

structurally
sound

BEST IN THE WEST



THE WILSHIRE GRAND is grand indeed.

When it is completed in 2017, the Los Angeles skyscraper will be the tallest building west of Chicago, surpassing US Bank Tower a few blocks away. The 1,100-ft tower, designed by architect AC Martin, will be made up of both office and hotel space, with the hotel lobby located on the 70th floor.

Several dozen engineers and other construction personnel toured the building on SteelDay in September (for more on SteelDay, see the related news item) and got an up-close-and-personal look at the seismic-resisting system in the form of 40 buckling restrained braces (BRBs), each weighing roughly 19.5 tons and each with a capacity of 2,200 kips—and they are positioned four per joint, resulting in a capacity of 8,800 kips at 10 different points. The BRBs—concrete-filled box girders that act as seismic fuses in the event of an earthquake—are all 38 ft long and span from level 28 to level 31 and from the exterior wall into the core wall. The bottom connection for each BRB consists of a 7½-in.-diameter pinned clevis into 2¾-in.-thick gusset plates, and the top connections are 1½-in. A490 bolts through 1½-in.-thick splice plates over 2-in. gusset/core plates. Due to concerns over congested space, a plywood mockup of the BRB and column gusset assembly was built off-site at the framer's yard. Bolts and torque guns were brought in to ensure fit over bolt patterns and allow for ironworker access inside this upper connection.

The structural steel is being fabricated and erected by Schuff Steel (an AISC Member/Certified fabricator/Advanced Certified Steel Erector), which created plywood mockups of the BRBs in its shop. Brandow and Johnston served as the project's structural engineer of record, with Thornton Tomasetti providing structural engineering and performance-based design services. ■