Los Angeles New United States Courthouses are 10 story side lite glass buildings that float over the streets of downtown. The building skin is a design element that provides effective blockage of facilities, while the building skin also acts to break up the impact of blasts from neighboring streets. The design-build team developed an innovative core and truss structure that allows the building to float with a 2.5% cantilever in all directions.

OPMIMIZING THE CORE AND TRUSS SYSTEMS

The latest systems consist of four primary reinforced concrete shear wall cores that correspond directly to the program organization and are designed to act as organizing elements for stair, mechanical rooms, and service cores, providing essential fluid from the foundations throughout the entire height.

OPTIMIZING THE CORE AND TRUSS SYSTEMS

In the final optimized geometric form, the building is supported by sheer walls that are thick in the exterior core walls and thin in the interior core walls, providing a fluid transition from the foundation to the roof.

CONSTRUCTION SEQUENCE AND TEMPORARY SHORING

A conventional construction sequence would have more than doubled the schedule for the superstructure, and increased the cost of construction beyond feasibility. Instead, a bottom-up procedure was followed by erecting the superstructure in the basement, followed by the core box, then the roof. The final construction sequence was to remove the temporary shoring from the roof, then to meet critical path sequencing.

PROJECT CREDITS

Architect and Structural Engineer: Skidmore, Owings & Merill LLP with Clark Construction (design-build team)  
General Contractor: Clark Construction

Client: U.S. General Services Administration (GSA)