

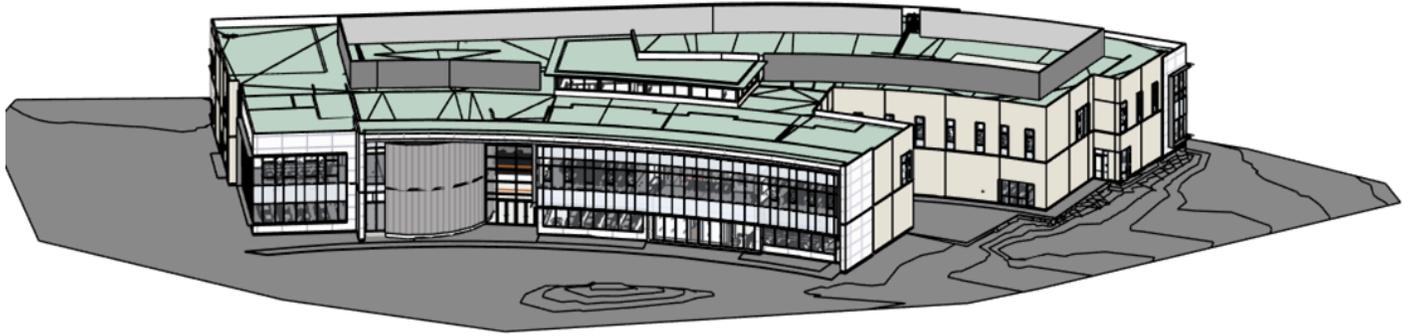


VISUALIZING PROJECT BUDGETS

with Model-Based Estimating

Leveraging 3D building information models, Balfour Beatty project teams gain valuable insight into project cost estimates through model-based estimating. Traditionally, quantifying and estimating design changes are time consuming, and typically delay the design process. With new model-based estimating technologies, project teams can better integrate the multiple layers of the project together, which allows the project's design, estimated cost, and project schedule to remain synchronized so that a change to one is instantly reflected by all.

For both owners and project teams, model-based estimating provides the ability to quickly and accurately estimate the cost differences from one design scheme to the next. Ultimately, this enhanced efficiency enables Balfour Beatty project teams to more fully leverage the advantages of design-build and general contractor/construction management methods to provide real-time cost analysis as the design progresses.



CASE STUDY: MESA COLLEGE CENTER FOR BUSINESS TECHNOLOGY

Mesa College tapped Balfour Beatty Construction as its design-build partner to deliver a new \$27 million, 58,000-square-foot business technology center at its San Diego campus. To initiate the project, the owner, architect and trade partners have all embraced model-based estimating, which they started using early in the design process. Meeting frequently to analyze the 3D model, model-based estimating has become a quick and easy way for the team to ‘visualize the budget’ and quantify changes for informed decision-making.

During an initial preconstruction meeting, the combined project team reviewed plans for a roof screen on the model. Designed to block the public’s view of HVAC equipment on the roof from all sides of the building, the 3D model revealed a large portion of the roof would never be publicly visible due to its proximity next to a canyon.

Using Vico Office software, the team shared their findings with the owner. The team was able to effectively demonstrate the cost/benefit comparison of installing a roof screen on the entire roof versus just the portion that was in public view. With the visual and cost information readily available, the owner evaluated the information and made a decision on the spot. And, because the architect was also in the room, design modifications began immediately. The entire process took 30 minutes and saved the owner approximately \$50,000.

