



"Revit Structure is a terrific structural modeling and documentation system. We substantially completed a project in three days. It would have taken three weeks with our previous software."

Paul Andersen
Senior Structural Engineering Technician
Graef, Anhalt, Schloemer, and Associates, Inc.

High-caliber design.

Graef, Anhalt, Schloemer, and Associates, Inc., sees dramatic productivity improvements with Revit® Structure on highly successful pilot project.

Project Summary

Graef, Anhalt, Schloemer, and Associates, Inc. (GASAI) is one of the leading engineering consulting firms in the United States. From offices throughout the country, its award-winning professionals create high-caliber, efficient designs for clients in a wide range of markets, including commercial, industrial, municipal, and governmental. "On every project, our highly skilled staff is committed to technical expertise and service to the customer," says John Goetter, Manager of Structural Services at GASAI. As part of that effort, a group of the firm's structural engineers and technicians is spearheading a transition to Revit Structure, a new software application that integrates physical and analytical modeling for structural engineering, analysis, design, and documentation. "We were running into some dead ends with our previous CAD system," says Paul Andersen, Senior Structural Engineering Technician at GASAI. "When we compared several different CAD solutions, Revit Structure seemed to be heading in the direction we wanted to go."

The Challenge

In moving to a new system, the firm's challenge was to find a software package that would streamline the entire structural design process, from engineering to documentation. After

considering other solutions, GASAI chose to implement Revit Structure. Part of the implementation process included beta-testing Revit Structure before the general commercial release. "We took 16 hours to look through all of the available tutorials in addition to viewing several webcasts," says Bryan Mentzel, Senior Structural Engineering Technician at GASAI. "That was enough to get the basics down."

Work Faster

Then, structural engineering technicians used Revit Structure to develop a pilot project, which was highly successful. "Revit Structure is a terrific structural modeling and documentation system," says Anderson. "We substantially completed a project in three days. It would have taken three weeks with our previous software."

Work Together

Worksharing was a significant factor in the rapid turnaround. "We divided the building into worksets for three technicians," says Mentzel. "Using Revit Structure, we were able to draft the model roughly 30 to 40 percent faster." Mentzel predicts that number could rise to 50 percent after setting up templates and standards.



The powerful coordination and presentation capabilities of Revit Structure enable architects, owners, and other stakeholders to better understand the structural design and how it works with the rest of the building. Improved communication leads to stronger collaborative decision making and satisfied clients.

With Revit Structure, designers and engineers can

- *Enter information once, then use it for engineering, analysis, design, documentation, and coordination with the rest of the design team*
- *Simultaneously create a physical model for coordination and documentation and multiple, fully associated analytical models within one integrated project model*
- *Make a change anywhere—in model views, drawing sheets, schedules, sections, plans—while Revit Structure updates and coordinates the change everywhere*
- *Coordinate the structural model directly with any available architectural models created with AutoCAD®, AutoCAD® Architecture, Revit® Architecture or Revit® MEP engineering models from AutoCAD® MEP*
- *Focus on the real work of design and engineering, and not on laborious manual coordination and redundant data entry tasks*

The Solution

Revit Structure can streamline the entire process, from engineering to documentation. For example, structural engineers can analyze the complete building or any part of it with industry-leading analysis packages, and then automatically and accurately coordinate the results back into the design and documentation through bidirectional linking between Revit Structure and the analysis software.

Increase Competitive Advantage

“That capability alone will probably improve efficiency by at least 20 to 30 percent,” says Dan Kilbert, Project Engineer at GASAI. “That makes us more profitable and competitive. And there’s a significant potential for savings, not only in drafting, but also in engineering and in coordination between the two processes.”

Improve Coordination

Using Revit Structure, engineers can easily model structures, integrating multiple structural materials. As they work, the software automatically generates project documentation. As a result, when the technicians finished drafting the pilot project, it was already fully coordinated.

Communicate Design Intent

Revit Structure also helps engineers more fully include project owners in the design process. “Owners typically don’t understand 2D drawings,” says Kilbert. “Using Revit Structure, we can show owners 3D representations of how the structure of their building is going to work well in advance of anything else they could see. This helps us and the architect in moving the project forward.”

Collaborate More Effectively

“Revit Structure is more attractive than other solutions because a lot of the architects we work with already use Autodesk software,” says Andersen. “We are going to have much better linking with those clients than ever before.” As a result, project teams can catch errors sooner—before they show up in the field, where they are more expensive to fix.

The Result

In working with Revit Structure, the engineers at GASAI have already noticed significant improvements in productivity, collaboration, and communication. One obvious expectation is a drastic reduction in RFIs (requests for information). “That will save time for the Contractor and the Engineer, which will make both of us more competitive,” says Goetter.

Tackle Any Project

GASAI is currently in the schematic design phase on a hospital project created with Revit Structure. “It’s going pretty well,” says Andersen. “I am only six hours into this new project and am already quite far along. We are basically at the point where we could probably start just about any size project with Revit Structure. After completing the pilot project, we have a very high level of confidence.”

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