

“At Brandow & Johnston Associates we have a long history of designing some of the most challenging structures in Southern California. With the advent of Revit Structure software, and utilizing the techniques of building information modeling, we find significant advantages in our ability to navigate through the design process. Our final product is completed more efficiently and with better coordination.”

Thomas Weir
CAD Manager
Brandow & Johnston Associates

Expectations exceeded.

Brandow & Johnston Associates turns to Revit® Structure building information modeling (BIM) software for enhanced productivity, improved coordination, and faster project completion.

Based in Los Angeles, Brandow & Johnston Associates (BJA) is the oldest major structural engineering firm in Southern California. Since 1945, BJA has provided engineering consulting services on more than 15,000 projects, including the structural design of new buildings; the renovation and seismic repair of existing buildings; as well as the structural design of unique projects such as the space shuttle test frame. On every project, the firm strives to deliver a cost-effective, safe, and serviceable solution. To help meet that goal, BJA adopted Revit® software in 2003. “We saw great value in moving from 2D drafting into 3D modeling,” says Thomas Weir, CAD manager at BJA. “With Revit, one of the greatest strengths is creating the building model while simultaneously creating construction documents.” With the release of Revit Structure in June 2005, the firm “can now finally use software with the tools appropriate for our discipline,” says Weir. And with more than 600 projects a year, Weir expects the benefits to be significant.

Project Summary

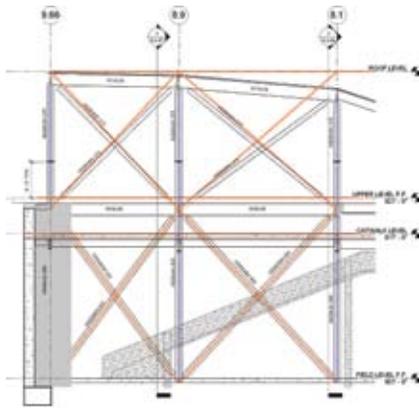
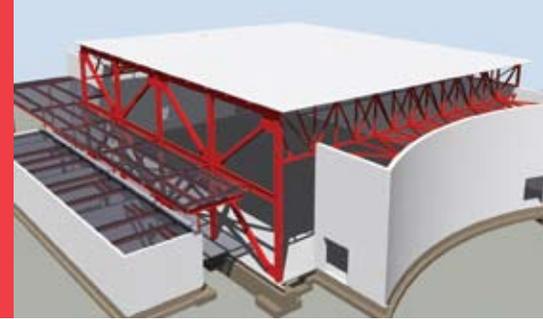
One of the firm’s first projects using Revit Structure is the Rose Bowl in Pasadena, California. “We’re putting new locker rooms under the south end of the stadium,” says Weir. “It’s basically a steel project in the locker rooms with a metal deck

and a concrete floor and roofing. Through several projects we have continued building the existing Rose Bowl model. After each project, the existing model is becoming a better resource for the next project, as the Rose Bowl structure is continually updated.”

Complex Design Challenges

“Getting the two-story locker room to fit under the odd-shape bowl is quite a tricky bit of design work,” says Weir. “This project involves a lot of adjustments to the building model and requires a great number of sections. The change management feature in Revit Structure has helped us to accomplish these adjustments as we worked through the design process.”

Project manager and BJA vice president Tuncer Toprakci summarized the advantages of modeling the Rose Bowl in Revit Structure: “Any revision made to the physical model was automatically reflected in all views, assuring accurate coordination. We were also able to export the analytical model of the new structure from Revit Structure to ETABS for analysis, thereby eliminating the need to re-create the geometry from scratch in ETABS. Based on these time savings, Revit Structure helped us meet the condensed project schedule.”



Using Revit Structure, the engineers at Brandow & Johnston Associates can

- Design in a 3D environment while generating construction documentation at the same time
- Change anything in the model one time, and Revit Structure updates all other views automatically
- Spend more time on design and less on tedious coordination tasks
- Use a single, unified model from project conception to facilities management
- Work simultaneously on a single model with worksets

A New Tool

Using Revit Structure, the BJA engineers were better able to design the new area of the locker room under the southern end of the bowl. “We ended up moving a lot of beams into very different positions as they passed underneath the sloped stadium seating,” says Gabriel Lopez, senior CAD operator at BJA.

The Solution

“Using Revit Structure, we were able to go to any area, cut a section, and clearly understand what was going on,” continues Lopez. “That’s where we found the greatest benefit.”

Change Anything, Anytime

Using Revit Structure, the engineers can change anything, anywhere in the model, and Revit Structure automatically updates all other views. “For example, you can change a column size,” says Weir. “That change is automatically reflected in every view in the project. Using the Graphical Column Schedule feature, we were able to easily update the column sizes throughout the project by simply highlighting and changing the size of the column in the schedule itself.”

Spend More Time on Design

“As a result, coordination is handled automatically between views and becomes less of a problem,” continues Weir. “We don’t have to spend the time making sure that all the other views have changed. That frees us up to really concentrate on the design itself.”

Impress Clients

“During the schematic design or design development stage, Revit Structure also enables

us to show architects and owners an easy-to-understand 3D image of any structure we work on,” says Isao Kawasaki, structural engineer and BJA vice president. Such improved clarity helps everyone better develop the overall project concept. “Clients see the model as a resource that they can use at many different stages of the design process and beyond,” adds Weir.

The Result

“Using Revit Structure, our designs are better, and we’re able to deliver them to the client faster,” says Weir. “It usually takes me no more than two days to have a workable 3D model to show the client.”

Collaborate More Effectively

“Already, many architectural firms are requiring Revit Architecture,” says Kawasaki. “A lot of them look to us because we’re familiar with the software and are using it successfully. As we begin linking models from Revit Architecture or AutoCAD directly into Revit Structure, we anticipate a substantial savings of time, as well as greater accuracy.”

A Bright Future

“Revit Structure opens up a lot of opportunity,” says Greg Brandow, BJA president. “We believe Revit Structure will enhance our productivity, improve coordination with the architects, and help us get all our projects designed and built faster, more efficiently, resulting in increased profitability.”

To learn more about Revit Structure, visit www.autodesk.com/revitstructure.

To learn more about Brandow & Johnston Associates visit www.bjase.com.