving are light-colored, reducing the project's contribution to the urban heat-island effect, and all site lighting was selected or modified to reduce light pollution.

The building is located on a 53-acre site landscaped with vegetation that is adapted to the region's coastal environment and needs no irrigation. Low-flow toilets and faucets reduce the project's interior water use, bringing total potable water consumption 31% below code.

Low-emissivity glazing in the classrooms, library, cafeteria, and office areas reduce the building's cooling loads while allowing daylight into working areas. Simple exterior shading devices reduce glare and solar heat gain. They also function as lightshelves, bouncing daylight deeper into classroom spaces.

The building is primarily concrete masonry and includes stucco and metal panels. The project team selected these materials for their durability and low maintenance needs as well as their cost and aesthetics. The team also selected materials for their recycled content and regional origins. More than 55% of all materials, by cost, were manufactured within 500 miles of the project site, and the construction team diverted 56% of all waste, by weight, from the landfill.

ABOUT COLUMBIA BRAZORIA INDEPENDENT SCHOOL DISTRICT

Columbia Brazoria Independent School District, located about 50 miles southwest of Houston, Texas, covers more than 225 square miles and educates more than 3,000 students.

“Our goal was to demonstrate that green schools were achievable without spending extra money during the process. The key was smarter choices, not more money.”

Martha Buckner, Assistant Superintendent,
Columbia Brazoria Independent School
District



Architect: SHW Group, LLP
Civil Engineer/Contractor: Brooks & Sparks, Inc.
Contractor: Tellepsen
MEP Engineer and Commissioning Agent: DBR, Inc.

Project Size: 91,500 square feet
Total Project Cost: \$9,931,000
Cost per square foot: \$109

Photograph Courtesy of: SHW Group, LLP

ABOUT LEED

The LEED® Green Building Rating System™ is the national benchmark for the design, construction, and operations of high-performance green buildings. Visit the U.S. Green Building Council's Web site at www.usgbc.org to learn more about LEED and green building.



www.usgbc.org
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