**Team**

**Owner:**
City of Dallas, Department of Public Works

**Design Architect:**
Skidmore, Owings & Merrill LLP (SOM), Chicago, IL

**Architect of Record:**
Corgan Associates, Inc.

**Structural Engineer:**
L.A. Fuess Partners, Inc.

**Construction Manager:**
McCarthy Building Companies, Inc.

**Total Project Cost:**
$32 million

**Total Project Size:**
59,000 sq ft (phase one)

**Award:**
2013 CRSI Award Winner – Cultural & Entertainment Facilities Category

**Photography:**
Hedrich Blessing Photographers
Chicago, IL
Aerial Photography, Inc.

**Structural Framing System**

The Performance Hall is essentially a two-level structure, with variable floor-to-floor heights, constructed atop a subterranean parking garage. The most prominent structural feature was the cast-in-place, load-bearing concrete walls that were used throughout the structure. These walls surrounded the performance hall itself, including all the stage walls; also the perimeter walls and all internal walls along the major hallways.

The ground floor structures vary in system primarily because of the parking garage structure below. The Hall seating floor is a two-way flat slab over crawlspace. The lobby floor is concrete on metal deck supported by CMU pony walls that bear on the parking structure below. The stage floor is a formed concrete joist system over a crawlspace, and the back of house structure is a concrete topping slab supported directly on the garage structure.

As with any performance hall project, acoustics drive many design decisions. Acoustics were particularly crucial on this project, because this building is not only subjected to normal urban street noise, but also airborne noise as it is right in the airline flight path of Love Field. The sub-structure noise and vibration from the underground parking garage were also of particular concern. Concrete framing was used in a number of different ways to meet the acoustic requirements for the project.

The use of cast-in-place concrete framing was driven by a number of factors, the most prominent being concrete’s superb properties for acoustics and vibration control, and the fact that concrete framing is highly cost-effective in the Dallas market. The decision to expose much of the concrete framing in an architectural fashion was driven largely by budget constraints, but also due to the pleasing light gray appearing of Dallas area concrete, which was further enhanced with the addition of blast furnace slag.

**Unique Structural and/or Architectural Design Features**

**Lobby Stair Feature:** Cantilevering 15’ from the interior lobby concrete wall, the lobby stair hovers above the main floor below. Like most of the structure, the stair is cast-in-place concrete, and is largely architecturally exposed. With a floor-to-floor height of 26’, the stair has three intermediate landings that cantilever from the 18” thick lobby wall.

**Reasons for Choosing Reinforced Concrete**

The use of reinforced concrete played a key role in realizing a sustainable and energy efficient building. The concrete mix used for the architecturally exposed walls and upper level floors included a high cementitious replacement of ground granulated blast furnace slag. In addition to providing a beneficial use of an industrial byproduct, it reduced the amount of cement required. Not only that, but the slag material resulted in concrete that was slightly lighter in color, a desirable effect.

The perimeter walls are 18” thick cast-in-place concrete. Energy modeling showed that, due to thermal mass properties, insulation was not required in the perimeter walls to exceed the energy goals for the project. LEED silver was required by the City of Dallas.