



A Bridge to Building Information Modeling (BIM)

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We recently received an inquiry from a prominent electrical contractor who was bidding on the 2nd ave subway project. The caller was the estimator who was frantically searching for a number to plug into his bid. He was a veteran estimator, very well versed with the technical aspects of the project, but was in the dark when it came to the BIM rider. "Can you give me a price for BIM?" He asked. The estimator had very little information to share based on the bidding documents. We reviewed the specifications together to identify what were the BIM requirements from him as a sub-contractor.

Over the last few months we received similar calls at increasing frequency, and the calls are now coming in almost daily. More and more project owners and large GCs require their sub-contractors to submit their shop drawings in 3D BIM and participate in BIM coordination meetings. Words such as Navisworks®, Revit® and others are thrown into the bid requirements adding to the confusion.

Paradigm Shift

The design and construction industry is going through a paradigm shift, which introduces new technologies into decades old industry that is "used to doing things" in a certain way – such paradigm shifts can be painful. However, just like Google changed the way we search for information and Facebook changed the way younger generation communicate with each other (and their parents at times...) BIM is here to stay, and it will change the way business is done in the design and construction industry.

What are the options?

There are several options for a sub-contractor looking to get on the bandwagon and not miss on

opportunities or be left behind entirely;

The first option, probably the costliest and most challenging to take at this point, is to hire a drafts person who is well versed with the various leading technologies, and is also experienced in the technical aspects of the trade, in other words - knows how to develop good shop drawings. This is a person that is hard to find since most experienced drafts people are still not well versed with using the latest technology. Also, you need to ask yourself, which technology should this person master?

Assuming you found this person, you are now required to purchase the appropriate software and hardware which can amount to upwards of \$18,000 PER STATION. And then you need to secure a continuous flow of projects that put these skills to work so you get a decent return on the investment and keep the person fresh on her skills, because if you don't use it you lose it.

The other option occasionally chosen is to have the shop drawings developed in 2D and then send the documents to an off shore facility to be re-drawn in 3D. This is a very inefficient process that entails a huge potential for errors and omissions and creates a huge headache when it comes to quality control. Typically this process cannot keep up with the quick pace of project coordination, especially in NYC since the additional step of converting the 2D drawings into a 3D model before and after coordination meetings is just unsustainable.

A veteran senior project manager, who manages several highly visible projects around the city admitted that after 35 years in the business, this [...the inability

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to develop and coordinates their shop drawings in 3D, and the continuous headaches brought by the redrawing...] is the first time he feels he lost control of his projects

An option endorsed by the market and by technology leaders

The third option that was recently endorsed by Autodesk®, the leading software company for the design and construction industry and was used in over 120 projects world-wide was developed by Ziggurat. The solution involves an add on to AutoCAD® - the most prevalent 2D design application, and to Navisworks® - the leading clash detection solution that is the application of choice in 90% of BIM projects in the US today. The Ziggurat add on (or plug-in, in techie language) enables drafts-people to continue designing using their preferred software application -

and convert, NOT RE-DRAW - these 2D drawings into a 3D model that is used during coordination meetings. The process is quick, accurate and is offered as a service, so the cost to the contractor is tied to a project. The decision on making the required capital expenditures discussed above can be deferred to a point in time until there is a sufficient flow of BIM projects, or the economy becomes more robust. It also means that sub-contractors can have the best of both worlds: continuous utilization of their in-house trusted drafts-people, and access to one of the most experienced 3D modelers and coordinators available.

To read more about Ziggurat's endorsement by Autodesk please visit <http://bit.ly/n4ZluA>, call +1 212 729 5799 ext 2, or email to ykafri@ziggurat-solutions.com

