

# Austin City Hall

Austin, TX



## Team

### Owner:

City of Austin, TX

### Architect:

Antoine Predock Architect PC  
Albuquerque, NM

### Architect of Record:

Cotera+Reed Architects, Austin, TX

### Engineer:

Datum Engineers Inc. and  
PE Structural, Austin, TX

### Construction Manager:

Hensel Phelps Construction Co., Austin, TX

### Reinforcing Bar Fabricator:

Capital City Steel, Buda, TX

### Total Project Cost:

\$50 million

### Total Project Size:

118,000 sq ft

## STRUCTURAL FRAMING SYSTEM

Officials in the City of Austin wanted to create a landmark-style sustainable city hall with a 100-year service life, above a 750-car parking garage for employees and shoppers. To overcome the challenges posed by the site and to meet all of the building's varied functional needs, designers specified a site-cast reinforced concrete structure.

## UNIQUE DESIGN FEATURES

The project used a Construction Manager at Risk delivery method to ensure close oversight on subcontracts. That approach was necessitated by the complexity of the structure and the site restrictions, which included the third level of underground parking being located 10 feet below the level of the nearby lake.

The design for the parking structure and building uses reinforced concrete framing with flat-slab floors. The building's design featured an irregular form and structural grid, which was shifted from the grid of the parking structure below.

As a result, only 33 of the parking structure's 113 columns continue to the second floor, requiring the transfer of the building's load to the regular grid of the lower parking structure through a first-floor transfer level using deep reinforced concrete beams. The two-way flat slab floors with drop panels and top and bottom reinforcing steel helped create a clean, open look for the floors. Repetition from floor to floor in placing reinforcing steel sped up construction after the first level was completed. A construction joint was provided between the parking facility and the offices above. At the slabs, threaded inserts were detailed for slab reinforcing for extensions and couplers for column reinforcing bar extensions for possible future use.

The office levels also do not align vertically, resulting in areas of deep cantilever. In fact, the arc of the northeast corner has several floors which cantilever over cantilevers, requiring the structural support for these overhangs to transfer to the garage structure via a 12-foot-deep reinforced concrete beam. In all, seven major post-tensioned reinforced concrete girders support the corner columns for the large overhangs. In some areas, columns shifted from round to square as they progressed from floor to floor, requiring threaded couplers for column-cage extensions.

## REASONS FOR CHOOSING REINFORCED CONCRETE

Close communication among the entire design and construction team provided the long-term life and functional needs that the city needed without minimizing the building's distinctive aesthetics.

***Because the office floors' structural system doesn't align with the parking garage beneath, designers created a level of deep reinforced concrete transfer beams.***