

Going green

Groups advance green building initiatives in Atlantic Canada

By Joanie Veitch
Contributing Writer

Sustainable construction is very much on the agenda in Atlantic Canada these days, with two major workshops held recently in the region.

The first was the Cement Association of Canada's (CAC) Sustainable Construction Roadshow, held on November 4 in Halifax. This event was designed to give a comprehensive overview of sustainable construction and its impact on the construction industry.

Presentation topics included a guide to sustainable design with concrete products and maximizing LEED (Leadership in Energy and Environmental Design) points through material selection.

The Canadian Green Building Council held a LEED training workshop on November 16 in Halifax to inform participants on how the LEED point rating system works to evaluate the environmental performance of a building.

In both cases, the key point was education. Just a few years ago, architect Kendall Taylor says it was difficult to find green building resources. The picture today has changed considerably.

"The increase in interest over the past three to four years has been remarkable," he says.

Taylor is a director with the Canadian Green Building Council, a coalition of public- and private-sector partners from across the building industry that is working to advance green building initiatives.

The CaGBC began in December 2002; the Atlantic Chapter is hoping to gain full status this fall.

"Some people still think this is just a trend, but I see it as the way of the future," Taylor says. "In 10 years - maybe even in as little as five years - this will all be mainstream. It's moving that fast now."

Building construction, operation and demolition account for nearly 40 per cent of greenhouse gas emissions in Canada, reports the CAC. Material choice has a major impact on green building design.

The LEED point system has become the measurement tool for both the architectural and engineering communities. Going for a LEED rating is an intensive process that is still largely unknown to many in the construction industry, says Bill Dooley, P. Eng., and Atlantic vice-president of the CAC.

"Building in a sustainable way means making smart decisions about the best and most efficient use of materials. It is not revolutionary,

but it does require a lot more co-ordination," Dooley says.

One of the biggest concerns in the industry is how much more it will cost to build green. Taylor says cost is often not as much as it might at first seem when you consider that so much of the cost of a building goes into its operation.

"You take money from the operational costs and put it into the capital costs," he says.

Although there are buildings in the region that have been constructed with green principles in mind, the first major project aiming for LEED certification is the Public Works and Government Services of Canada project in Charlottetown.

The workshops and buzz around sustainable construction is very timely, as smaller businesses will be interested in finding out more about how their operations will be affected as sustainable construction becomes more mainstream, says John Connelly, marketing director with the Atlantic Provinces Ready Mixed Concrete Association.

"Now that we're seeing a LEED project take place, there will definitely be a lot of people wanting to know how this will impact their business," he adds.

Dalhousie research targets structures, materials

Over the past 10 years, Dr. Jean-François (J.-F.) Trottier, civil engineering professor at Dalhousie University, has been on the cutting edge of concrete research, creating innovations in fibre reinforcement materials and advancing the state-of-the-art testing for durability and performance of concrete structures. His recent efforts have expanded from design and testing of materials for use in construction to testing and evaluation of materials in service, stemming from his placement as the Canada research chair in Structural Health Monitoring and Innovative Materials.

His latest research endeavour has resulted in the award of a \$2.7-million project, funded in part by Industry Canada's Atlantic Innovation Fund, which takes aim at developing innovative processes for damage assessment of bridge decks and pavement systems.

Project partners consist of Jacques Whitford and Associates, the University of New Brunswick, and the four Atlantic Canadian transporta-

tion agencies.

This project brings new technologies to Atlantic Canada that can play an important role in improving quality on new construction and in affecting how maintenance decisions regarding our in-service materials and structures can be made. These



Prof. J.-F. Trottier, P. Eng., PhD
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technologies include a new ground-penetrating radar system, various stress wave methods, and a heavyweight deflectometer. These technologies are currently used for measuring layer thickness or stiffness for estimating

material quantities or quality assurance; detecting subsurface defects, such as voids or cracks; detecting embedded objects, such as reinforcement or conduit; evaluating the depth of damage in concrete due to fire, freezing and thawing or other effects; and for evaluating the structural capacity of highway systems.

Results are already being realized from the research. Chris Barnes, one of Trottier's research engineers, has created software that analyzes concrete cover depth and material property measurements from newly-constructed bridge decks and calculates the difference between the as-built life expectancy compared to the design value. The results show how critical proper provision of cover depth and control on concrete properties are on the durability of real structures and its effect on maintenance costs.

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B.D. Stevens Ltd. wins TCA Tilt-Up Achievement Award

By Debra Wells-Hopey
Contributing Writer

The TCA (Tilt-Up Concrete Association) Tilt-Up Achievement Awards honour outstanding achievement in tilt-up design, construction and innovation. Twenty-two projects received awards in 2004, including contractor B.D. Stevens Ltd. of Dartmouth, N.S., which earned an award in the Religious division for its renovation of the Bedford Baptist Church in Bedford, N.S.

The customer chose tilt-up construction for the project because the use of inlay brick eliminated the high-elevation work and allowed the church to continue to operate during the renovation. This project

was chosen for the award in large part due to the construction team's ability to achieve the same architectural statement as the original church that was built in 1963.

"I was very pleased to hear B.D. Stevens Ltd. won a TCA Achievement Award for the Bedford Baptist Church addition," says Thane Stevens, president of B.D. Stevens Ltd. "This part of the country has put forth tremendous effort towards the advancement of tilt-up construction, and the recognition in the tilt-up industry is really appreciated."

The TCA presents these annual awards to recognize outstanding industry projects. The winners of these

awards have consistently demonstrated the variety, flexibility and beauty of tilt-up construction. The award winners also exemplify the unique ability of the tilt-up concept to get the project done quickly and for less money than other methods, while displaying outstanding quality.

The 2004 TCA Tilt-Up Achievement Awards took into consideration building programs and budgets, as well as technical innovation and unique application.

The panel of five judges consisting of architects, engineers, developers and contractors chose winners based on esthetic expression, schedule, size, originality, finishes and special considerations.



APRMCA and the N.B. Concrete Structures Liaison Committee sponsored the seminar, End Result Specs & How To Ensure The Best Mix For The Job, attended by over 65 people in Fredericton, N.B., on June 18. Presenters were (from left): Warren Mahwinney, C.E.T., Gemtec Ltd.; Malcolm Reeves, H. R. Civil Construction Ltd.; Bruce Connolly, P. Eng., and Fred Strang, P. Eng., N.B. Department of Transportation; Mike Corbett, P. Eng., Infrastructure Management Associates; Dr. W. S. Langley, P. Eng., Langley Concrete & Materials Technology Inc.; Dr. Michael Thomas, P. Eng., UNB Department of Civil Engineering; and Tom Ballantyne, C.E.T., Lafarge Construction Materials.

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