

# PROJECT PROFILE



## Johnson Space Center Building 26 "Columbia Center" Houston, Texas

### LEED for New Construction

**21%** Less energy

**30%** Regional Materials

**40%** Reduced Potable Water Usage

**45%** Recycled Content

**88%** Construction Waste Diverted

## LEED® Facts

NASA Johnson Space Center  
Building 26  
Houston, TX

LEED for New Construction version 2.2 -  
Certification Awarded September, 2010

**Gold** 42\*

Sustainable Sites 9/14

Water Efficiency 3/5

Energy & Atmosphere 6/17

Materials & Resources 5/13

Indoor Environmental Quality 14/15

Innovation & Design 5/5

\*Out of a possible 69 points

# PROJECT PROFILE

## NASA Johnson Space Center – Building 26 “Columbia Center”

### Enhancing Astronaut Performance



#### PROJECT DESCRIPTION

Building 26 is the Center for Human Space Flight Performance and Research (CHSFPR), now named the “Columbia Center”. This facility is used for enhancing the health and well-being of astronaut crews preparing to support or returning from space flight. This facility promotes crew health and performance by housing a variety of aerobic and resistive exercise equipment, rehabilitation treatment areas, dedicated treatment personnel, specialized in-flight exercise hardware, and a two lane lap pool (natatorium) all in one location.

#### SUSTAINABLE SITES (9/14)

2 bicycle storage facilities and 7 shower facilities have been provided. 3 preferred parking spaces for low-emitting and fuel efficient vehicles have been provided on site. 70,146 square feet of dedicated open space has been provided. The project has implemented a storm water management plan that protects receiving stream channels from excessive erosion through stream channel protection and quantity control. 65.3% of the non-roof impervious surfaces on-site have been paved with highly reflective materials, and roofing materials used on the project have an average SRI value of 89.34.

#### WATER EFFICIENCY (3/5)

Installed irrigation systems reduce potable water consumption by 72.2% from a calculated baseline case. The project has reduced potable water use by 40% from a calculated baseline design through the installation of low-flow showers, sinks, lavatories and urinals, and dual-flush water closets.

#### ENERGY & ATMOSPHERE (6/17)

The project has achieved an energy cost savings of 22.4% using the ASHRAE 90.1-2004 Appendix G methodology. Energy efficiency measures include an improved thermal envelope, high efficiency glazing, reduced lighting power density, high efficiency boilers, and an efficient HVAC system. The project has purchased Green-e accredited Tradable Renewable Certificates (RECs) equal to 4437.9% of the predicted annual electrical consumption over a 2 year period.

#### MATERIALS & RESOURCES (5/13)

The project has diverted 168 tons (87.9%) of on-site generated construction waste from landfill, and 45.4% of the total building materials content, by value, have been manufactured using recycled materials. 30.7% of the total building materials value is comprised of building materials and/or products that have been extracted, harvested or recovered, as well as manufactured within 500 miles of the project site.

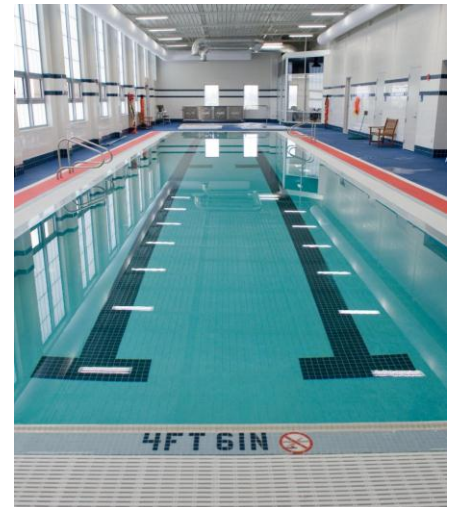
#### INDOOR ENVIRONMENTAL QUALITY (14/15)

CO2 concentrations are monitored within all densely occupied spaces and that direct airflow measurement devices have been provided for each mechanical ventilation system serving non-densely occupied spaces. The project to demonstrate that a minimum daylight illumination level of 25 footcandles has been achieved in a minimum of 85.59% of all regularly occupied areas.

#### INNOVATION IN DESIGN (5/5)

The project received exemplary performance for its innovation in recycled content usage, potable water reduction, use of Tradable Renewable Certificates, and open space accommodation.

This facility enables the Johnson Space Center to implement a high level of strength conditioning and rehabilitation of astronauts to support existing and new initiatives directly related to human space flight. The consolidation of strength conditioning and rehabilitation functions was required to efficiently and closely monitor crew health, safety and performance. These two functions provide critical health maintenance services to every crew member on every human space flight mission. Each requires very close contact with medical and strength personnel to monitor astronaut's physical status.



**Owner:** NASA, Johnson Space Center  
**Architect:** AECOM  
**Structural Engineer:** AECOM  
**MEP Engineer:** AECOM  
**Commissioning Authority:** Page Sutherland Page  
**Contractor:** LMC  
**Project Size:** 22,621 SF  
**Project Cost:** \$8,676,539  
**Completion:** February 2010  
**Photography:** NASA

#### 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](http://www.usgbc.org) and the TX Gulf Coast Chapter of USGBC at [www.usgbcctexasgulfcoast.org](http://www.usgbcctexasgulfcoast.org) to learn more about how you can make LEED work for you.