

PUBLICATION

Emerging Green Risks

July 20, 2010

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The Future is Green

Although new design and construction in the United States may have dramatically slowed during the recent recession, the rate of change within the industry has not slowed at all. The last few years have seen the adoption of new building and energy codes as well as widespread incorporation of voluntary standards that are intended to produce less wasteful and more environmentally-sensitive remodels and new construction. The new standards, voluntary or mandatory, are not going anywhere. Here's why:

- Public entities, which represent the majority of construction dollars being expended today, are demanding improved environmental practices. These civic projects are defining current construction practices which will, over time, alter the standard practices in the industry.
- Even when the standards are optional, a strong argument can be made for the direct economic benefits of sustainable design and construction including decreased operating costs, increased building values, increased occupancies, and higher rents ("Global Survey on Corporate Real Estate and Sustainability," CoreNet, 2009). Furthermore, for approximately the same cost as traditional design ("Cost of Green Revisited," Davis Langdon, 2007), a green building will consume 26 percent less energy than a traditional building ("Assessing Green Building Performance," GSA Public Buildings Service, 2008). As a result, private developers are clamoring for professionals with the experience to deliver green projects.
- In many cases, design professionals are now obligated to present sustainable options to their clients whether or not they are required by code (see Canon IV of the 2007 AIA Code of Ethics & Professional Conduct), proving that professional ethics also drive change.

Over the last few years the legal and contractual requirements to comply with previously voluntary standards have become the rule rather than the exception in both private and public construction projects. But who is responsible for nailing down this moving target of laws and standards? What happens when the green standards are not met? What are the risks and can they be avoided? If they can't be avoided, who is responsible? To answer these questions, a brief review of the standards is necessary.

The Standards

Although the standards do vary widely, they seem to follow the same basic tenets: encouraging consideration of the siting of the building, the energy required to operate the building, the materials that are used in its construction, the management and consumption of water, and the quality of air inside and outside. Numerous competing and complementary standards have been developed to evaluate these criteria, and they continue to be revised and updated at a fairly rapid pace.

GBI's Green Globes, Build It Green's GreenPoint rating, ILBI's Living Building Challenge, NAHB's Green Building, EPA's Energy Star, BRE's Environmental Assessment Method, and the USGBC's Leadership in

Energy and Environmental Design (LEED) certification are just a few of the currently published standards. LEED is the most recognizable of these standards and the one most commonly cited when green building is being discussed. LEED is also a good example of the shifting nature of the standards, as it, too, has undergone significant revisions within the last year. To further complicate matters, referenced standards from independent organizations such as ASHRAE, ASTM, and ANSI, which also undergo regular revision, are often incorporated into the basic requirements for these standards. This is certainly the case with LEED.

Green building standards are increasingly becoming mandatory on local, state and federal levels and may apply to new buildings as well as significant remodels. According to one count, 45 states, 132 cities, 35 counties, 28 towns, 35 state governments and 13 federal agencies are currently requiring some form of green building standard for qualifying construction projects (Crowell & Moring, 2010). In some cases the detailed standards have been incorporated into code documents, but in other cases, requirements such as the need to meet a particular LEED certification level are the only stated standard. This is the current state of green building standards – a hodgepodge of local, state and national referenced requirements and voluntary standards that are based on a combination of tightly defined performance criteria sprinkled with a little bit of subjectivity. Sound risky? It is.

The Risks

All design and construction projects have inherent risks that will be borne by the various participants – errors and omissions in the construction documents, untimely design changes, and delays during construction, just to name a few. In a green design project these risks are still present, but are also accompanied by numerous new concerns. The risks vary by project and are highly dependent on the requirements set forth by local jurisdiction and on any voluntary requirements that may be made mandatory by the project's contract provisions. For the purposes of illustration, the table at right looks at the LEED certification standard. Ten risk factors associated with LEED projects are listed in the table, as are the parties who would likely bear that risk if a dispute arises.

While there have not yet been many publicly disclosed disputes specifically related to green building issues, disputes that include some green building element are definitely on the rise. A sampling of them can be found below. They are numbered according to the corresponding items in the table above.

LEED Risks	Owner	Architect	Contractor	LEED AP
1) Lower Return on Investment	x			
2) Non-LEED Design	x	x		x
3) Non-LEED Construction	x	x	x	x
4) Missed Deadlines	x			x
5) Rescinded Certification	x	x	x	
6) Untested Materials & Results	x	x		
7) Higher Operating Expenses	x			
8) Material Delays	x	x	x	
9) Building Official Enforcement	x	x	x	
10) Post-certification Operations and Transfers	x			

2/3. The design or construction may not meet the desired level of certification. Since green design may be tied to financial incentives, specific contract requirements or code and statutory requirements, the failure to

meet specific criteria may result in substantial financial damages. In one of the most publicly discussed cases, *Shaw Development v. Southern Builders*, it was initially thought that the “Captain's Galley” condominium construction failed to meet the “Silver certification level” set forth in the construction contract (Circuit Court, Somerset County, Maryland, Case No. 19-C-07-011405). The dispute was over a state tax credit that was lost because the project was delayed and ultimately the case settled so no final court opinion was rendered. Either way, the relationship between the sustainable nature of the design, a prerequisite for the available tax credits, and the lawsuit is clear.

5. Certification can be challenged and possibly rescinded. In addition to the risk of initially failing to meet a particular certification level, there is also a risk of subsequently losing it. Made explicit in LEED Version 3, it is possible for anyone to challenge the certification that a building is granted by the USGBC. One of these challenges has already been widely publicized. A Wisconsin high school, Northland Pines, was granted a LEED Gold rating in 2006 but was later found to not be in compliance with the requirements at the time of the challenge. While it appears that in this case the original Gold certification will be preserved now that the problems have been corrected, it was not without cost: \$40,000 was expended by the school district and \$60,000 was expended by the USGBC (6/22/10 VC News-Review, Eagle River, WI). It is conceivable that a similar challenge could result in a building being stripped of its title and its associated cache and value.

6. Untested Green materials, assemblies and systems may fail. New performance requirements for mechanical equipment and new sourcing requirements for materials may lead into uncharted waters. While some products are existing products being re-launched as green, others have not yet been tested for durability or performance on actual buildings and may lead to unexpected and potentially negative outcomes. In a case recently filed in New York, *Steven Gidumal et al. v. Site 16/17 Dev. LLC*, et al., the developer of a LEED Gold-hopeful condominium building in Battery Park City is being sued for a variety of alleged construction defects including the inadequacy of the “green” heating system and excessive air infiltration at the curtain wall (“Condo Owners Go for Green with Suit,” 5/29/2010, *Wall Street Journal*). While the case is primarily focused around the misrepresentations of the seller, the alleged defects are closely tied to the overall performance of the building and of its green systems.

Mitigating the Risks

The owner and its architect/engineering professionals typically carry the most risk in a green project. Nevertheless, it is in the interest of all participating parties to clearly allocate the risks before any work is performed. Having proper and coordinated contracts is a critical first step.

In a green project, contracts should allocate all special compliance requirements that are associated with the work including any specifics in the design, construction, commissioning or documentation of the project. Many issues are not clear cut and, since LEED certification is achieved by simultaneously complying with numerous requirements, the overall failure to comply may be attributable to a combination of contractor, owner, architect, engineer and consultant errors.

It is also very important to ensure that contracts for green construction projects do not provide any guarantees, particularly guarantees to meet subjective compliance levels (e.g., guarantees of LEED Gold certification). While it is the implicit and in some cases explicit requirement for the designer and the builder to comply with building codes and regionally applicable statutes, offering guarantees or promises that the completed design or completed building will be certified at a particular level by an independent organization such as the USGBC creates exposure that will not be covered by a standard insurance policy. This would be the equivalent of an architect guaranteeing an owner planning commission approval for its project – impossible and imprudent. Model contract forms and language are available from a variety of industry groups including the Associated

General Contractors of America (Consensus Docs 310 Green Building Addendum) and the American Institute of Architects (Owner Architect agreement B214-2007).

In addition to adopting appropriate contracts, further consideration must also be given to the makeup and leadership of the project team. If at all possible, team members should have experience with green design and construction and understand the new procedures and processes that are required.

Throughout the project it is important to regularly revisit any previously stated or defined sustainable design goals and to check that they are being satisfied. This is true during design and during construction. For many professionals, this type of quality control review is already standard practice to ensure compliance with construction documents, with code and with owner requirements. If it is not, it should be included as a contract requirement.

Finally, tight definition of roles and responsibilities as they relate to the project's green requirements must be established at the beginning of the project to avoid any confusion as the project proceeds. For example, a single agent should be assigned to stay current on the federal, state and local environmental laws that impact the project and to keep the other participants informed of them throughout design and construction. For LEED V3 projects, environmental compliance must be maintained continuously from the date of registration until the building receives a certificate of occupancy, or it runs the risk losing its certification. How can compliance be maintained if the rules aren't known? It can't. Sharing this type of knowledge throughout the project minimizes risk for all of the project participants.

Dodging Disputes

Sustainable design is not just a passing fad. Measures that help to conserve energy, water and material resources and preserve air quality are creeping into federal, state and local codes and ordinances at an ever increasing rate. The voluntary and mandatory requirements take many forms and are constantly evolving, adding additional complexity to all new design and construction. Although the design professionals and the contractors may share in some of the risk, particularly as new designs and new construction techniques are ironed out, it is ultimately the building owner who owns the majority of the risk. By anticipating the specific risks associated with green building and managing them throughout the project, typical pitfalls can be dodged and many disputes can be avoided altogether. In the future all construction will be green, in one way or another, so there is no time like the present to understand it and to plan for its risks.

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