

PROJECT PROFILE



**Johnson Space Center
Building 20**
Houston, Texas

LEED for New Construction

29% Regional Materials

30% Recycled Content

40% Reduced Potable Water Usage

57% Less energy

96% Construction Waste Diverted

100% Tradable Renewable Certificates

LEED® Facts

NASA Johnson Space Center
Building 20
Houston, TX

LEED for New Construction version 2.1 -
Certification Awarded September, 2010

Platinum **55***

Sustainable Sites 11/14

Water Efficiency 4/5

Energy & Atmosphere 13/17

Materials & Resources 7/13

Indoor Environmental Quality 15/15

Innovation & Design 5/5

*Out of a possible 69 points

PROJECT PROFILE

NASA Johnson Space Center – Building 20 A Significant Milestone for the Agency



PROJECT DESCRIPTION

Building 20 is distinguished as the first LEED Platinum building within the National Aeronautics and Space Administration. The building features a demand control ventilation system, an under floor air distribution system, a highly efficient domestic water system, and an energy recovery wheel for the pre-treatment of outside air.

SUSTAINABLE SITES (11/14)

The project site is located within 0.5 miles of 11 community services and a residential district with a minimum density of 10 units per acre. Building 20 also provides bicycle storage for 5% of the building occupants and shower facilities for 0.7% of the building occupants. There are 9 preferred parking spaces for low-emitting and fuel efficient vehicles have been provided which represents 5.2% of the total onsite parking provided for the project. 54% of the site area (not within the building footprint) has been restored with native planting. 289,500 square feet of vegetated area is set aside by NASA JSC that will not be developed. 100% of the total roof area consists of an Energy Star rated roofing material with emissivity of at least 0.9.

WATER EFFICIENCY (4/5)

The project has reduced potable water use by 40.25% from a calculated baseline design through the installation of waterless urinals, dual-flush water closets, and low-flow lavatories and sinks. Water efficient landscaping was reduced by 50% through incorporation of a condensate holding tanks for irrigation.

ENERGY & ATMOSPHERE (13/17)

Energy efficiency measures incorporated into the building design include lower lighting power densities, a more efficient envelope, occupancy and day light sensors and an under floor air distribution system. The project performs 57.8% better than ASHRAE 90.1-1999 requirements using the ECB method. Additionally, Building 20 has a 2-year purchase agreement to procure 100% of the project's regulated annual electric energy is purchased from a power supply that meets the Green-E definition for renewable power. No CFC-based refrigerants (ozone depleting) substances were used in the HVAC nor fire suppression systems.

MATERIALS & RESOURCES (7/13)

The project has diverted 2,243.65 tons (96.92%) of on-site generated construction waste from landfill. 29.45% of the total building materials content, by value, has been manufactured using recycled materials.

INDOOR ENVIRONMENTAL QUALITY (15/15)

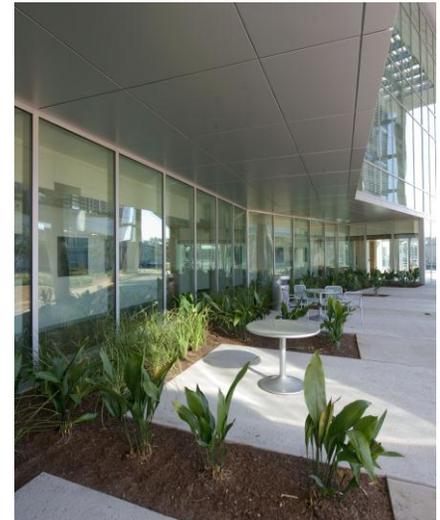
The project has installed a CO2 monitoring system that provides feedback on space ventilation performance. Designated smoking areas have been located at least 25 feet from building openings and air intakes. The design achieves an air change effectiveness of 0.9 or greater in each ventilated zone. Low emitting materials were used in construction that comply with the VOC limits. The project has achieved a minimum 2% daylight factor in 75% of all space occupied for critical visual tasks, and has enabled direct line of sight views from a minimum of 90% of all space occupied for critical visual tasks.

INNOVATION IN DESIGN (5/5)

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

“Facility occupants will benefit from a building designed to provide natural daylight to all office spaces. The design includes natural light in the stairwells, bicycle racks, and showers to encourage employee health and fitness.”

Charles Noel, NASA JSC
Project Manager for Building 20



Owner: NASA, Johnson Space Center
Architect: HOK Architects
Structural Engineer: Walter P. Moore
MEP Engineer: HOK Architects
Commissioning Authority: Page Sutherland Page
Contractor: Satterfield & Pontikes
Project Size: 83,205 SF
Project Cost: \$25,303,516
Completion: January 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 and the TX Gulf Coast Chapter of USGBC at www.usgbctexasgulfcoast.org to learn more about how you can make LEED work for you.