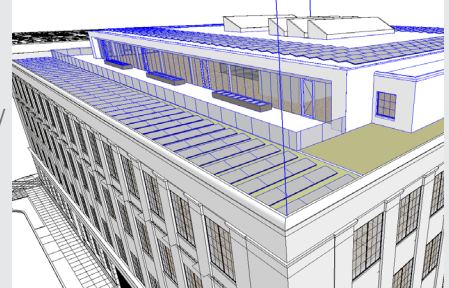


## 3-DIMENSIONAL VISUALIZATION AND BUILDING INFORMATION MODELING (BIM)

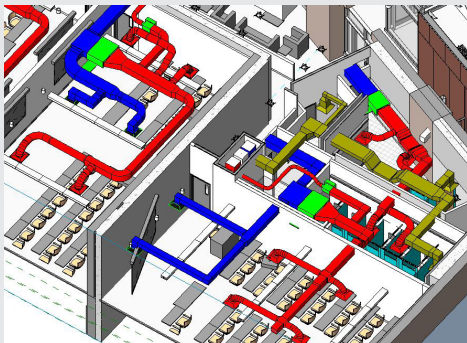
### LEVERAGING CUTTING-EDGE TECHNOLOGIES

The cutting edge of architecture and mechanical, electrical, and plumbing (MEP) design is providing clients with the most sophisticated modeling, design, and production systems available. Revit/BIM is used in some aspect on all Glumac projects. Every energy model leverages BIM from the Revit model for geometry development and coordination with the architectural design. Glumac has completed design documents for dozens of projects utilizing BIM.



Through collaboration, reviews, testing, and training, we have concluded that Revit by AutoDesk (a powerful 3D integrated virtual design program), is positioned to become the best tool on the market to provide our clients with cost effective and innovative designs.

- **Energy Modeling:** With Revit, we “build” the Architectural and MEP conceptual systems in 3D from the project outset, and then we iteratively extrapolate those geometries and systems into models that optimize design and energy usage. The result is smarter design that is better coordinated among trades and with optimized energy usage characteristics.
- **Design:** With Revit, we overlay all disciplines in 3D. This allows detailed viewing of the juxtaposition of architectural, structural, mechanical, plumbing, civil and electrical elements, thereby optimizing coordination and clearances. The result is fewer conflicts and tighter construction tolerances.
- **Costing:** With Revit, the details (sizes and quantities) of building systems elements are continuously tracked to support design to a “construction cost target.” The result is more accurate total project costs.
- **Constructability:** With Revit and 3D design, files can be used by construction companies to review, coordinate, and track conditions that develop in the field during construction. This assists in identifying problems and solutions sooner and mitigating potential scheduling delays.



### PARTNERING WITH AUTODESK

Since 2006, Glumac has been collaborating with AutoDesk in their Beta User program. This direct access to AutoDesk’s Revit Systems Product Team has helped us ensure that Revit MEP Building Systems develop fully to meet the needs of the engineering design community. Glumac also hosts week long, in-house Revit training sessions for our clients, contractors and staff. Working closely with AutoDesk and the design community, Glumac has achieved the goal of becoming an

industry leader in 3D Design. Glumac currently uses Revit in all of our offices, coordinating our efforts with architects and consultants in all architectural engineering disciplines.