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**Winter Johnson Group Maximizes Budget and Schedule Using Building Information Modeling in Zoo Atlanta Reptile & Amphibian Complex Project.**

Throughout the 11th months of construction on the Zoo Atlanta Reptile & Amphibian Complex, Winter Johnson Group has been able to maximize the schedule and budget by using building information software, also known as BIM to detect clashes and conflicts in the plans for the facility, which boasts complex architectural design and construction features.

This project will mark Winter Johnson Group’s first internal comprehensive use of BIM from project start to completion and has proven valuable to all involved in the project team from architects to subcontractors.

“When we first looked at the drawings and saw the oddly shaped and expansive glass enclosure in the design along with the other unique features of the facility, we suspected there could potentially be some clashes between structural and mechanical elements,” stated Andy Rogers, VP of Preconstruction.

Specifically, the team has leveraged BIM to assure the glass enclosure feature will fit within its structural opening. Conflicts were also detected between the numerous skylight openings, featured in the main atrium ceiling of the exhibit, and HVAC ductwork, which would have obstructed the skylights. We were able to collaborate with the architects to modify and make adjustments in preconstruction rather than being surprised in the field.

Coordinating all the major elements in construction project is traditionally done on paper and includes separate multiple overlays for coordination of mechanical and structural specifications. Additionally, multiple design iterations can result in a higher margin for error when aligning and synchronizing the plan overlays.

Typically during construction it’s necessary for field teams to perform extensive and time-consuming measurements to assure accurate fit and system compatibility. Before BIM there were often design/build clashes and conflicts between systems that couldn’t be anticipated and were discovered in the field, sometimes requiring rework and in some cases demolition and reinstallation or substantial redesign.

The glass itself is a large line item in the materials budget so errors would be costly. The smallest discrepancy in measurements could result in an unacceptable finish causing costly resupply and delays in the schedule due to material lead-time, installation, inspections, etc. Not only does BIM software help avoid field surprises and inaccuracies but it’s ability to provide a comprehensive and complex 3D rendering of design documents provides the Owners and project team including subcontractors with a better understanding of the nature of their work.