Breaking traditional boundaries

With its innovative design and construction, the new Charles Evans Wittaker U.S. Courthouse in Kansas City, MO, introduces a new concept in federal construction

by Tammy Mastroberte

The crescent-shaped exterior of the Charles Evans Whittaker U.S. Courthouse in Kansas City, MO, features an Atlantic Blue granite base and Massangis Roche Claire French limestone columns.

Photos by Timothy Hursley

Differing from the typical courthouse structure, the Charles Evans Wittaker U.S. Courthouse, in Kansas City, MO, exhibits a unique design. The exterior walls of this 270-foot-high building form a crescent, which curves around a central four-story atrium rotunda. The building stretches a total of 615,000 square feet and contains 16 courtrooms that are each shaped in a wedge, making use of all available space. "This is a magnificent building that defies the traditional courthouse concept," stated Woody Overton, regional administrator for the U.S. General Services Administration.

Another feature adding to the originality of the building is the use of the metric system for plans and construction materials. This was done as a result of the 1991 order signed by President George Bush, stating that all federal construction done after January 1994 was to be metric. The Kansas City courthouse was among the first buildings to use the system, and those involved in the project prepared for the challenge by undergoing a five-week training period. "Actually, it is much easier than the old system once you get used to it," stated Rick Fortner, general superintendent at J.E. Dunn Construction Co. in Kansas City, MO.

The building's creative design continues inside the courthouse and includes a number of floors that vary in height and elevation. The service floor alone has 13 elevations, and other areas of the building have floor heights ranging from 12 to 16 feet. For this reason, it was necessary to use precast concrete for the building's exterior. This material was also chosen to complement the limestone exterior of the existing City Hall and courthouse. "We wanted the new building to respond to the context of the site," said Ashley. "It was to tie in to the existing City Hall." Since there are 2,400 pieces of precast concrete, of which 2,100 are unique, the fabricator had the challenge of working with little repetition.

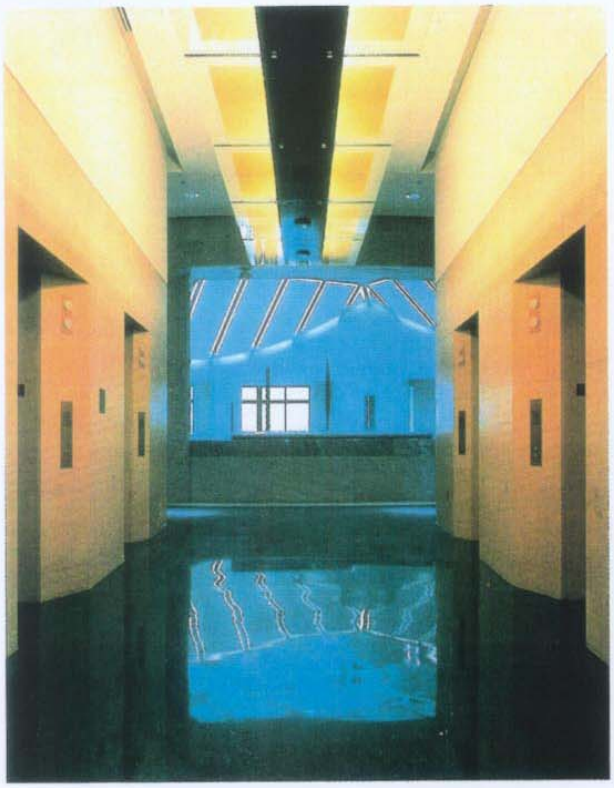
Exterior design

In addition to precast material, the exterior of the building consists of limestone and granite. Massangis Roche Claire French limestone was used around the entrance and its four columns, while 21,400 square feet of Atlantic Blue granite was used for both the base of the building and the columns. "The granite is found in a ring around the lower 6 to 8 feet of the building," said Chris Paris of J.E. Dunn, adding that 55- x 55-inch granite pieces were used on the base of the building, while the granite and limestone on the columns was cut to fit exactly into place. "The granite at the base of the building was used to tie in with history," said Ashley. "Granite is traditionally used for the base of a courthouse."

Across from the courthouse lies the City Hall, and in between the two buildings, a civic mall — or park is being created. The rotunda atrium is at the front of the courthouse and the glass faces the park, providing a view from the public spaces. The private judicial chambers also feature glass with the same view. "Glass was placed in these areas to take advantage of the views to the north," said architect Chris Ashley of Ellerbe Becket in Kansas City, MO. "Also to give an open feel to the public areas."

Stepping inside

To separate the public, judicial and inmate areas, the interior of the courthouse is divided into three sectors. This was done "to make sure these three elements only crossed over and came together in the courtrooms," said Ashley. The public sections include the public



For the elevator lobby, Massangis Roche Clair French limestone was used for the walls in 55- x 30-inch pieces, and Black and White Missouri terrazzo was used for the floors.

lobby, elevator lobby and atrium rotunda. The floors of these sections as well as the floor of a small kitchen in the building are Black and White Missouri terrazzo. Additionally, in both the elevator lobby and the public waiting rooms, Massangis Roche Clair French limestone was used for the walls. The limestone walls in the elevator lobbies are comprised of flat 55- x 30-inch pieces. However, the pieces in the public waiting rooms are fabricated by hand. "Radius pieces are found in the public lobbies on levels 6, 7, 8 and 10," said Paris.

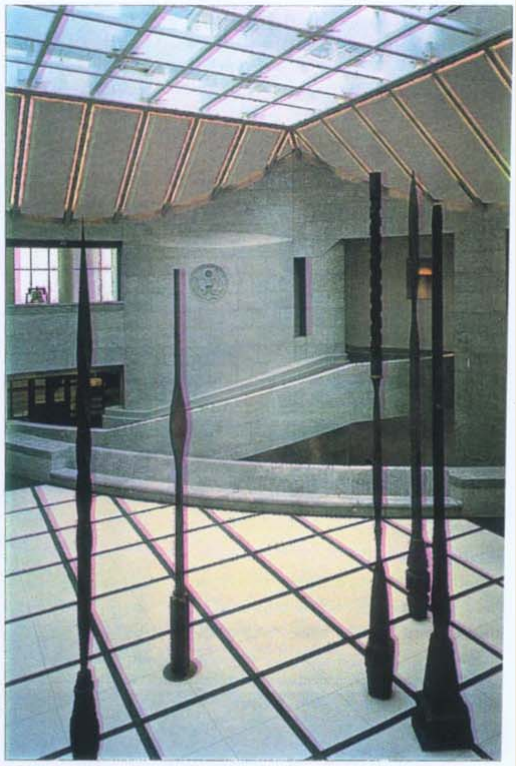
In addition to the French limestone, the interior of the courthouse also contains Silver Cloud granite. This stone

Silver Cloud granite was hand-fabricated into radius pieces for the walls of the central rotunda lobby.

can be found on the walls of both the rotunda lobby and behind each judge's bench in the courtrooms. In total, 23,500 square feet was used and like the limestone in the public lobbies, the granite was also fabricated by hand into radius pieces.

Installing the stone

Both the interior and exterior stone was installed on schedule and took 16 months from start to finish. "All of the



The rotunda atrium lobby faces the front of the building, and the glass wall provides a view of the civic mall — or park.

stone was installed with a steel frame back-up and epox blocks with pins to hold it in place," said Dennis Cisper c J.E. Dunn. This method was chosen because of th engineering and fabrication of the stone. "Both the quantit and size of the pieces required this method," said Cispe explaining that the most challenging aspect of the installatio was the quality expectations of the owner. "We made hi look at the stone on a regular basis so there were n surprises. He looked at the veining and checked for quar deposits and pockets."

The radius of the building made it difficult to constru because there was no point of origin. Hand-held comput technology assisted the workers in determining a centerli point of the building. "Finding the exact location of a wo point in thin air was quite a challenge," stated Jeff Campb of J.E. Dunn. Additionally, a pour strip was left open for days to allow for concrete shrinkage. During this time, t rest of the building was constructed around the open gap.

In creating this distinctive courthouse, the contributo designed and constructed a building that is not on aesthetically pleasing, but also long-lasting. "The building

All of the public areas used Black and White Missouri terrazzo for the flooring, including the rotunda lobby

known as the hundred-year building," said Ashley. "The granite base is substantial and has great durability, and the building should last more than 100 years." ❑

Charles Evans Whittaker U.S. Courthouse
Kansas City, MO

Architect/ Designer: Ellerbe Becket, Kansas City, MO; ASAI, Kansas City, MO
Stone Installer: J.E. Dunn Construction Co., Kansas City, MO
Stone Suppliers: Missouri Terrazzo, St. Louis, MO (terrazzo); Rocomat, sni, L'Ile-Saint-Denis, France (limestone); Granicor, St. Augustin, Quebec, Canada (granite)