BUILDING INFORMATION MODELING

Building Information Modeling (BIM) is a digital representation of physical and functional characteristics of a facility or system. BIM is a shared knowledge resource for information about a facility, forming a reliable basis for decisions during its entire life-cycle.

We use BIM software to assist our clients in the planning, designing and construction of various projects, such as water/wastewater, electricity, offshore facilities, communication, roads, bridges, ports, single- and multi-family housing, schools, offices, and industrial facilities. As an intelligent model-based process, TPA uses BIM to effectively express a design vision and deliver optimized engineering systems. It allows for better alignment of construction planning with performance.

BIM in Construction Management

Participants in the building process are constantly challenged to deliver successful projects despite tight budgets, limited manpower, accelerated schedules, and limited or conflicting information. Key disciplines such as architectural, structural and MEP designs need to be well-coordinated. In using the BIM process, we provide a preview of a facility prior to its actual physical construction in order to reduce uncertainty, improve safety, resolve issues, and analyze potential impacts. Sub-contractors from every trade can input critical information into the model before beginning construction.

Quantities and shared properties of materials can be extracted easily. Scopes of work can be isolated and defined. Systems, assemblies and sequences can be shown relative to entire facility or group of facilities. We use BIM to prevent errors by detecting conflicting features of a project where the computer model visually highlights where parts of the building (ie: structural frame and building services pipes or ducts) may incorrectly intersect. Ultimately, this leads to the most constructable and functional facility while reducing potential 'errors and omissions'.