

BIM: Turning A Virtual Project Into Reality

by Terrence L. Brookie & Daniel P. King



Combine and digitize take-offs, estimates, shop drawings, plans, specifications, schedules, pay applications, change orders, and virtually every other piece of paper generated on a large construction project and what you have is BIM. So what is BIM? BIM stands for “Building Information Modeling.” Many contractors have preconceptions about BIM: “BIM is only for large projects”; “BIM is too expensive for anyone other than the largest contractors”; and “The lack of collaboration in the construction industry will prevent its successful implement.” However, some recognize BIM as the most significant technological advancement the construction industry has seen in decades. One thing is certain: for BIM to be successful and used to its full potential requires participants to abandon the traditional project delivery model and the legal risk allocations in standard form contracts. Lachmi Khemleni, “Why Building Owners Should Care About Interoperability,” *BUILDING SCIENCES*, Vol. 29 at 4 (January 2005).

BIM uses databases to provide a visual model, plus building information, to simulate the construction and operation of a facility or project. BIM projects involve electronic collaboration of digital information from all major crafts, resulting in the “cyber-

construction” of a building before the silver shovel breaks ground. BIM includes not only the structure’s architectural design, but also all systems along with fabrication details. This allows users to analyze changes, view costs, identify collisions and look ahead to consider future sequencing options and site logistics.

Is BIM a super-computer aided design (CAD) system? No. While graphic elements (e.g., lines, arcs, and symbols) in a CAD system are merely three dimensional representations of their two dimensional counterparts, BIM enables users to model all material aspects of a structure before construction commences. The model is fluid and changes throughout a project. BIM is a multi-layered project database in which all construction participants input their information for the purpose of generating a “3D” graphic representation. BIM also permits data manipulation, whereby BIM databases act as a centralized storage area for project information. BIM’s use of “3D” models can allow expansion into “4D” (adding scheduling component) and “5D” (adding pricing information).

BIM advocates tout its significant benefits as a risk reduction tool that saves money throughout the construction process. As the National Institute of Building Sciences explains:

BIM ... utilizes cutting edge digital technology to establish a computable representation of all the physical and functional characteristics of a facility and its related project/life-cycle information, and is intended to be a repository of information for the facility owner/operator to use and maintain throughout the life-cycle of the facility.

THE CONTRACTORS’ GUIDE TO BIM, (1st Ed. 2006), pp. 3-4.

The numerous benefits BIM provides include: 1) the ability to identify collisions (e.g., ductwork running into structural members); 2) the ability to visualize what is to be built in a simulated environment; 3) fewer errors and corrections in the field; 4) higher reliability of expected field conditions, allowing greater

See BIM on page 4

Fort Wayne Firm Dahm & Elvin Joins Locke Reynolds

Bringing significant experience by adding a northern Indiana presence, the attorneys of Dahm & Elvin, LLP joined Locke Reynolds. “Well regarded by their clients, their peers, and their community, each of these attorneys brings tremendous experience, knowledge and specific subject matter capability to Locke Reynolds’s clients,” said managing partner Nelson Alexander.

Mike Elvin, a former Jenner & Block lawyer, also has spent years defending lawsuits in various state and federal trial and appellate courts. Mike’s commercial litigation experience includes defending construction related claims, complex business claims and commercial and white collar litigation matters.

Construction Chair Terrence Brookie added, “This is a notable strengthening of our firm and client service. We now offer a broader range of experience as these attorneys bring high-level experience and an impressive record of success, and our Fort Wayne office is more convenient for our clients in northern Indiana as well.” For more information, visit www.locke.com.♦

What’s Inside

Contract Notice Provisions	2
ADA Questions	3

Contractors Put on Notice That Courts May Strictly Enforce Contract Notice Provisions

by Dean R. Brackenridge



In *Starks Mechanical, Inc. v. New Albany-Floyd County Consolidated School Corp.*, 854 N.E.2d 936 (Ind. Ct.App. 2006), the court strictly interpreted a contractual notice provision regarding submission of claims for additional payment, rejecting an untimely contractor's change order that sought recovery of more than one million dollars attributed to "engineering deficiencies."

Starks had entered into a contract with a school corporation to provide mechanical and plumbing services for the expansion and renovation of a school building. Early in construction, Starks discovered "a number of alleged material defects in the design, specifications and plans provided by the School." *Id.* at 937. After this discovery, Starks sent a Request for Information (RFI) to the construction manager "to provide notice of the design defects and accompanying delays and to request time extensions and change orders." *Id.* at 937-38. Thereafter, Starks submitted numerous RFIs related to the design specifications and plans. "In essence, the School instructed Starks to proceed with construction and to correct any design defects." *Id.* Starks hired an engineer to review the design specifications and plans, and to provide recommendations to Starks regarding changes.

Unfortunately for Starks, it did not include redesign costs in the many RFIs it submitted to the construction manager. *Id.* at 938. Nearly two years after Starks first identified alleged design defects, it submitted a payment application on April 29, 2004, which included an "engineering deficiencies" line item for \$1,342,593.88. A few days later, it submitted a change order in the same amount. The School rejected the change order request. Litigation ensued.

The parties' contract defined "claim" to include "all disputes and matters in question between the Owner and Contractor

arising out of or relating to the Contract," and required submission of all claims in writing "within 14 days after occurrence of the events giving rise to such claim or within 14 days after the claimant first recognizes the condition giving rise to the claim, whichever is later." *Id.* at 941. The contract required claims for "additional cost" to comply with the contract's notice requirements. Also, the contract provision regarding delay claims made express reference to the contract's 14-day notice requirement and, in the case of continuing delay, required the Claim along with the estimated associated costs to be "updated weekly" and submitted to the construction manager. *Id.* at 941.

The *Starks* court concluded that Starks' request for additional payment was a Claim and, therefore, the contractor was required "to submit written notice of the Claim within 14 days, and because it was a case of continuing delay, was required to submit and update the Claim along with estimated associated costs on a weekly basis." *Id.* The court found that the April 29, 2004 payment application was the first notice the School received of this claim, "although the claim admittedly arises from alleged design deficiencies dating back to 2002." *Id.* The Court held that Starks submitted neither timely written notice of its Claim nor required weekly updates.

Starks argued that the notice provision should not be enforced because Starks was seeking delay damages rather than additional cost. The court disagreed. Starks pointed to the earlier decision in *Osolo School Building, Inc. v. Thorleif-Larsen & Son of Indiana*, 473 N.E.2d 643, 645 (Ind.Ct.App. 1985), in which the court had declined to apply a contractual notice provision governing additional cost claims to a delay damage claim, drawing a distinction between "additional cost" and "delay damages." In *Osolo*, the contract "was silent with respect to the procedure for delay damage claims." However, in *Starks* the contract expressly required claims regarding delays and extensions of time to be made in accordance with the notice provisions governing all other

claims and further, in the case of continuing delay, required the contractor to submit weekly updates to the construction manager. *Id.* at 942. The *Starks* court found "no basis in the Contract to distinguish between so-called 'delay damages' and 'additional cost'." *Id.* at 942.

The *Starks* court did acknowledge that "[i]t may very well be true that Starks incurred substantial additional cost because of engineering deficiencies and the School's insistence that Starks solve any problems and proceed with construction as scheduled." *Id.* "But to preserve its right to recover those costs, Starks was required to submit a Claim within 14 days and to submit weekly updates thereafter." *Id.*

Finally, Starks argued there was a fact question whether it had provided written notice to the School. While Starks conceded it had not submitted weekly updates, it argued that the numerous RFIs that it submitted to the construction manager

See *Notice* on page 4

Locke Reynolds Sponsors Legislative Issues Conference

Locke Reynolds is the presenting sponsor for the Indiana Builders Association's (IBA) Issues Conference. Topics to be discussed include:

- * Market Trends
- * Warranty/Defect Issues
- * Environmental/Land Use Issues
- * Mechanic's Lien Issues

Rick Wajda, IBA CEO and Chief Lobbyist, and Tom Bedsole, a partner in the Locke Reynolds construction group, will lead the discussions. Special guest, Tim Scanlan, General Counsel for Omega Flex, will also present information regarding the CSST Class Action settlement and installation issues.

The conference will take place on June 19th at the HH Gregg Conference Center in Indianapolis. For further information or to register, please visit www.buildindiana.org.

Answers to Your ADA Questions

by Heather L. Wilson



Since its inception in 1990, the Americans With Disabilities Act, which applies to employers of 15 or more employees, continues to be a source of frustration to employers. The following are commonly asked questions by employers regarding the application of the ADA:

1. What kinds of actions are required to reasonably accommodate applicants and employers?

Examples of reasonable accommodation include making existing facilities used by employees readily accessible to and usable by an individual with a disability; restructuring a job; modifying work schedules; acquiring or modifying equipment; providing qualified readers or interpreters; or appropriately modifying examinations, training, or other programs. Reasonable accommodation also may include reassigning a current employee to a vacant position for which the individual is qualified, if the person becomes disabled and is unable to do the original job. However, there is no obligation to find a position for an applicant who is not qualified for the position sought. Employers are not required to lower quality or quantity standards in order to make an accommodation, nor are they obligated to provide personal use items such as glasses or hearing aids.

2. Whose obligation is it to discuss accommodation?

In the first instance, it is the employee's obligation to inform the employer of a need for an accommodation. Thereafter, both the employee and the employer are required to participate in the discussion and identification of the accommodation.

3. Must the employer give the employee the accommodation of the employee's choosing?

No. As long as the offered accommodation allows the employee to perform the essential functions of the job, the employer need not give the employee the accommodation of choice.

4. Are temporary impairments protected under the ADA?

No. An individual who has the potential to recover fully from an illness or injury within a reasonable time is not considered disabled.

5. Is testing for the illegal use of drugs permissible under the ADA?

Yes. A test for the illegal use of drugs is not considered a medical examination under the ADA; therefore, employers may conduct such testing of applicants or employees and make employment decisions based on the results. The ADA does not encourage, prohibit, or authorize drug tests.

6. Can an employer refuse to hire an applicant or fire a current employee who is illegally using drugs?

Yes. Individuals who currently engage in the illegal use of drugs are specifically excluded from the definition of a "qualified individual with a disability" protected by the ADA when an action is taken on the basis of their drug use. However, the ADA does not exclude persons who have successfully completed or are currently in a rehabilitation program and are no longer illegally using drugs, and persons erroneously regarded as engaging in the illegal use of drugs.

7. One of my employees is a diabetic, but takes insulin daily to control his diabetes. As a result, the diabetes has no significant impact on his employment. Is he protected by the ADA?

Maybe. The determination as to whether a person has a disability under the ADA is made with regard to mitigating measures, such as medications, auxiliary aids and reasonable accommodations. If an individual has an impairment that substantially limits a life activity, and the disease or condition or its effect may be corrected and controlled, she may not be protected under the ADA.

8. One of my employees has a broken arm that will heal, but is temporarily unable to perform the essential functions of his job as a mechanic. Is this

employee protected by the ADA?

No. Although this employee does have an impairment, it does not substantially limit a major life activity if it is of limited duration and will have no long-term effect.

9. When must I consider reassigning an employee with a disability to another job as a reasonable accommodation?

When an employee with a disability is unable to perform her present job even with a reasonable accommodation, you must consider reassigning the employee to an existing lateral position that she can perform with or without a reasonable accommodation. The requirement to consider reassignment applies only to employees and not to applicants. You are not required to create a position or to bump another employee in order to create a vacancy. Nor are you required to promote an employee with a disability to a higher level position.

10. What if an employer has concerns about an applicant's ability to do the job in the future?

Employers cannot refuse to hire a qualified person now because of a fear that the worker will become too ill to work in the future. The hiring decision must be based on how well the individual can perform now. In addition, employers cannot decide to not hire qualified people with HIV or AIDS because they are afraid of higher medical insurance costs, worker compensation costs, or absenteeism. ♦

About the Author

Heather L. Wilson is a partner practicing in the Labor & Employment Group. She represents employers in both federal and state courts and proceedings before the Equal Employment Opportunity Commission and Indiana Civil Rights Commission. She also assists employers in preparing and instituting preventative policies. ♦

BIM continued from page 1

opportunity for more offsite prefabrication of materials, which is usually of a higher quality at a lower cost; 5) the ability to run more “what if” scenarios, such as looking at various sequencing options, site logistics, hoisting alternatives, cost, etc.; 6) the ability for non-technical people (such as clients) to visualize the end product; and 7) fewer callbacks and thus, lower warranty costs.

As one commentator concludes, BIM benefits everyone in the construction process. Although it is accepted that BIM carries an initial cost and loss of productivity while firms work through the initial learning curve of BIM, contractors who clear this initial learning curve (on average between 6 and 18 months) typically experience benefits, including improved productivity, lower warranty costs, fewer field errors and corrections, and for a time, a competitive marketing advantage. THE CONTRACTORS’ GUIDE TO BIM, at 4. As another author observed:

The benefits an owner accrues from BIM are easily seen. The use

of a flexible model allows design optimization, fewer construction errors, fewer design coordination issues, and thus, fewer claims. The owner can also use the model for management and operation of the facility. Contractors also benefit through less coordination and engineering effort and reduced fabrication costs.

Howard W. Ashcraft, Jr., “Building Information Modeling: A Great Idea in Conflict With Traditional Concepts of Insurance, Liability and Professional Responsibility,” a paper presented at Shinnerer’s 45th Annual Meeting of Invited Attorneys, p. 6.

However, as with all things, BIM has disadvantages. The immediate rewards from using BIM are not as apparent from the architect’s viewpoint. While design professionals are BIM’s lynch pins, they will need to restructure work flows and reinvent the design process to adopt the technology, install software, and train employees to use BIM. *Id.* at 6. Another perceived impediment is the absence of standard BIM contract documents.

Further, BIM is potentially impeded by the reality that the current legal framework of the construction process does not support this model. *Id.* at 7. The construction industry is accustomed to precise delineation of responsibility and risk allocation. Because of the sharing of information in the database, BIM is a collaborative effort. All key participants jointly participate in developing and advancing the model.

Other significant hurdles BIM faces include use of intellectual property design, ownership, and compensation. Further, a consensus BIM business model has yet to emerge. *Id.* at 7.

Will your next project utilize BIM? Will you be ready to journey into cyberspace to construct your first virtual project? If and when BIM becomes a virtual reality for you, it is important to remember that BIM is not really a tool, but rather, a project delivery system. Regardless of its perceived benefits, BIM, along with all other project delivery systems, will only be as good as the information being provided by those on your project.♦

Notice continued from page 2

collectively constituted sufficient written notice to meet the contract’s requirements. The Court disagreed, reasoning that “the RFIs did not in any way suggest that Starks was putting the School on notice of a Claim for additional payment.” *Id.* at

942. Accordingly, the Court held that Starks was not entitled to recover any of the additional cost it had sought.

This decision reminds contractors of the importance of remaining vigilant in adhering to contractual notice requirements, even in situations where the owner has in essence instructed the contractor to

proceed with work which will be the subject of a later claim for additional compensation by the contractor.♦

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