



George Bush Intercontinental Airport: Terminal C

PROJECT:
George Bush Intercontinental Airport:
Terminal C
Houston, TX

PEERLESS PRODUCTS:
Custom Lightedge Rectangular Indirect

ARCHITECT OF RECORD:
Parsons – 3D/I
Houston, TX

LANDSCAPE ARCHITECTS:
Clark Condon Associates
Houston, TX

INTERIOR DESIGN:
Bennett Design Group
Houston, TX

ELECTRICAL CONSULTANTS:
Shah Smith & Associates
Houston, TX

LIGHTING DESIGNER:
Bos Lighting Design
Houston, TX

PHOTOGRAPHY:
Tim Griffith
Houston, TX

George Bush Intercontinental Airport, Houston's largest airport residing on 10,000 acres of ground, is the eighth-busiest airport in the United States, offering non-stop service to more than 150 cities and serving nearly 40 million passengers every year.

As part of a multiyear expansion to revitalize what is for many the city's front door and satisfy projected aviation demands, Terminal C underwent a two-phase \$112 million renovation covering nearly 3.2 million sq. ft., which concluded in January 2006.

Most of the Terminal public spaces were renovated, excluding the concourses. The baggage delivery system was overhauled and the public drop-off zones reconfigured. The large, open ticketing lobby and baggage claim spaces received new finishes and energy-efficient lighting. And the two parking garages on the east and west sides of the Terminal were cleaned and painted and received new lighting.

When the airport was originally built in 1969, transportation architecture focused almost purely on function—delivering passengers from one point to another without delay. Modern airports support retail and restaurants

while providing an important first impression for their cities, requiring attention to aesthetics, atmosphere and comfort.

Recognizing the role of lighting as a vital contributor to these goals, the Houston Airport System and Continental, George Bush Intercontinental Airport's hub airline, required that a lighting designer be engaged for Terminal C's renovation in the RFP.

Bos Lighting Design had already participated in relighting Terminals A and B as well as other major facilities including a parking expansion and consolidated car rental, making them a natural choice.

"The lighting goals were to provide as much light as possible to improve security and to have more of a sense of overall brightness to match or exceed the light levels of Terminal B," says Monte Riggs, AIA, IES, Bos Lighting Design. "The client wanted a fresher and more modern look. In the baggage claim, we wanted to make the space feel bigger, brighter and more open, less cave-like. The client also wanted to emphasize the Terminal exterior at the drop-off areas with a level of brightness similar to Terminals A and B."

In the ticketing lobby, a proposal to replace the existing downlights with an indirect cove solution was scrapped for budget reasons and a simpler direct solution provided relying mostly on direct 70W metal halide downlights on a 10-ft. x 10-ft. grid. Supplemental fluorescent lighting is provided at the ticket counters with recessed continuous linear luminaires. Traveler attention is directed to two feature walls clad in wave-shaped perforated metal panels, lighted from the front in the flat sections at a grazing angle by blue LED luminaires and backlit with fluorescent striplights.

In the baggage claim, high-efficiency luminaires were selected that would not only provide better general lighting but also place more light on walls and the ceiling plane.

"My intention was to use light to make both exterior and interior spaces glow sufficiently that people would be drawn into them without being overwhelmed by so much brightness that they would be uncomfortable," says Riggs. "I also wanted it to be simple enough that the general lighting would not compete with or add to the visual chaos of flight and



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baggage information displays, retail and food service areas, etc.”

He adds that a significant challenge with lighting such high-volume spaces, however, is achieving proper light levels while complying with energy code restrictions, as codes establish lighting power density limitations based on area, not volume. The solution often involved indirect lighting. By placing light on the walls and ceilings using indirect lighting, these spaces appear visually brighter and spacious rather than cavernous.

For occasional heightened visual interest and a means of promoting wayfinding so that travelers can orient themselves easily, the lighting design emphasizes focal points, typically special architectural treatments, using color and brightness contrast. In some cases, the lighting plays a more direct role in wayfinding through the use of curvilinear luminaires that service to encourage movement in the appropriate direction.

The Terminal exterior, meanwhile, is lighted with rectangles and squares of extruded aluminum indirect luminaires, specifically the award-winning Lightedge Rectangular luminaire by Peerless Lighting. Suspended from the deck of the third level of the parking garage, the luminaire bounces light from “coffers” created by the beams and girders of the cast-in-place garage floors.

“Our goal was to make a good first impression for newcomers to the city, to give them a positive impression about Houston and Texas.”

“The quality of the optics and luminaire detailing are as good as I’ve seen in a linear pendant, and the design sense is very elegant and clean,” Riggs explains, adding that he specified more than

three miles of the product. “The clean profile fit the aesthetic we were after and the high-quality aluminum extrusion is a key requirement of a luminaire exposed to the heat, high humidity and the occasional hurricane we have to deal with here.”

Each square or rectangle over public walkways or drive aisles has a central cluster of four metal halide downlights in a custom housing to place additional illumination on the horizontal plane where pedestrian activity warrants higher light levels.

“Our goal was to make a good first impression for newcomers to the city, to give them a positive impression about Houston and Texas,” says Riggs.

ABOUT THE DESIGNER

Monte Riggs, AIA, IES, a registered architect and lighting designer for Bos Lighting Design, has worked as a professional lighting designer for nearly a decade, earning International Illumination Design Awards of Merit. He holds a Bachelor of Fine Arts and a Master of Architecture degree.