

LEEDing into the future

by Stephen Bauld & Kevin McGuinness

Understanding LEED standards for construction RFPs

IN A WORLD IN which everyone is trying to be (or to appear to be) environmentally friendly, construction contractors need to demonstrate their willingness to be part of the solution. One step that many contractors are taking is to acquire LEED professional accreditation. The term “LEED” refers to leadership in energy and environmental design. It is the premier “green building” rating system. Developed initially by the US Green Building Council, LEED has now been adopted by the Canada Green Building Council (CGBC). In both countries, LEED has accelerated the design and construction of green buildings.

In Canada, the CGBC is not a governmental entity, but rather an industry organization that was set up in 2002. Its membership grew from an original 68 to well over 1400 at the end of July 2006. LEED has followed a similar linear growth pattern. In the second quarter of 2004, five projects were registered and one was certified. In the third quarter of 2006, there were 277 registrations and 17 certifications. Between 1994 and 2006, LEED has evolved from one standard for new construction only to a comprehensive system of six interrelated standards covering all aspects of development and construction. LEED is fast emerging as the internationally accepted benchmark for the design, construction, and operation of high performance green buildings.

Public Works and Government Services Canada, Alberta Infrastructure and Infra-

structure Ontario have all shown a preference for LEED buildings. At this year’s Purchasing Management Association of Canada conference, the subject of LEED certification was one of the most hotly discussed subjects. Yet many purchasing professionals and construction people are still not quite sure what LEED is. One question often addressed towards construction industry trade associations is whether it is worthwhile for construction contractors to become better versed in the LEED process. In our view, the answer is unquestionably yes.

Reduced to its essence, LEED is a building certification process. It defines what is “green” by providing a common framework or language, and verifies actual performance through benchmarking and measurement. It is tied to five key areas: human and environmental health; sustainable site development; water savings; energy efficiency; materials selection; and indoor environmental quality. The LEED rating system has been designed to provide the building industry with consistent, credible standards for what constitutes a green building. The first step to LEED certification is to register a building project. To earn certification, a building project must meet certain prerequisites and performance benchmarks (credits) within each category. Projects are awarded certified, silver, gold, or platinum certification depending on the number of credits they achieve. LEED professional accreditation confirms that a contractor has the knowledge and skills required to design

and constructing buildings that will satisfy the LEED certification process.

LEED certification requires an owner to invest in design and construction, but it offers the promise of significant pay-back over the life of the building. In the United States, LEED has been successful in achieving reduced operating costs, healthier and more productive occupants, as well as conserving natural resources. LEED has been shown to drive innovation and enhance building performance. It lowers lifecycle costs. LEED certification provides an independent third party confirmation that a building has attained this level of efficiency. In some jurisdictions, buildings certified to a specified LEED standard will qualify for government incentives. LEED compliant buildings are more easily sold in the secondary market. For these reasons,



many government and private sector tenders are now specifying that the successful contractor must deliver a building that meets a stated LEED certification standard.

The first step toward earning LEED certification is project registration. Registering during the early phases of project design allows maximum potential for achieving certification. Once a project is registered, the project team begins to prepare the documentation and other evidence required to satisfy the prerequisite and credit submittal requirements. It is at this point that the LEED accredited professional begins to play a prominent role. Such a person usually coordinates the LEED process, and ensures that all required documentation is properly prepared and submitted. To earn LEED certification, the applicant project must satisfy all of the prerequisites and obtain a minimum number of points to attain each successive LEED rating level. The certification review process includes the following:

- the formal application which will include all LEED registration information, such as project contact, project type, project size, number of occupants, date of construction completion, etc.;
- an overall project narrative including at least three project highlights;
- the LEED project checklist/scorecard indicating projected prerequisites and credits and the total score for the project; and
- drawings and photos illustrative of the project, including:
 - a site plan;
 - a typical floor plan;
 - a typical building section; and
 - a typical or primary elevation.

The costs of achieving LEED certification varies with the level of certification sought. A 2004 US General Services Administration study of courthouse construction costs indicates that the gross per square foot construction cost impact of achieving the lowest level of certification can be as little as 76¢ per square foot. Against a normal cost of \$220/GSF, the price difference is negligible. However, higher levels of certification can add significantly to overall cost. For the higher level of gold certification, the estimated cost impact is in the range of \$17.79 per square foot. Soft cost impact ranges from 41¢ per square foot to 80¢ per square foot. A 1983 study carried out by the California Sustainable Building Task Force found the cost impact to be

slightly lower, but the profile of costs was essentially the same.

Since many of the savings generated through the LEED process are of a long term nature, much of the data relating to costs savings tends to be speculative. The California Task Force study estimated that the present value of the cost saving per square foot in energy alone would be in the range of \$5.79 per square foot. At the BC Cancer Research Center, annual energy savings have been estimated at \$381,000, with a 43 percent savings on water usage. An evaluation of the Nicola Valley Institute carried out by Keen Engineering reported energy savings of 52 percent, but the same study showed that such savings at the Kelowna Secondary School were only in the range of 13 percent, while those at the Terasen Gas Center were at the 11 percent level. However, many of the claimed cost savings relate to aspects of building usage that are difficult to measure, such as productivity and health value. Nevertheless, a higher level of user satisfaction does seem to be a result of going LEED with indoor air quality and lighting being consistently rated above comparable non-LEED buildings.

Whether the eventual cost savings generated through LEED will live up to expectations only time will tell. Whatever may happen in that regard, there is no getting away from the fact that more and more owners are specifying LEED certification as a building requirement. Faced with such a strong emerging consumer preference, the construction industry needs to demonstrate that it is able to supply such buildings. For this reason, LEED professional accreditation is likely to be the most important aspect of continuing professional development within the construction industry for the next few years.

Most larger construction firms are already sending their staff to obtain such accreditation, and are ensuring that their marketing people are able to discuss intelligently the cost and benefit of silver as opposed to gold certification. While smaller construction firms may not have the resources to match such ambitious efforts, establishing a close working relationship with qualified LEED consultants to assist in developing tenders and proposals should allow them to remain competitive. *MM*

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